Minutes
Inland Waterways Users Board
Meeting No. 62
December 15, 2009
Westin New Orleans Canal Place Hotel
New Orleans, Louisiana

[Note: The following minutes of the Inland Waterways Users Board meeting No. 62 were approved and adopted at Inland Waterways Users Board meeting No 63 held on April 13, 2010 in Springfield, Virginia.]

The following proceedings are of the Inland Waterways Users Board meeting held on the 15th day of December 2009, at the Westin New Orleans Canal Place Hotel, New Orleans, Louisiana. Mr. Stephen D. Little, Chairman of the Inland Waterways Users Board presiding. Inland Waterways Users Board (Board) members present:

MR. RICHARD R. CALHOUN, Cargill Marine and Terminal, Inc.;

MR. LARRY R. DAILY, Alter Barge Line, Inc.;

MR. MICHAEL W. HENNESSEY, Consol Energy, Inc.;

MR. MARK K. KNOY, American Electric Power (AEP) River Operations;

MR. STEPHEN D. LITTLE, Crounse Corp;

MR. DANIEL T. MARTIN, Ingram Barge Co.;

MR. TIMOTHY M. PARKER, Parker Towing Company;

MR. JOHN PIGOTT, Tidewater Barge Lines;

MR. MICHAEL P. RYAN, American Commercial Lines, LLC;

MR. WILLIAM M. WOODRUFF, Kirby Corp.;

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

MS. JO-ELLEN DARCY, Assistant Secretary of the Army (Civil Works)

MR. JAMES MURPHY, U.S. Department of Transportation, Maritime Administration;

MR. NICHOLAS MARATHON, U.S. Department of Agriculture, Agricultural Marketing Service;

Note: There was no representative of the National Oceanic and Atmospheric Administration (NOAA) present at the meeting.

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

MAJOR GENERAL MERDITH "BO" TEMPLE, Executive Director, Inland Waterways Users Board and Deputy Commanding General for Civil Works and Emergency Operations;

MR. MARK R. POINTON, Executive Secretary, Inland Waterways Users Board;

MR. KENNETH E. LICHTMAN, Executive Assistant, Inland Waterways Users Board;

Staff support provided by the U.S. Army Corps of Engineers was as follows:

MR. DAVID V. GRIER, U.S. Army Corps of Engineers, Institute for Water Resources;

MS. MARY ANNE SCHMID, U.S. Army Corps of Engineers, Headquarters, Programs Integration Division;

MR. MICHAEL F. KIDBY, U.S. Army Corps of Engineers, Headquarters, Operations and Regulatory Division, Navigation Branch.

Program speakers in scheduled order of appearance were as follows:

MR. MARK L. MAZZANTI, U.S. Army Corps of Engineers, Mississippi Valley Division, Director of Programs;

MR. GARY A. LOEW, U.S. Army Corps of Engineers, Headquarters, Chief, Programs Integration Division;

MS. JEANINE HOEY, U.S. Army Corps of Engineers, Pittsburgh District;

MR. JAMES WALKER, U.S. Army Corps of Engineers, Headquarters, Operations and Regulatory Division, Chief, Navigation Branch, Navigation Business Line Manager

DR. LARRY BRAY, Research Professor, Center for Transportation Research, University of Tennessee, Knoxville

Other individuals called on to provide additional information in response to questions raised by Board members during the meeting included the following:

MR. WILLIAM HARDER, U.S. Army Corps of Engineers, Great Lakes and Ohio River Division;

MR. DAVID V. GRIER, U.S. Army Corps of Engineers, Institute for Water Resources.

MR. MARK POINTON: I'd like to welcome everyone to the 62nd meeting of the Inland Waterways Users Board here in New Orleans, Louisiana. I'm glad everybody is here. I know we had some challenges with the travel yesterday and the weather, so I appreciate everyone making it to New Orleans today.

My name is Mark Pointon. I am the Executive Secretary of the Inland Waterways Users Board and the designated Federal officer.

Before we start the meeting, we're obligated to read for the record that the Users Board was created pursuant to Section 302 of the Water Resources Development Act of 1986. It provides the Secretary of the Army and the Congress with recommendations on funding levels and investment priorities for modernization of the Inland Waterways System.

The Board is subject to the rules and regulations of the Federal Advisory Committee Act of 1972 as amended. This is a "Sunshine in Government" Act meeting; and as such, it's open to the public. The U.S. Army Corps of Engineers is the sponsor of the Users Board and provides the Executive Director, the Executive Secretary and all normal support activities.

If anyone wishes to make a public comment, we have an appropriate time at the end of the meeting and you can submit a written statement as well. Please let me have that or let the Chairman, Mr. Little, know that you'd like to make a public comment.

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

One administrative note, the members around the table and the support staff to use the microphones please identify yourself, and you need to turn the mic on. When it shows red down there, the mic is on. So you'll have to turn that on if you wish to make a statement.

With no further adieu, I'd like to welcome Mark Mazzanti to give us some opening comments and welcome us from the Mississippi Valley Division.

Thank you.

MR. MARK MAZZANTI: Secretary Darcy, General Temple, Mr. Little, members of the Board and guests. I am Mark Mazzanti, the Director of Programs for Mississippi Valley Division. And it is, indeed, an honor to welcome you to New Orleans and to the Valley as we host this 62nd meeting of the Inland Waterways Users Board.

Brigadier General Walsh sends his regrets. He is engaged in officiating two ceremonies today, the change of leadership at the Engineering Research and Development Center and the change of command at the Vicksburg District in Vicksburg, Mississippi.

You may have heard about the 200 year working vision for the Mississippi River Watershed, the world's third largest watershed. This working vision has been signed by the Mississippi River Commission. The purpose in developing a vision is to gather insights and lessons learned from the past in order to build a better future.

In developing this vision, we recognized everyone has an interest in some aspect of the river's bounty, whether it's building and maintaining reliable and resilient navigation systems, improving flood risk reduction, obtaining cleaner water and more sustainable ecosystems, rebuilding the coastline, improving the understanding of how rivers thrive and countless others. The next steps include developing a process for broadening the opportunity for input from stakeholders and other interested parties in order to fully develop a true comprehensive vision for this watershed.

One of our greatest challenges in our current navigation systems is the aging infrastructure. Nationwide, almost 70 percent of all operating lock chambers are over 50 years old. The IHNC lock here in New Orleans was built in 1921 which means it is approaching its 100th year of operation. It is now being used by the great, great grandsons of the generation that constructed it. Most of the locks on the Illinois Waterway and the Upper Mississippi River began operations in the early '30s.

I've seen much of what the Inland Marine Transportation System Investment Team has developed, and I'm very impressed and encouraged by its efforts. This has been a great example of collaboration between the Board and the Corps. I look forward to the team's presentation today and the discussions to follow.

Again, welcome to the Valley, and we look forward to continuing the work with the Board and developing a path forward. Thank you very much.

MR. POINTON: I'd like to turn the floor over to Major General Temple to provide some Executive Director comments and remarks.

MAJOR GENERAL MERDITH TEMPLE: Well, thanks, Mark and Chairman Little -- sorry. Thanks, Mark, Chairman Little, members of the Board, Secretary Darcy and ladies and gentlemen. I'm delighted to be here as the Executive Director of the Board. As my first order of business, let me welcome everyone here and to thank Mark Pointon of the Headquarters who is the Executive Secretary of the Board, Ken Lichtman of the Institute for Water Resources and all the people from the Mississippi Valley Division and the New Orleans District who have worked so hard to help pull this meeting together. And the fact that we all made it here despite all of this poor weather shows that we can be slowed down but we can't be stopped.

Let me also welcome our Federal observers, Mr. Nick Marathon from the Agricultural Marketing Service at the Department of Agriculture. Welcome back, Nick. Good to see you.

MR. NICHOLAS MARATHON: Thank you, General.

MAJOR GENERAL TEMPLE: Mr. James Murphy, Maritime Administration, Department of Transportation.

MR. JAMES MURPHY: Thank you, General.

MAJOR GENERAL TEMPLE: Thank you. And the Honorable Jo-Ellen Darcy joins us at her first meeting as the Assistant Secretary of the Army for Civil Works. Welcome.

Now, normally we have a Federal observer from NOAA, but they were not able to make it to this meeting. And since one of NOAA's major functions is observing the weather, I suspect they have a lot to observe this morning. After I close, I'll invite each of the Federal observers to make a few remarks in turn as we have in the past.

As is customary, let me update you on some happenings since the Board's last meeting. In February -- excuse me. In Fiscal Year 2009, obligations of Civil Works funding totaled over $10.8 billion, a record year for the Civil Works program. This included $5.2 billion in regular funding, $3.5 billion in supplemental funding, much of it for recovery work here in the Gulf Coast region and $2.2 billion in Recovery Act funds out of the $4.6 billion made available in the Act.

Now, this represents about 48 percent of the Stimulus package dollars against a goal of 45 percent at the end of Fiscal Year 09. So we were able to surge there at the end and actually exceed our goals. Now, we were able to do this in part because our projects were in a high, ready-to-advertise, ready-to-award status. And we made increased use of more flexible acquisition tools such as design/build, early contractor involvement and Multiple Award Task Order Contracts or MATOC.

And lastly, we continued to see a favorable bidding climate throughout most of the country, which overall has allowed us to achieve full scope at less cost in many cases. The exemption of Recovery Act projects from cost sharing from the Inland Waterways Trust Fund was most helpful in enabling us to use Recovery Act funds to create jobs and restore and improve inland waterway infrastructure.

Congress also provided interim relief by waiving the use of the trust fund for major rehab work in Fiscal Year 09. We will continue to work our Stimulus program aggressively in Fiscal Year 10 in order to deliver quality products and services on time, at or below cost do in part to being fully funded upfront, which I think is key to the success of this program.

And, fortunately, this summer and fall were relatively free of major natural disasters which have allowed many of our citizens to recover from previous events, especially here along the Gulf Coast.

In October, Congress passed and the President signed the Fiscal Year 10 Energy and Water Development Appropriations that included $5.4 billion for the Civil Works program, $43 million

over the last fiscal year and about $275 million above the President's request. So our budget this year is pretty healthy.

Finally, here's the status of the Inland Waterways Trust Fund. I know we'll hear more about this a little later, but the final figures for Fiscal Year 09 showed that the fund took in $76.8 million, $76 million from taxes and $.8 million in interest and spent about $90 million, a deficit of $13.2 million. And we began Fiscal Year 09 with a balance of $27 and a half million, so that balance is now down to $14.3 million as of 1 October of this year.

So for the future, we're still facing the three options we faced at this time last year reference the Inland Waterways Trust Fund: Increase the revenue, increase the Federal cost share or defer or delay projects. Therefore, collectively we must make a choice. Should we just accept the smaller navigation construction program or, if not, what can we recommend to Congress to increase the funds available to support our inland waterway transportation system?

We're closely monitoring construction contracts and deferring some work to future years while we work together with you to develop a long-term capital improvement program. We're also improving our use of risk-based cost estimating and scheduling techniques to ensure better program management and completion of projects on schedule within budget. The long-term capitalization planning effort is nearing completion, and we will help in future funding decisions. We encourage the Board's support in our efforts to achieve a holistically planned, managed and maintained Inland Waterways Transportation System.

Just as importantly, we ask the Board to develop financial plan options that will help provide the funding needed to meet the recapitalization planning requirements in a timely, efficient way.

As we move forward together, it is clear that we as partners must focus our efforts on a few essential items. Completion of the long-term recapitalization plan for the inland waterways and its associated financial plan. The Board will have to work closely with the Administration and Congress to communicate and to shape the plan in a way that meets the need within mutually acceptable guidelines and, most importantly, a shared strategic communications plan that helps energize the public and the government at all levels to support this very important national infrastructure.

As Lieutenant General Van Antwerp, our Chief of Engineers likes to say, we live in historic times, not hysteric, historic times, and that we are at an historic juncture in the history of this Board and the Inland Marine Transportation System. I hope that we will take this opportunity to make things better for this system, our economy and environment and for the American public.

So on that note, I thank you and let me now invite our Federal observers to make their remarks in turn. We'll start with Mr. Marathon.

MR. MARATHON: Thank you, General. A couple brief comments. I'm here on behalf of the USDA's Agricultural Marketing Service. The USDA appreciates the importance of the inland waterways to agriculture. I think it's appropriate that we have this meeting in New Orleans as New

Orleans has been especially important for the movement of agricultural products as more than half of our corn and soybean exports are shipped from New Orleans to foreign countries.

At the last meeting, I mentioned that the transportation staff at the USDA has been busy for the past year working on a study of rural transportation issues. The study was directed by the 2008 Farm Bill, and we are examining the importance of freight transportation, including rail, truck and barge to agriculture. At this time, the draft report is completed and we're going through the clearance process and look forward to sharing the report with this group and -- after clearance, you know, present it to the group. And, again, thanks for the opportunity to be here and look forward to today's meeting. Thank you.

MAJOR GENERAL TEMPLE: Thank you. Mr. Murphy?

MR. MURPHY: Thank you, General. I would like to express our agency's thanks for being allowed to participate in this very important process. Our agency has a new administrator nominee, Mr. David Matsuda. His confirmation hearings are scheduled this week. We expect that one of his first orders of business will be to come out and visit us out here in the field and get on a tow boat.

The America's Marine Highways Program has been given some additional statutory authority, including the authority to make grants. We're looking forward to getting some funding for such in the future. Very shortly, we will have another round of port security grants which will be -- where there will be eligibility for inland ports, and we also expect another round of small shipyard security grants in the near future where small shipyards on the inland waterways will be given an opportunity to receive funding.

Thank you for the opportunity to be here today, and MARAD would like to continue to be a partner with all. Thank you.

MAJOR GENERAL TEMPLE: Well, thank you, Mr. Murphy. And, of course, we also partner with you through the Committee on Marine Transportation System, so we look forward to working -- continuing to work with Mr. Matsuda, so thank you very much. Ms. Darcy?

MS. JO-ELLEN DARCY: Thank you, General Temple. And I want to thank the Board and everyone here today for all of their hard work. And as was mentioned, this is my first meeting of this group -- or with this group in this role, but I know the Inland Waterways Users Board from the last 16 years of my life that I spent working on Capital Hill for the Environment Committee and the Finance Committee. So your reports were read by -- I'm not going to say all of us, but many of us there.

And the work that you've done this year in particular. It's something that I'm really looking forward to this presentation today as well as seeing how this report can come to fruition in the future.

Mark mentioned that this Board was actually authorized in WRDA '86. And in getting ready to come to this meeting my staff said, well, you've worked on a lot of WRDAs, weren't you there? And I said, I'm not that old. I started working on WRDA in '93, so '86 was not part of my --

of my work, but it's also a testament though to looking at what the importance is for this Board for the future of the waterway system.

And I think what's being shown here today as well as a way to look forward is the collaboration that's been taking place with this Board in order to get to where you are today. So I look forward to the presentation of your report and look forward to this being a model for how we will work together and make this happen in the future. Thank you.

MAJOR GENERAL TEMPLE: Thank you, ma'am. Mr. Chairman?

MR. STEPHEN D. LITTLE: Thank you, General Temple, Secretary Darcy. Before I deliver my remarks, I think Mr. Pointon has some remarks for the record from NOAA.

MR. POINTON: Yeah, Allen Bunn was kind enough to send his regrets for missing the meeting, and he provided me a bit of information to impart to you. Captain Steven Barnum recently retired from the NOAA Commissioned Officer Corps. He was actually the designated Federal observer from NOAA. He's been replaced by Captain John E. Lowell, Jr. and he's taken over as the Director of NOAA's Office of Coast Survey. And he looks forward to continuing the relationship with the Board and participating in the Board's activities.

One other note, NOAA has just completed installation of their latest Physical Oceanographic Real Time System (PORTS) on the Sabine Neches waterway on the Texas and Louisiana coast. And there were a couple partners, but the main one that they mentioned was the U.S. Coast Guard.

So those are some comments that Allen Bunn; and, again, his regrets for missing the meeting.

MR. LITTLE: Thank you, Mr. Pointon. Again, General Temple, thank you for those remarks and, Secretary Darcy, thank you for being here to the first of what we hope will be many Users Board meetings that you will be attending.

This Board stands ready to work with you and the Corps at this historic time as we try to develop this long-term capital improvement process program. We're committed to doing that, and we're delighted to have you here to serve in that role as we work on that together.

Those capital investments are sorely needed for the inland waterway system, and we look forward to working with you. Your public policy experience in this area will be very valuable to us as a group as we move forward toward the formulation of that long-term policy. So, again, thank you very much for being here. We look forward to working with you.

That concludes my remarks. Let's go ahead and start the business of the Board meeting today, and the first order is to approve the minutes of the Board meeting No. 61. Those are in your binder. I need a motion to approve those minutes from someone on the Board.

MR. RICHARD R. CALHOUN: (Indicated.)

MR. LITTLE: Mr. Calhoun. I need a second.

MR. MICHAEL W. HENNESSEY: Second.

MR. LITTLE: Mr. Hennessey. All in favor say aye.

(WHEREUPON, THE BOARD VOTED.)

MR. LITTLE: The minutes are approved. The next item on the agenda is to call on Ms. Mary Anne Schmid to give us a financial report and the status of major project investments. Ms. Schmid?

MS. MARY ANNE SCHMID: Thank you, Mr. Chairman, General Temple, Ms. Darcy, members of the Board. In your blue notebook, we provided a listing of the inland waterways projects at Tab 4. I've inserted the Fiscal Year 10 conference announced for each project.

As you know we've received about $134 million in appropriations for the inland waterways construction projects this year. I've also inserted at Tab 5 updated fact sheets for the ongoing work. As you're all aware, revenues were down significantly in Fiscal Year 09. So this year we are expecting to receive approximately the same amount, $76 million, slightly lower than last year because the interest will be virtually non existent. So a report for this year, so far excise tax revenues and interest are at $10.4 million. So I think we're on track for $76 million for this year.

Pending any questions, that concludes my report.

MR. LITTLE: All right. Thank you. I will just make one comment and point out that on Page 3 of the project listing, I think we have the amount listed for the Inland Waterways construction projects and Lock and Dam 2, 3, and 4 on the Monongahela is listed as $1.5 billion?

MS. SCHMID: Yes, the estimated total cost -- yes, and it is higher from prior because of the pending --

MR. LITTLE: Right. And then the fact sheet actually has that, actually shows a higher figure.

MS. SCHMID: That's correct because I don't know that the higher amount has been approved, so I just --

MR. LITTLE: All right. Thank you for that explanation. Any further questions of Ms. Schmid?

(NO RESPONSE.)

MR. LITTLE: If not, then next on our agenda today is a presentation by Mr. Gary Loew and Ms. Jeanine Hoey on the Inland Marine Transportation System Investment Strategy Team activities.

So, Mr. Loew and Ms. Hoey, would you please come forward. We're ready for your presentation.

MR. GARY A. LOEW: Thank you, Chairman Little, Ms. Darcy, General Temple, members of the Board. We appreciate the opportunity to give this presentation today. And I am not going to give it, so you may thank Jeanine for that. But I'd like to introduce it by just adding a little bit of perspective.

For several years as all of you have known and we in the Corps of Engineers have known, we haven't really had a path forward to recapitalize the Inland Waterways. We've known that as we drew down the trust fund, that we would encounter a problem that was likely to be that income didn't match investment needs. And we did not have a way forward to deal with that. About a year ago, we determined on a path forward with the Board to basically set up a technical committee formed of both Corps of Engineers and industry personnel to partner and see if there was a way forward.

Now, just a simple anecdote and example, prior to that time when asked by the Congress or by the Board what's the backlog of construction in the inland waterways, a common number that we used was $38 billion. That was always bothersome to me because it's not really a solvable problem to present decision-makers, many of whom are in this room, a number of $38 billion. Where does that kind of money come from?

And so the path forward was to partner to see if we approached this on a system basis, in a reasonable way could we, in fact, solve that problem and present a reasonable way forward to decision-makers. And the short answer is that we're going to hear that answer today. The committee has been working hard for about nine months. They are in the draft report stage now, but basically all of the analysis has been done, most of the conclusions, most of the recommendations are complete and they will have a report to present to both this Board and to the Administration.

So I think where we are in the process now, I think General Temple said it, is we are at a turning point. We now have a problem that is solvable. We have a way forward. It took us probably 30 years to build the Inland Waterways System. It's going to take us another 20 to 30 years to fully recapitalize it, but I think we have done what this Administration has asked us to do and I think what the public expects of its civil servants. This Administration has said over and over again, really, since it took office is we want you to be better, faster, greener, more transparent and more collaborative. And I think we have applied, really, all five of those directives in the work of this committee as we move forward. And I think we in the Corps of Engineers couldn't be more pleased.

And I'd like to now introduce Jeanine Hoey to show us the outcomes of the committee's work today. Thank you.

MS. JEANINE HOEY: Thank you, Gary. Mr. Chairman, Secretary Darcy, General Temple and members of the Board, today as you've heard over and over again, I'm going to be presenting our recommendations from the team for the Inland Marine Transportation System Capital Investment Strategy. We have been working hard over the last year looking at our past processes, how we receive funding, how we share in the cost to develop new -- a new process so we can make that turning point and that will serve us well into the future.

And so today what I'm going to do is go over how we actually developed the investment strategy. We looked at an unconstrained project list. We looked at prioritization criteria, what the level of investment needed to be in order to sustain the system through the future. We looked at how the cost should be shared, different funding models and how the revenues should be developed given that cost sharing option.

And then we also looked at our processes and looked at improvements that could be made based on a lot of information that we've had over the past year and also based on a prior report that was done by the Lakes and Rivers Division on looking at three different projects and the cost increases that occurred on those projects. And so we used some of the conclusions from that to develop some process improvements as we go forward. And I'll share our recommendations and then where we have to go from here.

I'm not going to go a lot into the different backgrounds and why we're here and how we got here. I think this slide says a lot. This slide is really a representation of an example of where we would be if we continue on into the future with the current revenues and the current way that we do business.

As you can see, the first group of projects there are Olmsted, Emsworth and Markland can be finished with efficient funding. But from that point forward, we've got a problem. You can see the locks and dams project, the lower Monongahela project, Chick, Kentucky and Inner Harbor are all greatly delayed. You can see the dashed lines for Chick and Kentucky lock show that we would actually have to stop construction on those projects and not resume until -- for Chick Lock until 2021. We would have to stop what we're doing right now and not resume construction until 2021. The same goes with Kentucky. We couldn't resume construction until 2023. And this is an example whether it's Chick or Kentucky or Inner Harbor, you know, remains to be seen. But this is what our future would look like if we don't make a change.

The Inner Harbor project, if you can see at the very end I've got a double arrow there. That means we're not done. At the end of 2038, we would not be done with the Inner Harbor project. That project would actually go until 2044 in this current system that we have. There would be no new starts. There would be no major rehabs done under this scenario. There would be no new construction. There would be no Upper Mississippi projects addressed under this scenario.

This slide, I think, says it all. This is why we put this team together. This is really the beginning of the end of Inland Marine Transportation if we continue on as we are right now. And so we have our team that was put together to look at this. Our team is made up of a representative from all the divisions that have Inland Marine Transportation. The navigation center of expertise,

the cost center of expertise, the Institute for Water Resources and navigation experts from headquarters and, of course, the navigation industry.

On this slide I've just shown Steve Little as our Inland Waterways Users Board contact. Steve serves as the point of contact for the industry. He invites their participation to our different meetings. And we have -- typically had anywhere from five to ten industry representatives at each of our meetings. So it's not just Steve, but it's the entire team that worked on this.

When we first started this process, we put together a white paper and that white paper looked at our past process, the current process that we use and our vision of what the future process should look like. And this is a slide from that presentation from the white paper. And the schematic there doesn't look significantly different from the current process, but there's two points where it is different and one is that Life Cycle Asset Management Analysis where we're looking at the different condition of the different facilities and we're looking at it on an even footing, a consistent rating scale throughout the entire system. That information is part of criteria that's used to prioritize where our investments need to be. And so that's different from the process that we used in the past.

And then the second is there's really two decision points, one where we make the investment decision and we would just make a decision whether we're going to do a rehab report, a feasibility report, whether continued O&M is warranted or if we need to de-authorize a project because it's no longer in the Federal interest, it's no longer economic and we don't need that facility any longer. So that can happen at the study phase.

And then we also have at the other red box at the end a capital decision box there. Once a project has gone through a study and has been authorized, then we make decision that we are going to put our dollars on that project because it is the next priority and it is where the money needs to go in order to maintain the system.

The goals from this, many of these have come from that prior report that was done by the Lakes and Rivers Division, the Selected Case Study Report, where we looked at three projects. In that case, the cost increases on those projects have been enormous and we wanted to analyze what the causes of that were. So some of these goals have come from that report and others from the team as we move forward. I'm not going to read them all to you, but this is the basis for the work that the team has done.

What we started off with was developing an unconstrained project list. We asked each of the districts to look at the next 20 years, look at their facilities, the condition of their facilities and identify what they thought needed to done within the next 20 years given that money and schedule and there was no constraints on what the districts gave to us. We did not in any way try to limit what they gave us. We put that all into an unconstrained list, and we used that list as we moved forward. We did organize it into three phases. The first phase was authorized projects that are currently under construction. The second phase was authorized projects that hadn't started construction yet, and then the third phase was just proposed projects.

For Phase 1 and 2, we would -- we did have more accurate information as far as costs and schedule for those projects because they had gone through a formal study process. For those in Phase 3, they were proposed. They hadn't gone through a specific study, so that information is probably little bit less accurate but it still gives us a good picture of what the needs might be on the entire system. And, again, we didn't try to limit it in any way. We left all the projects on there. We thought that as we developed the criteria, the criteria would prioritize those projects and take care of what should or should not be done. As we moved through the process -- projects and did studies, projects may be changed on that, especially in that Phase 3. What we assumed was a major rehab may not need to happen. Maybe we could take care of that through additional O&M. What was assumed to be new construction may end up being major rehab after a study was done. And so the information in Phase 3, you know, is a little less accurate but still gives us a good idea of what might be needed as we move through the process.

Based on what the district gave us, this is what is shown over the next 20 years. It represents over 100 projects at $18 billion of construction over the next 20 years. That averages to about $900 million a year. But you can see from this graph that we have a couple peaks where we would need about $1.5 billion in a few of the years shown here. We know we can't tackle this all. We know we can't get this all done in 20 years, so we have to come up with a way to prioritize the work. And we also know that some of it may not be needed. So by prioritizing that work, that allows us to see where the most need is and what has to be tacked first.

So then we moved on to developing the criteria. We had our first criteria workshop in March of last year. And the next couple slides I'm going to walk you through how we arrived at the criteria that is being used right now by the team.

So the table on the left shows the results of that initial brain-storming session. And this is the first meeting that our industry partners participated in and this is where the wheels really started turning on our process. And so we just did a brain-storming session, came up with a couple different options, how we could use this information. We categorized the different criteria under safety, risk and reliability, economic return and some other factors. And then we also had some sequencing and optimization factors that we thought could be used further down the line.

So at this point we just wanted to gather as much information as we could without making specific judgments on how we would actually develop the criteria.

At the next meeting that we had, we narrowed this down a little bit. The team decided what we really wanted to look at was criteria that had specific data available. We didn't want to use subjective information. We wanted to use criteria that had data that was available. And we thought in the interim that we would be using that information but that we also recognized that this could be improved, that we could -- there is data out there that could be gathered that could be used to prioritize our projects that we just don't have right now. So we recognized that this would be an interim solution and that there are final options that would be more sophisticated, that would mature the process a little bit more. But for now what the team was charged with, we needed to have an interim option in the meantime. So we narrowed our criteria down to risk and reliability.

In this case, we used the Dam Safety Assessment Classification for dams. We used the Condition Assessment evaluations for locks. And in this case, the Lakes and Rivers Division had gone through an evaluation of all of their facilities and had a consistent evaluation of all their facilities the other divisions hadn't. But we used what the Lakes and Rivers Division had, gave that to all the other divisions and had them make an estimate of where their facilities would fall within that scale of the condition assessment.

We recognized that once all the facilities go through that consistent evaluation, we may be changing things slightly, but we don't think that it will be far off the mark. The districts are pretty familiar with the condition of their facilities. And I think that they -- we all thought that they could pretty well target what that assessment would be. And that is happening this fiscal year. All the other divisions are going through that consistent evaluation this fiscal year.

MAJOR GENERAL TEMPLE: And Jeanine, your point in doing all that was to ensure that the condition assessments made across the entire system were consistent.

MS. HOEY: Correct.

MAJOR GENERAL TEMPLE: So we weren't mixing apples and oranges in terms of how we assessed the condition of these various facilities.

MS. HOEY: That's correct. That's correct.

MAJOR GENERAL TEMPLE: Okay.

MS. HOEY: So we know there will be some tweaking once that consistency has happened, but I don't think it's going to be far off the mark of what our initial evaluations were.

MAJOR GENERAL TEMPLE: Understood. Thanks.

MS. HOEY: The other category of criteria was the economic return. And at this point we included the net benefits and the economic impact. And we also had another category of physical completion. And here we thought that what we already started we wanted to complete, so we gave some weight to those projects that had already started.

We struggled a little bit with how to evaluate. We had the projects that were in Phase 1 and Phase 2 which had gone through the study process and would have net benefits available versus those that were in Phase 3 which hadn't gone through that process. And so how do we work with that? And we had a lot of discussions on that.

So we moved from that meeting to the next meeting where we thought we needed to look at different weighting options to test the sensitivity of the weightings and make sure that we've got the weightings correct on our -- in our interim options. And at that meeting we also added in BCR and RBRCR as criteria for our projects. Again, we're still struggling with the what do we do with the ones in Phase 1 and Phase 2 versus those in Phase 3 because Phase 1 and Phase 2 would have net benefits, BCR and RBRCR.

We did drop the physical completion at that point because the team felt that the RBRCR would take care of the physical completion criteria. Those projects that had started construction would probably have a higher RBRCR than those that hadn't, and so they would be pushed a little ahead on the priority list. So that was really to test the weightings and the sensitivity and to decide how our weightings should be.

Our next meeting moved from that scenario to actually separating out the criteria for Phase 1 and Phase 2 and the criteria for Phase 3 since we didn't have the same information. So on the lower right-hand corner of this slide, you see what we ultimately ended up with in our criteria was that for Phase 1 and Phase 2 we used the condition criteria and then we used the -- the economic return criteria was the net benefits to BCR and the RBRCR and the economic impact criteria. That economic impact criteria is a -- was developed by the Nav center in Huntington District, and it measures the impact and the severity of a closure for all the lock and dam facilities in the system and basically gives them a weighting for that. And so that was available for everything. So we used for those projects in Phase 3, we are just using the condition criteria, and the economic return criteria is based solely on the economic impact.

Now, you'll note in Phase 3 that we weighted the condition heavier than we did in Phase 1 and 2. We wanted to make sure that those projects that had a condition problem, those projects that were failing, were moved to the top of the list and studied as soon as possible and gotten into the upper levels and into the priority list a little sooner because condition was an overarching issue with all of our facilities and we didn't want anything to fail. That's why that's a little heavier.

One of the suggestions that we've had recently and will pursue this is that we have the DSAC rating with "1" being the worst and "5" being the best and then we have the condition ratings with "F" being the worst and "A" being the best, that we marry up those ratings so that either we change the DSAC rating or the condition rating. And our team is going to pursue changing the condition rating. Instead of making them "A" through "F," we would make them "1" through "5" just like the DSAC ratings. So we will get with the Asset Management Team and discuss that just to avoid confusion and to have the same weightings applied for both of those.

MAJOR GENERAL TEMPLE: And by doing that, we remain consistent on the Corps side with respect to how we portray the dam and levee related ratings based on the dam and levee rating committees. So that's the reason why we wanted to do that so we don't confuse anybody, as Jeanine said.

MS. HOEY: And, again, I'm still showing this as an interim option. This is what we're using right now. We know this can be improved on. We know this can be matured. We know this can be taken to another level, but we wanted to have a system that we could prioritize our projects with and we could pursue doing that at this point in time and not have to wait to develop data, to collect data at the time and the expense that it would take to do that. So we wanted to use what we had right now to develop our priorities.

Once we had our priorities, we used that priority list to establish our program. The bottom line is that our expectation is that once projects begin construction that they will be funded

efficiently. Again, this came from that selected case studies report where the cost escalations, a good portion of them, not all, but a good portion of them were due to inefficient funding. So the basic premise of this entire program is that once we start construction, it will be funded efficiently by project.

So we looked at our prioritized list and began to discuss what actually has to be done in the next 20 years to give us a reliable system. Where's the line, where do we draw the line and how much is it going to cost us and then how do we share in those costs. So we did want to emphasize finishing what we started first and that RBRCR did push some of those projects to the top, but we did focus on finishing Phase 1 projects first.

And as we discussed where that line was, it became very clear that it wasn't one line but it was two lines, that there was a line for new construction and there was a line for major rehabs. And the new construction line didn't move quite as fast as the major rehab line. So as we looked at the list of projects, we are recommending a $380 million a year investment, new construction would be $320 million a year and major rehab $60 million a year. And that line between those though is very gray line. We have a bottleneck of new construction in the short term and so we need to get through that. So we weren't adhering very strictly to the $320 and $60 million, but that's about what we're looking at. And into the future we'll probably get a little bit more strict but the grayness will go away a bit in those two categories. But there are going to be years when new construction is heavier than major rehab and so we didn't want to put a strict emphasis on that line, but that's about how it worked out.

Now, that $380 million program does include a management reserve of $30 million that would not be identified to a specific project in any one year but would be used to keep projects moving if they needed additional funding in that year so that we didn't stall anything as we were in construction. So we had a management reserve of $30 million a year.

As we developed this program -- and the next two slides are going to show you what projects are in it -- there is some additional out-year capacity there. We didn't fully prescribe the entire program. Since we're looking at a 20-year program, we know that in the short item, we know what's there, we know that it's pretty solid and it's pretty firm what needs to be done. In the out-years, there's a few things that may or may not need to be done that may be able to be pushed off or not. And so there's always projects that come about that you don't know about, so we left a little bit of a capacity unsubscribed in the out-years.

MS. DARCY: Jeanine, may I ask you a question before we leave that one?

MS. HOEY: Yes.

MS. DARCY: The $30 million of the management reserve, is that equally or how is that divided between new construction and major rehab?

MS. HOEY: At this point as we were going through it because we have such a bottleneck, we just kept the $30 million on the bottom line. As I was doing the spread sheets, as I was trying to -- when I separated the $320 and the $60, I was doing $25 million for new construction, $5 million

for major rehab. So eventually it should morph into the 25 and 5. But I was keeping the $30 million as a strict bottom line and not being so concerned with where it went in the short term.

MS. DARCY: Okay.

MS. HOEY: So this is the new construction program that we are recommending. Those in yellow are those that are already under construction. And my very very light green that you can hardly see there are the construction new starts. So you can see we have a new start on the Upper Mississippi Lock and Dam 25, on the Gulf Intracoastal Waterway, on LaGrange, on Greenup and Upper Mississippi 22 and 24 we have new starts. You can see 22 and 24 has the double arrow there. They continue on into the next -- they're not finished within the 20-year construction program. So those are the projects that we recommend with our $380 million program for new construction.

The next slide shows our major rehab program. And you can see we have two that are already under construction. We would finish those. And all the other ones are new projects. I have four projects that are blanked out there: LaGrange, Greenup, Upper Mississippi Lock and Dam 25 and 24. And they are in the order that they showed up in the priorities -- how we set our priorities. And they're blanked out because they are also part of our new construction program. And the way it worked out was, as we were putting projects into the program within the time frames that we could fit them, if you looked at LaGrange and the new construction for LaGrange, the major rehab ended up being in the same time frame.

So the question was put forth to the districts, "which has to happen first?" Do you the need the major rehab in order to make new construction happen or does new construction have to happen before the major rehab? And in all of those cases, the new construction had to happen before the major rehab. So I've left those blank but left them in the priority order. The thought is that once the new construction happens, the criteria for those projects is going to change and may push them further down on the list for the major rehab but it might not. So we wanted to leave them in there to acknowledge that they were in that order but also acknowledge that because of new construction, some things may shift and they may not be needed or they may not be -- not necessarily needed but that their priority may change based on the fact that now we have a new -- we would have a new lock. And we didn't want to change that priority until after the lock construction actually happens. We don't know how things are going to move from this point forward. So that's why those are in there with blank lines. But we wanted to preserve that priority for those projects.

Okay. So once we had our programs, we wanted to look at the different cost sharing options. We looked at many, many different options from the current option on the 50 percent Federal and 50 percent inland waterways for all of our capital investments. We looked at varying that percentage, for instance, 60/40 instead of 50/50. We looked at excluding some projects such as dams or major rehabs from cost sharing. We looked at including different thresholds on major rehabs such as major rehabs wouldn't be cost shared unless they were above $100 million. And we also looked at excluding some projects that had significant cost increases such as the Lower Mon and Olmsted. And, again, this was based on the selective case studies report. Since those costs had so far exceeded what they were originally thought, a couple of the alternatives looked at taking them out of cost sharing.

So in discussing what we should recommend, the team looked at two major things. And one was a study that we began on other beneficiaries. And Dr. Bray is going to give you a presentation on that after myself. But based on that, that was -- the scope of that was in two phases. And Dr. Bray is finishing up the first phase of that study. The first phase just is identifying other beneficiaries of the system. Based on the fact that there are so many other beneficiaries, our team is recommending that dams be removed from cost sharing and that only lock projects be cost shared.

The other thing that we had a lot of discussions about was what is a capital investment. Our major rehab projects right now are -- at the funding level is $12 and a half million -- above $12 and a half million. Now, there are other criteria that make a major rehab project; but as far as funding level, we stand at $12 and a half million. And given that a lot of the dam projects and the lock projects could -- for new construction are probably between $200 and $400 million, does $12 and a half million really represent a capital investment? And so we discussed that in length within our team and coming up with a recommendation that major rehab projects for locks above $100 million be cost shared but below $100 million, they would be fully Federal.

So that leads us to our recommendation for cost sharing and that we cost share 50 percent Federal, 50 percent Inland Waterways Trust Fund for lock new construction and major or rehabs above $100 million for locks and that it's 100 percent Federal for lock major rehab less than $100 million and all dam projects. Based on the program that I've shown on the previous two slides, this amounts to an average of $270 million Federal and $110 million out of the Inland Waterways Trust Fund.

That would require 30 to 45 percent increase in the fuel tax. And this is -- the 30 percent is based on the revenues this year, the $76 million. The 45 percent was the anticipated revenues of $85 million. So depending on where those are, it would require 30 to 45 percent increase in the fuel tax or between 6 and 9 cents per gallon.

One of the other things that the team addressed was a cost sharing cap. Based on, again, the selected case study report and the growth cost in that report, we are recommending that a cost sharing cap be applied and that all costs below that are cost shared. If we exceed a cap, they would become fully Federal. That cap would be the risk based cost estimate that comes out of the feasibility report inflated to the time of new construction. So we understand that the feasibility report assumes the optimistic construction schedule, so you may assume that construction starts immediately. But based on our program, it may be five or ten years down the road. So that feasibility cost estimate, that risk based cost estimate would be inflated to the time of construction. And then if there are any additional costs that are absolutely required and needed to make a facility work, those would be cost shared. Anything above that would be 100 percent Federal. And so that places additional emphasis on ensuring that our projects come in on time and on budget, especially on budget.

As far as the revenue plan, we discussed many different options. We weighed heavily on the industry's thoughts and on ideas for this, and our recommendation is that the fuel tax remains

the industry funding mechanism. It's something that's already in place and it's working and it doesn't take anything different to make happen. Based on --

MS. DARCY: I have another question.

MS. HOEY: Yes.

MS. DARCY: I'm sorry. In looking at this requirement for the increase in the tax between the percentage versus an actual --

MS. HOEY: Yes. Dollar amount, cents amount.

MS. DARCY: -- was there a debate about one being better than the other?

MS. HOEY: I think we're -- I just put it in 30 to 45 percent, and that's based on the 6 to 9 cents per gallon. So we would have to define what that needed to be. I think there's been some talk lately with making that an amount based on the dollar amount of the gas and not the amount of the fuel tax. And we haven't explored that, but that's something that we could explore that would still fit in with the same mechanism that they're using. It would just be measured a little differently.

MS. DARCY: Okay.

MS. HOEY: So this graphic shows a requirement based on the cost sharing option that we've recommended. The blue line shows the Federal share over the 20 years. The pink line shows the trust fund share over the 20 years, and the bright blue line shows the balance in the trust fund as we move forward. One of the things we also are considering is placing a mechanism that if the trust fund gets -- too much money accumulates in the trust fund, that there's a trigger that would lower the fuel tax based on that. We would have to be very careful in how we would define that upper limit because, as you can see through this graphic, we need to accumulate at one point 450 million in order to make it work. So we would have to be very careful where we put that upper limit if that were to be the case.

And what this graphic shows is you can see early in the process where there's a much heavier share on the Federal share. That's because we have more dam projects in the mix and more major rehabs that are under $100 million. As we are going later into that process, that's really when the Upper Mississippi projects kick in and they're all lock projects and we're almost moving towards a 50/50 cost share towards the end.

Based on this graphic, around the year FY25 we're probably going to need another increase in the fuel tax because the trust fund is being spent down, we're still in the midst of the Upper Mississippi projects and those are continuing on into the next 20-year phase. And so the trust fund would need to be built up. And whether it's build up a few years earlier with less pain or a few years later with more pain, that's something that this team has to decide. And, again, this is a continuous process. This isn't something that the team is going to present this report and walk away from. This has to be constantly monitored and looked at with the same type of team as we

have right now, with the industry and the Corps looking at it and making recommendations on what's best for the system.

And so this kind of shows you the value of looking far ahead into the future. We can already see right now that we're going to need an increase in the fuel tax right now based on our team's recommendations.

Okay. One of the other things that we spent a lot of time on was looking at project delivery process improvements that we could make that would help us bring our projects in on time and on budget. Again, a lot of this began because of the selected case studies report. The inefficient funding was about 30 percent of that cost increases. So we know that there are other things that we can do to prevent cost increases and other areas that we need to look at so that our increases don't continue on the same trend as they have with Lower Mon and Olmsted.

So we organized this into basically three categories. The first are recommendations. They've already been implemented. They are in use with the Corps right now. We will see the benefits of those as we move along. They include the risk based cost estimates, independent external peer review and project management certification.

The next group is proposed improvements that can be done without any legislation that we can do as part of this report, as part of our team. We can implement these recommendations right now if we want to. One of them is that we develop a capital investment program regulation. This regulation would outline how this process works, what is done during what times of the year, who is involved in the process, identify the team that would carry this forward. Again, it's a dynamic process. It's not a one-time deal. It's something that we have to keep up with year after year to make sure that the system stays reliable.

We would appoint a Users Board representative as a team member on our project team so that they're aware of what's going on. One of the criticisms was that a lot of the Users Board presentations are being done after the fact. They're not aware of what's going on as decisions are being made. Having someone on the team would help them understand the processes that we go through in making our decisions and analyzing the different alternatives that we have and gain valuable input from them on maybe other ways that we can do things. We saw that working within our team just now over the past year. Having the Users Board and the industry representatives was key in getting us to where we are right now. We would not have been able to do that with just a Corps team alone.

With a Users Board representative then as part of the team, the project management plans where we set the scope, the schedule and the budget would then be signed by both the Users Board chairman and that representative. They would sign the project management plan. And the representative is not necessarily a Users Board member, but it could be anyone in the industry that the Users Board appoints as part of the team.

We also want to adopt applicable concepts of the Mil Con Model. And here we're talking about three things. One is the out-year planning, the graphic that I just showed that as we look at things into the future, we can see things coming a lot sooner than we have in the past. We can

make slight adjustments, less painful adjustments earlier in the process and see where we're going to run into problems.

The second thing is funding commitments. We talked about the premise of this whole plan is that once we start construction, the projects are funded efficiently. And that is key to making this work. And then the third one is just living within our budget. The Civil Works side has always had the ability to -- the projects managers are very aware of the 902 cap. And I'm not saying that the project managers are not aware of the budget and don't try to meet the budget, but there are a lot of things that we could do that the military side does to help us rein in our costs.

The military often has awardable options towards the end of the contract that if the costs get out of control, they can eliminate those options: site preparation, seeding, things like that that you could take out of the contract if the costs are exceeded. So we can structure --

MAJOR GENERAL TEMPLE: And, likewise, at the beginning if it looks like based on the bid climate or whatever, the project looks like it may come in higher than originally contemplated, if you have a list of options, then that gives you the opportunity if conditions improve to exercise those options if things change.

MS. HOEY: Right. Right.

MAJOR GENERAL TEMPLE: So it's a fairly flexible way to try and manage the project and still receive or derive the core, C-O-R-E, function of the project.

MS. HOEY: Thank you, sir. Another recommendation is considering the use of early contractor involvement. We have a lot of very complicated projects. I think on the Charleroi project up on the Lower Mon, early contractor involvement may have been something that would have been very beneficial to that project. So maybe we could recommend a pilot project to use early contractor involvement for Civil Works, and that may be a huge benefit as far as cost and savings.

The Users Board concurrence on new starts. I'm going to show you in a little bit an implementation calendar that shows you how this process would work and when those decisions would happen and the recommendations of the Users Board would be incorporated.

The Users Board status briefings, developing a template for briefings to the Users Board on what they see. This would include upcoming milestones, milestones that we've completed, milestones that we expect to complete in the 90 days. And then the next Users Board meeting would show that we've either completed them or have issues. But we would develop a template for those briefings.

And then we are doing some different things here, so we need to measure and monitor the results of all these represented changes. Are they working? Are we bringing in our costs? Are we bringing in our projects on budget now or much closer to the budget than we were in the past? We need to measure what we're doing here.

The third group are recommendations forwarded for considerations. These are things that are really outside what our team can accomplish but things that we forward for recommendation at a higher level, using design and review centers of expertise, developing whether it's one or two or whether it's a physical location or a virtual design center or a review center. The days are gone when one district goes from one large Civil Works project to another large Civil Works project. And so we're losing some of our capability with the time frame between projects and so we need to make sure that those that have the expertise are working on the next project.

Standardized designs, we have a lot of different parts and components to our facilities, and a lot of them could be the same everywhere or we could have one or two or three different variations to fit all the different variations that we have across the Corps. We would recommend that, again, a pilot project here. Pick a component that could be designed throughout the Corps, and then begin using that as we move forward in our new projects.

Continuing contracts clause, as much as possible we would hope to fully fund what we can for those projects that are lower dollars items. But we do recognize that we still have projects that are big dollar item projects, $300 or $400 million in the case of the Lower Mon, from the Olmsted, a billion dollar project, the Inner Harbor, a billion dollar project. And we need to be able to use a continuing contracts clause for those projects in order to make them work.

And then emphasis on reduced O&M expenditures. And here we're talking about spare parts, common components. This is kind of working hand in hand with the standardized design, works with asset management and feeds into what we're doing with our capital business process.

MAJOR GENERAL TEMPLE: And it also includes the use of new materials, new technologies in order to make the facilities we build more resilient and, hence, reduce their O&M burden over time.

MS. HOEY: Yes. So with those -- with the plan that we're recommending and with the improvements that we're recommending, we anticipate some cost savings mainly in avoiding cost increases. And what we've done is we've used the selected case studies report as a basis and used the information from that report to develop a cost savings on our new process. And in this case, I've only used the projects -- for inefficient funding, I've only considered projects that have the very high dollar item. I haven't put inefficient funding on every single project. If it's above $200 million, I said it could be subject to inefficient funding; otherwise, it was just subject to the other cost growth factors.

And so we've used as a basis the selected case studies. We've come up with a maximum of $2.1 billion in avoided cost growth over the next 20 years and a minimum of $600 million in avoided cost growth. In addition --

MAJOR GENERAL TEMPLE: And these figures don't include project-by-project analysis to include value engineering, so it's certainly possible that we could see improved savings over this rough order of magnitude estimate as we examine each project on its own.

MS. HOEY: That's correct. And we wanted to -- we didn't want to overstate what those savings might be. We wanted to keep them reasonable in what we thought they would actually be. And we could most definitely improve upon this.

In addition to the cost avoidance, we would be avoiding more than $2.8 billion in additional benefits foregone because we would be bringing projects on-line quicker. And in this case, I've only looked at those projects that could be completed under the current scenario. I didn't look at all the projects that we're completing in our time frame. I only looked at those that I included on that first slide, Slide 3, and that's, that $2.8 billion. That dollar amount is probably much larger than that. But without scheduling out all the other work under the future scenario, the $2.8 billion was easy to calculate.

And just as a note, the benefits foregone to date at Olmsted and Lower Mon are $5.2 billion based on what their original completion dates were.

This also gives us improved reliability and efficiency of the system and then the additional benefits of achieving our improvements over a shorter time frame, the normal benefits that we have with the Inland Marine Transportation System, the environmental benefits, the societal benefits, safety and energy benefits. This all contributes towards a better system.

MS. DARCY: May I ask a question?

MS. HOEY: Yes.

MS. DARCY: In considering additional ways to be more efficient or making things more cost effective and easier for both the users, was there any discussion of how it might be improved or made easier for the tax to be collected or for the tax to be paid?

MS. HOEY: As I said, we kind of relied heavily on your industry reps for that. And since the system was in place and working, we just thought that the existing system is what we recommended.

MS. DARCY: Okay.

MS. HOEY: This slide shows the implementation calendar, really the cycle of how we would move through this process. Right here I'm showing just one fiscal year. This is during Fiscal Year 12 where we would be looking at really four -- going through the process for four fiscal years within the system. So during 2012, that first line is the execution of the 2012 program and that each of the User Board meetings there would be project status briefings on the projects that are currently active.

In 2012 we would also be working on the 2013 program activities. And the President's budget would have been released in February, and at that point we would be preparing the project management plan that define the scope and cost and schedule for the budget. And at the summer meeting we would approve and sign those project management plans and begin moving forward with those activities.

At the same time in the 2014 year program, at the fall meeting we would be -- up to and after the fall meeting, we would be prioritizing our projects. At the fall meeting, we would present and approve our current unconstrained list, whether there's been any changes to that list up to that point. And then we would prioritize our projects based on the criteria that we're using.

In the winter/spring user board meeting, we would present then that prioritized list and recommend -- at that point we would recommend what new construction and what new studies should be accomplished for the 2014 program. We would also recommend any divestitures at that point, and the Users Board would make an appointment to those project teams of who their representative would be.

At that point, we would move forward with the program year budget development, knowing what the recommended new starts were and new study for 2014. At the same time, we're also working on the 2015 program, and that's mainly in the July, August and September time frame. At that point, we're adding and deleting projects as required whether we need to or not, including any updates that we have from studies that have been completed. If we have BCR, net benefits, and RBRCR information, any kind of that data would be applied at that point and moving projects from Phase 3 to Phase 2 if they become authorized and getting ready for presenting the new unconstrained list in the following fall for that program year.

So we would, essentially, be working on four years of projects in any one fiscal year as we move through the process. And, again, it's a dynamic process. Projects will be coming and going. Things will be updated as we go through the studies, as we recommend our new starts and our new studies and also possibly be recommending things for de-authorization.

MAJOR GENERAL TEMPLE: And I think this recurring and cyclical management scheme is going to be very important for us because we think we know today what the requirements are and we think we know today what the conditions of various facilities are, but as we know, things do change over time. And this gives us an opportunity to re-examine our plans and to make adjustments in a timely fashion rather than in a reactive fashion. So I really commend the team for putting together this management scheme because I think it will be very useful for us as we work our way down the road together.

MS. HOEY: And so what do we do now? Based on what we've presented here today, our expectation is that the Users Board will provide us some feedback to the team, whether we need to make changes or make some tweaks here and there before we finalize our final report. We're working on the draft report right now. We expect that to be done and presented. At the next Users Board meeting in the spring, the final report will be ready.

And then as far as full implementation and timeline, it's dependent on Congressional action. We would need some WRDA legislation as far as the cost sharing differences, the cost cap, things like that. We are dependent on Congressional action for appropriation. But there are many things that we can implement right now, the recommendations that we've made that we can start implementing now.

And then part of our report really needs to be, as General Temple mentioned in his opening remarks, strategic communications. We need to sell the plan. We need to show the value of the plan to everyone that are the decision-makers that can make this happen. It's not going to happen right -- it takes more than just what our team has presented to make it happen. And so we need to make sure we have the right message given to the right people at the right time to enable us to turn this corner and have an improved system.

And so I really just want to leave with two points, really. I've mentioned over and over this is a dynamic process. There's a lot of room for improvement with what the team has done. We know that the criteria can probably be matured and be improved upon. We have taken steps on the path to great, but we're not there yet. And so there's a lot more work that can be done as we move through the process.

We anticipate that if all this works, we'll work with this for a couple years and see if the criteria is working, what we can do to improve on it. If our process improvements are working, it's key that we do measure what we're doing in the future to make sure that what we've recommended is actually working.

And then the other thing that I want to note is just the dynamics between the Corps and the industry in working together on this. This has really worked. We wouldn't be able to be where we are right now if the team hadn't worked together on both sides. And this works and we need to keep it working into the future. As we move into the future, we can't just say, okay, thank you industry, we'll take it from here. That's not going to work. They need to be our partners throughout the entire process. And, again, with the strategic communications, their help will be most valuable in getting that message across.

And I don't suppose that anybody is going to let me just walk back to my seat. So questions?

MR. LITTLE: Well, thank you very much, Ms. Hoey, for an outstanding presentation and summary presented to the Board. And for your leadership on this project. It's been great. And it's been a very constructive process. And I think that your presentation gives us a good overview of just how much work has gone into this. And it looks like a very positive product that we're looking at.

I do have just a couple questions for you that I'd like to have you underscore. And you mentioned this in your presentation, and I think it may have been on Slide 11, about the key to having projects funded efficiently. So that is a key to this program, an absolute key to take away. The proposed program, as I understand it, is based on the premise that the government will provide funds in an efficient manner. And so everything else we've seen here in the presentation is predicated on that premise. So that's very key.

And conversely, if there's inefficient funding, then that's going to significantly impair the ability to implement this program. So I think you made that clear, but I wanted to emphasize that again, that that's the lynchpin on which this entire program is predicated.

Also, you've mentioned a couple times, and I think General Temple mentioned as well, this is a dynamic process. So as much work as has gone into this program and as well articulated as it is today, we don't really know what the FY29 or FY25 landscape will be. So we can certainly look at it today and surmise, but getting in there and, as you said earlier, measuring and monitoring results of recommended process improvements and all the other things that will move in a large degree or a small degree between now and next year and the year after that and the year after that, it is a very -- indeed a dynamic process. So I appreciate that.

I'm going to open up the floor for any other members who may want to make a comment or ask questions, and then we'll take a short break after that and then come back and resume the questions. But if there's anyone who has a question or comment now from the Board, now would be a good time to be recognized.

MS. HOEY: You have sixteen seconds. My team knows that. That's a little inside joke with the team.

MR. LITTLE: Well, let's do this then, let's go ahead and take a break now and give everyone a chance to stand up and walk around a little bit and then we'll come back. Let's take a 15 minute break and then come back. Thank you.

(WHEREUPON, A BREAK WAS TAKEN.)

MR. LITTLE: If you'll all be seated, we'll resume. General Temple, I think you had some further comments to make.

MAJOR GENERAL TEMPLE: Well, I do, but I think I'd just as soon wait and see if anybody else had any thoughts and I've had a chance to ruminate a little bit over what Jeanine presented here earlier. Any other thoughts?

MR. LITTLE: I don't believe so, General. I think the floor is yours.

MAJOR GENERAL TEMPLE: Okay. No problem. Jeanine referred to the situation that we found ourselves in a year ago as the beginning of the end of the Inland Waterway Transportation System. I actually think with the PDT's work, we're actually at the end of the beginning. The end of the beginning.

And, frankly, and I'll say this again at the end, as much hard work that's gone into getting us where we are today, actually the work is just starting. The work is just starting. The easy part of this, relatively speaking, has been done. Now, the hard part begins.

With that said, I think it's really important for everyone here present to realize that the team started off, and you saw on Slide 6, by taking a look at the entire inventory without prejudice, looked at everything first. And that kind of gets to Mr. Loew's comment earlier where he talked about the $38 billion bogey. And nobody can get their head around $38 billion, and there's no way we're going to raise enough money to take care of a $38 billion problem. But by taking a look at the totality of the issue to begin with and then necking down to what really had to be done, which is

where we end up with on Slides 11 and 12, driven by the criteria based decision-making process that Jeanine covered gets us to kind of where we are today.

Now, if you look at Slide 14, I would just make a recommendation, this implies perhaps to an outsider that these recommendations are a done-deal because they're part of a plan. And my recommendation would be that we take a look at that last word or perhaps adding to the last word and say recommendations or something like that, because we all know that this is going to be an iterative process. And not everything that's on here will likely remain precisely as presented today as if it was a plan, but it's certainly a way ahead. And I would just ask that we consider a return on it slightly.

I think on Slide 15 where we talked a little bit about the balance, the build-up, and then how it will be drawn down, I think it would be wise for us to take a look at how we want to sustain or how much money is needed to sustain the fund before we get to that low point somewhere between FY 25 and FY 30. So this is, again, part of that continuous process this we talked about earlier, continuous management process that we talked about earlier.

In terms of Slide 16, you can see that there are a lot of different -- and this is not an all inclusive list by any means -- but a lot of different proposals on how we can do a better job of managing the execution of whatever program ends up being I am approved. And I think most particularly with respect to the last major bullet where we talk about use of different acquisition techniques and design capabilities that we not exclude any arrow in our quiver but have all arrows in our quiver so that we pick the right one for the right job at the right time to achieve our goals most efficiently and effectively.

In Slide 19 we talked a little bit about the recurring review process which I think is excellent because this is a very dynamic situation as Mr. Little said earlier, and we've got to stay on top of it. And the only way to stay on top of it is to continuously revisit requirements in the way ahead.

And then as I was glad to see Jeanine mention on Slide 20 the need for a strat comm. I think it's so important we need to put it somewhere on this slide because we can't lose sight of the fact that how we communicate these requirements and how we communicate the way ahead will, needs to be convincing and compelling to whatever audience that we're addressing.

So, again, as I started at the beginning, I said now the hard part actually starts from my view. But, Jeanine, we certainly want to thank you and the entire team for getting this to this point. And on behalf of everybody here, I'd like to present you with a two star coin. And just so you wonder about this, this is not just for work well done, it's a down payment on what will be done.

(WHEREUPON, APPLAUSE FROM THE AUDIENCE.)

MAJOR GENERAL TEMPLE: And I'll retain the right to redeem it just in case. We won't have to worry about that with you.

MS. HOEY: Thank you, sir.

(WHEREUPON, APPLAUSE FROM THE AUDIENCE.)

MR. LITTLE: Any other comments at this time?

MR. MARK KNOY: Steve, I had -- yeah, one request if it would be appropriate. We talked a lot about the dam safety action classification and the condition of the dams and then the condition assessment for the locks. What would be the chance of getting the most updated and comprehensive report of lock and dam conditions for the Inland Waterways? Is there such a thing? I mean, just kind of --

MS. HOEY: Jim has volunteered to answer that question.

MR. KNOY: So we know where we are right now.

MR. JAMES WALKER: Mark, if we could, I'll be covering that in my presentation. We can do it now, but I'm up next.

MS. HOEY: Good lead in to Jim.

MR. LITTLE: All right. Mr. Woodruff?

MR. WILLIAM M. WOODRUFF: Mr. Chairman, having heard the presentation, I move that the Inland Waterways Users Board endorse the IMTS Capital Investment Strategy Team's recommendations as contained in Ms. Hoey's Power Point slides we've just seen and would request that this copy of the slides be appended to the minutes of this meeting for ready reference. And I also move that the Inland Waterways Users Board urge the IMTS Capital Investment Strategy Team to complete its report consistent with these recommendations and submit that report to the Board for consideration in time for our Spring 2010 meeting.

MR. DANIEL T. MARTIN: I second the move.

BY MR. LITTLE: Mr. Martin. Thank you, Mr. Woodruff. And I need a second on that motion.

MR. MARTIN: Second.

MR. LITTLE: Further discussion on the motion?

MR. MICHAEL F. KIDBY: A question. Several improvements to each of the slides, I was wondering would you want those to be part of the package that was appended to the minutes of this meeting as suggested by General Temple or others?

MR. LITTLE: Discussion on that? I think that Mr. Woodruff's motion can stand the way it was offered and seconded by Mr. Martin. I think that the Board will take into consideration, obviously, the comments and suggestions that General Temple had made.

So, again, the question is on the motion offered by Mr. Woodruff and seconded by Mr. Martin. Any discussion on that motion? If not, then I'll call for a vote. All in favor say aye.

(WHEREUPON, THE BOARD VOTED.)

MR. LITTLE: All opposed? None. And I'd like the record to show that all ten Users Board members voted in favor of the motion. None voted against it. And so that motion is adopted unanimously by the Board.

All right. I think we're ready to move on. I thank you again, Ms. Hoey, for your presentation. And we'll move on with the next item on the agenda.

MAJOR GENERAL TEMPLE: Thanks Jeanine.

(WHEREUPON, APPLAUSE FROM THE AUDIENCE.)

MR. LITTLE: Next on the agenda is Jim Walker who will present to us an Inland Navigation Operations Condition Assessment. Jim?

MR. WALKER: Thank you, Mr. Chairman. To go back to the question of where we stand with the condition assessments on the navigation infrastructure, I'll give you a background of what we've currently got underway this fiscal year and how that's going to tie into other efforts that have been -- are underway as well on the dam safety effort.

The Operational Condition Assessments program is something that we saw as a need. It fits very well under the USACE Campaign Plan that's been developed. You see objective 3c, “To deliver reliable infrastructure using a risk-informed asset management strategy.” And the basic tenet for us in this is to know what we have, know what condition it's in and know what it would cost to get it to the original condition, sometimes referred to in the accountant's term as a Facilities Condition Index.

Within the navigation program, I've got four groups of assets. You've got the navigation locks, you've got channels. There are structures such as jetties, river training works, et cetera, and there are bridges. And we need to perform operational condition assessments for each of these asset groups. The one that we're furthest along with right now is the navigation locks. And that's the most interest to this group, so we'll go to this one.

To know what we have, we start out with looking at the number of lock chambers and we see the map and the number of locations. Sometimes it gets into some interesting discussions as to what qualifies as a lock and what is a water control structure that happens to pass a vessel along the Intracoastal. So we can get down -- we can't get to two decimal places like engineers love, but we get down to the eaches. And this slide will help depict some of that.

There are locks that are named on the -- named Inland Waterway Trust Fund system. There are locks that are part of our Inland Marine Transportation System but are not on named systems.

There are deep draft locks. We even have locks that are on the Corps asset rolls right now, but are operated by state or local entities. So you see there are a total number of our locks and locations.

To break that out by Division as far as the Corps of Engineers organizations, you'll see that there are six divisions that have navigation locks, but certainly the largest two being the Lakes and Rivers Division and the Mississippi Valley Division. When you look at getting agreement between those two, you're now getting to the approach of over 80 percent of the locks in the inventory. So the discussions that we've had are certainly key with those two. We certainly want to include the locks of all the different divisions in the team. And we mentioned the representation on the investment strategy endeavors by this group, with the exception of NAD and they have locks that aren't part of the -- actually in the Waterway Trust Fund System.

There was an initiative immediately after 9/11 that came in to do Dam Safety Assessment Criteria, establishing how they would evaluate the safety of the dams that the Corps has in its inventory. They focused on the risk of an uncontrolled loss of pool. So that the focus there was more on the structures. It involved the water management, how you deal with those components that address the water management, also with things like underseepage.

But one of the things that we saw was a shortcoming or at least from a navigation perspective was that there was no assessments of some of the things that allowed us with passing traffic. And so they came up with their -- they have their classifications where DSAC Level 1 is their most urgent needs. That's considered something to them as active failure mode. Those evaluations are currently underway. They've gotten to the vast majority of the inventory, and they will complete that inventory review in 2010.

For us looking at the navigation locks and dams in our Operational Condition Assessment, we're focused on the conditions that affect the ability to pass traffic. And so the development of criteria to consistently evaluate that across the entire inventory was of great value to us in the future, both for things like this investment strategy and for knowing on an individual basis just really where the greatest problems were and the risk of failure and unscheduled closures.

The group that has met and put together this criteria will be looking at doing on-site inspections and looking at some 250 components for each navigation lock. They'll do this over the course of a one to two-day inspection at the cost of around $10,000 per lock.

What has been developed, mostly with the leadership of the folks in the Lakes and Rivers Division but overseen and participated in the review process by representatives of all the divisions with locks is a condition assessment tool that is automated, allows us to review these various navigation components, assess their current condition and be able to tag in with photographs or other comments. And these will then go into a central database so that with one system, we'll be able to compare the conditions of the components. It's going to allow us in the future to take a look at trends among these components so that we can get to understanding the number of cycles before something may need to be taken out of service and replaced or at least evaluated. So we see this as a great tool for us in the future in trying to break out of what has been an historically fix-as-fail type of maintenance and eventually can move us into more of a preventative maintenance mode.

The results of these condition assessments are to be used in our investment decisions, both for construction and for operation and maintenance. What you see here is a tool that's used in our budget criteria. It is currently being used by three different business lines. It's used in navigation, in hydropower, and in flood damage -- or flood risk reduction business lines.

You'll see across the top the ratings of "A" through "F" on the condition scales and then with a consequences category of "1" through "5." While there's logic for us in making it with the "A" through "F," we understand the need for consistency. And DSAC, those ratings were out ahead of us, and it's become more accepted by the universe in terms of outside academia and other parts.

So I think that General Temple's direction where we look at going back to a "1" to "5" would be consistent with that. But to show you where things are right now, that's how we got to a "1" to "5" on consequences and "A" through "F" on condition.

If you look at the consequences and -- at the present time this is Fiscal Year 11 budget development, we were looking at it based on tonnage moved on a particular system to help us with determining the consequence level. That will be replaced in the future with looking at the durations of unscheduled closures based on a particular component going out of service and the economic impact of that closure. So that takes into account the number of vessel movements and the commodities that they're carrying, and the economic consequences. So it's taking us with annual increments of improvement down the road to having a better -- where we look at risk being a combination of condition and consequences.

So things are moving from a fairly subjective thing at this point to getting more into an engineering analysis on the conditions and to an economic basis for consequences. These approaches will be transparent in terms of how we have made those decisions, what qualifies for the different levels and those things. So that will be able to stand up to outside organization review and scrutiny.

Our schedule for these condition assessments is to conduct these in Fiscal Year 10. The first and second quarters, we're conducting training. That's going to be a trainer mode as far as developing and establishing the teams that will go out and do these condition assessments so that they understand the tool and can evaluate those things consistently and use that tool when they're out doing those assessments. In the third and fourth quarters of Fiscal Year 10 we will conduct those assessments and then we will have the results available for use in both our operation and maintenance and our construction investment decisions for the Fiscal Year 13 budget development, which for us internally begins around February of 2011.

In the future, our baseline, we anticipate incorporating what we've got in the operational condition assessment with other evaluations and inspections. There are periodic inspections, structural steel, critical member inspections, the dam safety criteria and their evaluations. So there are a number of evaluations that can feed in.

Where we think we've got something to offer as far as bringing others into the effort that we're currently developing and implementing is that our product will directly feed the budget

development process and investment decisions where other inspections at this point right now end with telling someone, generally the Chief of Operations Division, what problems are at that lock and then leaves it to others to pursue the funding or to establish the priorities on how to go about addressing those problems.

We also have the Facilities and Equipment Maintenance Program, FEM. FEM is an automated maintenance management program that's based on commercial off-the-shelf software, Maximo. It's a DOD standard in terms of using an automated maintenance management system. And so we think it holds great promise for us in that effort.

The FEM was the idea of taking this off-the-shelf maintenance management software and adapting it so that it can work with other automated information systems in the Corps. CEFMS, our finance and accounting system, and P2, our project management system, to be able to work all three of these programs and transfer data across these different databases.

And with this information, I look for us to be able to use this to justify the resources to move us from fix-as-fail to preventative maintenance. And the Chief's discussion of "Good to Great" I think that's certainly something to be shooting for, and I think we can look at giving us better information to make the case for those resources.

And the bottom line that we seek is to keep the IMTS reliable, efficient and resilient. And we think that the condition assessments will be a great tool to help us in that regard. So subject to your questions, that concludes my presentation.

MR. LITTLE: Thank you, Mr. Walker, for giving us a very informative presentation. I think it helps us understand how this kind of assessment would tie in to the longer term decisions that we've been talking about earlier. Do you have an approximate number of how many inspections a year we're talking about and how often the inspections would take place?

MR. WALKER: The current thing is to do a baseline inspection in Fiscal Year 10. Now, the Lakes and Rivers Division, with their initiative, has pretty much already completed the navigation locks inspections of their facilities. And, basically, we're doing the rest of the inventory in Fiscal Year 10. We're linking this to a schedule of the Periodic Inspections Program which is by and large on a five-year cycle. And we will hook into wherever they are in that particular cycle in a subsequent analysis. So we're talking about an inventory of roughly 20 percent of the inventory each year on an ongoing basis.

Now, there's also then the detail that as things are implemented in terms of corrective actions taken, repairs made, how we would go back and make adjustments to show what the conditions change as you get money and make those improvements to the assets. But those additional details to be worked out by the initial inspection process is to be looking on the order of 20 percent of the inventory each year and no more than five years between inspections.

MR. LITTLE: Okay. Thank you. One other question. The teams doing the inspections, I think you mentioned training the trainer, exercises, classes that would be implemented. So the

folks who are doing the inspecting is not a traveling team necessarily, but a team on site or how does the team concept work?

MR. WALKER: Good question. What we're looking at is within the -- well, within the Division organization, it has the flexibility of establishing how they want to assemble their team. We're anticipating that they will look at it from a district perspective in evaluating their own District products. And that's where the idea of the need for making sure that there's a consistent evaluation method and then consistency in how they are rating those.

Down the road, we would look for more of a potentially integrated across-the-division to go out so that there's a cross pollination of looking at not only how I assess my own locks but to go out and look at someone else's locks and compare. This could even be done on a nationwide basis.

The Dam Safety Assessment Criteria develops specific teams that did a lot of traveling to be able to conduct their assessments. They did this over -- I think it's in its third year, maybe its fourth year of doing that with those teams. So it's certainly, while it's having the benefit of consistent eyes looking at all of the assets in the inventory, it had to be done over a time frame that we felt like we needed to press forward a little quicker in getting our baseline surveys prepared and indicated, and then we will develop that further in the future.

Now, the expertise of the team is -- the majority of the people will be from our engineering divisions who are professional engineers and mechanical engineers and electrical engineers, structural engineers that will make up the team that's going out and performing these inspections. You'll also have the benefit of the people that are on-site in terms of the maintenance manager at that facility, whether that's the lock and dam superintendent or supervisor or the operating staff, taking a look at the documents that have already been prepared in terms of reports of those structural steel evaluations and the like. So that they will have this information before them to make use when they're doing those assessments and call upon that when they're taking those assessments.

But just that it fairly quick. One of the issues that you have when you request those types of endeavors is how is it going to be funded. In this particular instance, it was funded in our Fiscal Year 10 budget to provide this $10,000 per lock to the district to be able to conduct that. So this is a rare instance that I plan on citing for many years to come when I'm told about the unfunded mandates that come out of Headquarters to the districts, I'll have at least one example that I can say we sent you the money to do this mandate. But that's the part of the background of that approach.

MR. LITTLE: Very good. I appreciate that explanation. Mr. Knoy?

MR. KNOY: All right. So, Jim, now I understand how we're going to do that going forward, but back to my original question: Where are we at today? What's available today? In light of our failure with Markland, I was curious what the current assessment is and what's available for us to review now?

MR. WALKER: Okay. I'd have to get with the Dam Safety people to see how their system actually presents in terms of if there's a summary report that I could print out and show you each of

the dams that they have evaluated and what their ratings are. I know they have that information. I just don't know how to summarize that in a quick review fashion so that -- because they go through a very detailed and protracted analysis and then be able to give some sort of summary of those conditions.

For the LRD locks that have had their conditions assessed, I'd have to check and see if someone from LRD can tell me where they are and have that in a database to be able to provide a summary table of information. But that's what I see as a goal that -- in the next -- by the end of the fiscal year so that come to you a year from now be able to say here's a table of where we see the conditions both Dam Safety and Condition Assessments are.

MR. KNOY: And, Jim, since the Markland incident, I've been out reviewing whatever information we can find, and there's a series of reports out on the net that you can get off of the Corps website, the Waterway Council website. And they have this letter rating, A, B, C, D, F. Just curious if those -- if there's any updated information versus what's out there today.

MR. WALKER: No, because the WCI information is what was developed from within the LRD, and they have their way of rolling that up to that project overall. One of the things that we've got to figure out on how to strategically communicate that would be that there could be a rating for a lock, and that's got to be looked at as to what level of detail we want to get to. If something is a "D," what made it a "D"? There's some things that are "A," some things that are "B," and some things that are "F." So how do we go about communicating through major category groups or component groups within that asset to be able to do a drill-down. And I think that's what the automated tool that they're developing is to try and assist us with is that when you see a score and you want to see beyond that, how you would be able to then go in and see what gives it that overall grade that you're seeing on the summary sheet.

MR. KNOY: Thank you, Jim.

MR. LOEW: Mark, if I can just clarify. When we started our Dam Safety Inspections, we started with what we thought were the worst problems and began working to the least worst. Almost all of those were flood risk management dams. So we could offer you a pretty detailed report on the inspections made to date on all of our dams, but most of them aren't navigation dams, that is, where the problems occurred. So are you interested just in the navigation structures? We'll get you that.

MR. KNOY: Yeah, just the navigation structures. And I feel comfortable that the dam safety is moving forward. I'm really just trying to understand the lock gate failure or potential failure. That's really what I'm looking for, is where we as carriers and our customers need to be concerned with reliability, similar to the recent failure of Markland.

MAJOR GENERAL TEMPLE: And before I turn the mic over, with your concurrence there, Mr. Little, to our Great Lakes and Rivers Division representatives here, with respect to your question on the Markland. The Board of Investigation is just finishing up their work and will present a report to the Chief of Engineers shortly, a formal report, which he will review. And once

he has reviewed it, either concurred with it or sent it back for further action, that the results will be released. So it shouldn't be too much longer I wouldn't think.

MR. LITTLE: Mr. Harder, Great Lakes Division wants to comment on that.

MR. WILLIAM HARDER: Yeah, thank you very much. Mr. Knoy, in response to your question, we've been working on a pilot program that produces a white paper based on a portion of the system. For the main stem of the Ohio that's nearly complete at this point, it takes a look at the condition assessments for all the elements by category, assesses a glide path for reliability and should be available fairly soon.

I want to emphasize this is a pilot white paper intended to bring out the points that we've already brought out in public with the five-year development plan, but it's a longer look at it. It's intended to embody the condition assessments, they are proscriptive in summary, remedial actions needed to attain reliable systems and what it costs to get there. And we can produce that and provide that to the Inland Waterways Users Board Chairman in the very near future.

MR. KNOY: Thank you, Bill.

MR. LITTLE: Thank you, Mr. Harder. I believe Mr. Daily had a question.

MR. LARRY DAILY: Yeah, the part about the consequences to me is not a pure engineering question, and it's not -- in my mind, it's not a pure tons moved through the dam question. So much as we talked about earlier in the capital investment, I would like to think of some role that regional industry representatives can help you look at the collateral or the consequential damage to certain dams going down based on alternative sources of materials, value of materials, criticality to certain municipal activities, things like that.

So I know I'd be happy to offer my help, and the Board here has shown pretty good ability to offer assistance. So if you can figure some way to help you on that side of the scale, I think it can make a lot of difference. Thank you.

MR. WALKER: And we certainly would welcome that. Actually, I may have not been clear. That's not engineering people doing that analysis. That's economists. And, actually, the Inland Navigation Center of Expertise, they're Huntington District of the Corps of Engineers put that together for the entire inventory. So the economists led by Wes Walker and Keith Hofseth at the Institute for Water Resources has helped pull that information together. But I'm sure they would certainly welcome exploring that information to assist them in improving the consequences and information.

MR. DAILY: Yeah.

MR. LITTLE: Yeah, that's a great group in Huntington headed by Wes Walker. And we've seen great value in the work they do, but I also think -- to pick up on Larry's comment -- I think that there's a real benefit as communicating and working together on that because we may see some

things in our business that they may not be aware of. So I think that need would be a great idea to work together on that.

Any further questions for Mr. Walker? If not, then we appreciate it very much, Jim, your presentation. We'll move right on to Dr. Bray who will give us a status report on his look into beneficiaries -- other beneficiaries in the inland navigation facilities. So, Dr. Bray.

DR. LARRY BRAY: Thank you. I appreciate the invitation to speak to this prestigious group. Mr. David Grier and Wes Walker asked me to help with this. And this being late in the day, I'm going to going to keep my comments short. But we've taken my slides and put them in your notebook, and I'm going to hang around this evening and leave in the morning. And if anybody wants to talk about this in any more detail, I'd love to speak with you.

But we were asked to do two things. It's my understanding there was a Board request about each of these items, and some of this kind of overlaps Mr. Walker's presentation. Number of facilities, where does the money go? This is part of it. And I went up to IWR and sat down with David Grier and Dave Lichy who runs the Navigation Data Center, and he ran some reports for us. And so this is count of Fuel Tax Waterways Projects by Type, 2008. And notice that floats boats is the big hitter here, though we have business support -- physical support, and there's the total.

And I was kind of curious myself when I looked at the data, so I thought I'd give you some examples. Floats boats, of course, is O&M. MR&T, locks and channel improvements and dredging. Those are examples of floats boats. Physical support, you can see this is something that's physically put in place or taken out, like removal of sunken vessels. And then business support, you have like the Mississippi River main stem model development and the Missouri River master manual development. I think when I was at TVA, I worked on that bottom one there three times, so I'm pretty familiar with that one.

Navigation expenditures, all projects from 1999 to 2009, we're talking $13.5 billion. Of that deep draft, 6.5; shallow draft, 1.2; fuel tax waterways, 5.4; and the not selected subtype of 0.477. If you can't fit it into any of these others uniquely, that's kind of the one category that didn't fall into that kind of selected group.

Expenditures, fuel tax waterways in dollars in thousands, all navigation projects again 5.4 billion; floats boats, 5.5; business support very small, 174,000 and physical support, 95 million. This is just a little graph that shows you the fuel tax waterways expenditure by business line where it goes. Navigation picks up the lion's share of it, 57 percent. But going around to your left counter clockwise, environmental stewardship is 8, flood risk management 5, hydropower 14, 12 in recreation, virtually zero in water supply and 4 percent unknown.

And that's some data that came out of OMBIL, which possibly addresses a comment. Did you have anything on that David?

MR. DAVID GRIER: No, that's fine.

DR. BRAY: Okay. Benefits categories, I'm not going to go into my entire PowerPoint slide because it'll keep us here too long and we can talk about this all day, but I do want to share a couple of slides with you and then I'll back up to this one.

I pulled this off the internet. This is what Cincinnati looked like in 1910. If you went around the room and asked people to name 20 groups that might benefit from having water here instead of mud, 15 out of 20 with each person would probably be the same. There might be some that would throw you, but -- here's one. We're doing a little -- we completed a little study for the Huntington District.

When I was at TVA, we were working on the shipper savings study on the Ohio River System. We estimated that there were shipper savings of $3.1 billion in 2006. We thought this was possibly undercounted by the way the sample was drawn. Some high-value, low-tonnage movements were not in the sample. We did another little study at TVA, and we determined that coal steam plants were 16.6 less expensive to operate on a navigable stream. And we attributed that transportation savings, water compelled rates, water supply and temperature control, and maintenance on the water side of plants.

This is one shipment that's very hard to rate. And this is October 2005 Watts Bar Nuclear Plant steam plant generators. You'd have to go into it, but it's very difficult to rate that on the rail side since the rail line really doesn't exist to the plant to deliver these things.

This is a Corps of Engineers crane. TVA has got one, and it's very cheap to move this thing around and not have to break it down and move it by truck.

These were some pollution control equipment that was developed at -- in Iuka, Mississippi. But due to the shortage of welders and boilermakers, it shipped intact from Iuka to one of TVA's plants. And that's the real benefit of barge transportation but a very difficult movement to rate.

This little study here is now out for technical review, and these were preliminary numbers that's being reviewed and completed at ORNL, the Oak Ridge National Laboratory. But these are gains due to the presence of a navigable Ohio River navigation system. Over 50 years we estimate that the region gains $497 billion in sales. And there's 80,000 employees that are attributable to this navigation system.

This is a little -- I teach Regional Economics at UT, and I thought it was interesting to know a little history of the region. This was a city in Alabama that doesn't exist anymore. And one of the reasons it doesn't exist is mosquitoes. When the Tennessee River was impounded, 30 percent of the people in the Tennessee Valley had malaria. And there were cases where it was up to 60 percent. After the impoundment and the natural control mechanisms, malaria disappeared from the Tennessee Valley.

I think I'm going to back up now and go to that list I had. Here we go.

This first one, the shippers through transportation savings, that relates back to the economic development side where you had your gains in sales. But when we looked at the power service

areas for the utilities that actually generate power along the Tennessee River and you look at their penetration into the heartland, those savings penetrate into 829 counties. And that's 27 percent of the counties in the nation. So the penetration of transportation on the Ohio River system is significant.

Let's see here. Water supply, in 2008 there were 388 active intakes that withdrew 23 billion gallons of water valued at $953 million per year. Municipal users account for 9.7 percent, industrial users 90.7 percent. And of the industrial users, most of it is for power plants, and they use it for once through cooling. Now, the newer power plants have cooling towers, but the old power plants actually used the river. And it's very inexpensive to heat these plants that way. So anybody who consumes electricity gains.

For the shippers savings, of course, those people who pay the -- pay the transportation expenses gain, and that's usually the shippers on the Ohio River. It's the farmers in the farm belt are the ones who gain. But, of course, those industries linked in production gain with the shippers. Down in Alabama where I used to work, you've got TRICO steel at the time which attracted the slidders, which attracted the fabricators, which attracted the manufacturers who put it all together, the galvanizers. The river was the focus for all that employment growth. And I just use that as an example because I'm more familiar with it.

Let's see here. Flood control, these data are kind of hard to break out by dams authorized for navigation or used for navigation or all dams. You can't really break it out. But the Corps of Engineers, your control projects in 2008, the damage prevented was valued at 10 billion.

Hydropower projects, here again, it's hard to isolate this to dams authorized or used for navigation. But the U.S. Army Corps of Engineers has 27 percent of hydro capacity, and the power they generate -- those folks generate is about 4 billion a year. Of course, TVA weighs in on this too. It's a smaller amount but significant.

I interviewed a sewage treatment plant. People who live near the river can have more favorable utility rates. Navigable pools help to accommodate the capacity of large concentrations of people. Of course, the cost to process the sewage would be greater if the river depth was lower. You would have to take out more pollutants.

In the slides I gave you, NASA and the military both gain. The common booster core manufacturing in Alabama benefits from competitive power rates, labor rates, transportation rates. And we helped a guard unit move out from Raccoon Valley. And I learned a lot about how the military uses barge transportation. Their position was that barge transportation is safer, sometimes quicker and less expensive. And troop movements along the highway or rail can be avoided if you can use water transportation.

Recreation, in 2006 Corps of Engineers lakes served more than 372 million person-trips across the nation; visitors to lakes spent $18 billion. With the multiplier effect, this accounts for 250,000 jobs. Of course, not all these lakes had navigation as a project purpose. And I suppose that number can be ferreted out, but it doesn't exist. But that's a pretty impressive number.

I mentioned vector control. I spoke with a fellow at the American Mosquito Control Association, and he was astounded that anybody would even broach the subject of not having those dams there. I assured him that was not my purpose. But he said if they weren't there, it would cost Tennesseans about 25 million more a year to control those mosquitoes. And he also pointed out they have a long stream of diseases that you can get from mosquitoes. And he mentioned West Nile Fever and Encephalitis.

Irrigation, the Corps of Engineers does not normally collect irrigation data, nor do they collect the value of agricultural production associated with it. But we did to do it in the John Day drawdown. And that's a reduction of 5 feet to a minimum operating pool. Some navigation is possible, but 182,000 acres would be abandoned. Farmers would lose $428 million per year, and the loss to irrigators would be $1.7 billion. So this is a sizable reduction in this one area. And I have some feelers out to get some data off the Missouri River, but it didn't come in time for this presentation.

TVA, when we did our reservoir operations study, we looked at what's the impact of the dams which were all authorized for navigation on the mainstem, of course, and most on the tributaries.

What's the impact on property values? Significant. One study -- one scenario included delayed summer drawdowns and others. This is, of course, the tributary people want to be able to water ski later into the year. And when they do that, there's less water for the mainstem and for navigation. So that's one scenario we looked at. A permanent elevation increase of .62 feet would yield a 2.3 percent increase in property values. Now, my charge was only to look at existing studies. I didn't try to take that piece of information and then try to use it to determine what would be the loss of more water, but it's very significant. The sample property value on Fort Loudoun reservoir on the river is $547,000. That's what the average house is worth. So you can see if the water level dropped a significant amount, that's a significant amount of reduction to the average person that owns a home on a waterway.

Environmental advantages, those who breathe air and motor on the nation's highways gain. Here you hit about everybody. Most people breathe air. I guess I don't want to meet anybody who doesn't. But in a heads-up comparison with other modes, barge transportation is more efficient and safer. But when we do our studies for the Army -- and we've done several of these at Chickamauga and Pittsburgh and Kansas City -- what you usually find is the real beneficiaries of water transportation are the people, the resident traffic on the waterways. This is where you find the majority of the benefit. When you take a marginal amount of trucks and put them into an already congested waterway, that's when you really can cause congestion and air pollution issues.

And I'll close with my last one here. I picked up this last one. For one year I worked in water supply when I was at TVA. And it kind of -- I'm not a lawyer. I don't know anything about legal -- I'm no specialist. But I found this in a Georgia Law Review. When you have navigation on your system as a project purpose, there are winners and losers when you start talking about inter basin transfers of water. And I think this is going to be the one -- one of the biggest issues that we're going to face in the next 10 to 20 years is water rights. And if navigation is a project purpose -- let's see. I'll quote from this: "it is clear that a diversion that interferes with navigation is not

permitted." So if you're in a situation where part of the river system becomes non-navigable, then the -- it's easier to transfer that water to another river basin.

And I'll stop with that. They asked me to be brief, and I hope I was brief. But if you have any questions, I'll be happy to take them. And I'll be around this evening if you want to chat about this some more.

MR. LITTLE: Thank you, Dr. Bray. That was very interesting, and it leads to all of us to start to think about all the other beneficiaries that are out there and trying to identify those beneficiaries and somehow quantify them. Going forward, where do you think your study should go?

DR. BRAY: Well, we've talked about that, and it's pretty much up to what Mr. Grier wants to do. You can take some of those parameters that we've come up with and try to generalize them and monetize them. We've kind of pushed that forward on the area of traffic. We have a methodology we're kind of comfortable with to put a dollar value on what modal shifts. But, you know, each one of these categories here can almost be a thesis. And we're happy to help you with it if it suits your purposes.

MR. GRIER: Yeah, I think we would look to the Board's counsel on where they would like to see us go with this next. And to the extent we could, possibly monetize or quantify in more detail some of those different benefit categories we've discussed here. We would look to working with Dr. Bray and our nav center and other ways to mine the OMBIL data as well that could be applied towards this.

DR. BRAY: And a lot of this information is available from in the Corps of Engineers, for example, the flood risk and power costs. You have centers of expertise. It's just that they've never tried to look at these metrics. The Corps of Engineers certainly has the people to do it, but, you know, it's just a matter of deciding what you want to do and then doing it.

MR. LITTLE: Mr. Parker.

MR. TIM PARKER: Thank you. Tim Parker. I'm intrigued by your vector control. I'm thinking of the slide of the proud Native American in Cincinnati. If we had no dams in the country and then presumably three months, six months out of the year you've got stagnant water. In other words, you were saying then that the mosquitoes issue, which I never thought about before, but that gentleman's statement to you was then we would have health issues. Is that what you're saying?

DR. BRAY: Well, that's true. I was struck by the fact that I know that TVA still does some mosquito control. I couldn't find -- I didn't have a lot of time to work on this. And I couldn't find anybody in the Army who would admit to doing vector control operations. I think possibly the way the Missouri River is currently being operated with a split season with the elevations, maybe they don't -- maybe that helps control mosquito.

But if you go back and read -- if you'll just go to Google, I think you can Google "Missouri River and Lewis and Clark, mosquitoes", if you'll Google that, you'll see that on the Missouri River

when Lewis and Clark first went on the Missouri River the mosquitoes were so bad that they couldn't hold a rifle and shoot at game they were so bad. They had to actually get under the water to get away from them.

So I spoke with the American Mosquito Control Association. That's where I got the information about what it would cost. And I also talked with two entomologists at the University of Tennessee that had worked in the west. And they were just aghast that anybody would even want to broach this subject. I mean, that's such a nasty problem and they're pretty much under control now and why would you want to do anything to change things.

So once they understood the problem, they were very helpful. But mosquitoes can be a really nasty problem.

MR. PARKER: So flow is good then; isn't it?

DR. BRAY: Yes.

MR. LITTLE: Mr. Woodruff?

MR. WOODRUFF: Well, I just am struck by something that is in one of the slides, and you touched on it and I just want to make sure that I understand it. I understand that for the most part we haven't valued the irrigation benefits from our pools. But on the John Day pool which is one where a study was done --

DR. BRAY: Yes.

MR. WOODRUFF: -- in that one pool drawing down 5 feet would cost farmers to lose sales of $428 million a year?

DR. BRAY: Yeah, that's because of the irrigation, I think.

MR. WOODRUFF: And so that's just one?

DR. BRAY: That's just one. The Missouri River would probably be bigger, but I never got back with the people on the Missouri River who were helping. Of course, they're not in the Corps. They're other Federal agencies. But I never got back with them to get what the benefit would be to irrigation on the Missouri River.

MR. WOODRUFF: I would suggest just based on that one little vignette sort of example that this system, where most of us think about the transportation benefits of it, has vast values to the Nation that some of us didn't even think about it before we came here today. I wouldn't have considered keeping people from catching malaria to be a benefit of the Inland Navigation System, but apparently it is. And we think it's easier to see the irrigation and water supply. I think we're probably not doing our job to the Nation if we're not quantifying the benefits that this system is providing to the Nation other than the transportation benefits. And I would encourage the Corps to

continue this process of trying to quantify the benefits to the Nation so the Nation can understand and better realize just exactly what an asset it has.

MR. LITTLE: Thank you, Mr. Woodruff. I think the Board wholeheartedly agrees with that assessment. I think Dr. Bray is -- for those of us who have been in the industry for many years has opened our eyes to aspects of this system that we hadn't even thought about before. So we very much encourage the Corps to continue down this road. We think it's -- it's very worthwhile, very important to the Nation to do that and would hope that the Corps takes that away from this meeting and we very much endorse that work.

MAJOR GENERAL TEMPLE: In parallel with that, I think the Board may be able to use this as part of your strat comm as well as we were discussing earlier.

MR. GRIER: I was just going to quickly add that we do have a Phase 2 scoped out for this study that would begin to see what steps could be taken and were those possibilities to begin to quantify some of these other benefits. And we'll redistribute that scope of work plan to the Board members again so you'll all have a chance to see it and see if there's anything else you'd want to add to that.

MR. LITTLE: Yes, Mr. Martin.

MR. MARTIN: Can you give us a rough idea of when Phase 2 could be completed, if it were taken on.

DR. BRAY: I guess that would depend on the scope of Phase two. This is pretty deep stuff.

MR. GRIER: I think a year might even be a challenge. But it would depend on the scale of what we hope to accomplish in the scope.

DR. BRAY: And, of course, much of this could be done by the people in the Army Corps of Engineers. There are centers of expertise for several of these. And so they were very helpful, but in many cases the data just aren't collected to support this. So, you know, it would involve a considerable effort, but it can be done.

MR. MARTIN: Since we've embarked on the 20-year capital plan, I mean, one year is a long period. But I would encourage you to take it on and do whatever you can because this will provide benefits in terms of everybody's understanding of just how valuable this asset is, so I would love to see you move ahead on that.

MR. LITTLE: Thank you, Mr. Martin. Anyone else, any comments or questions for Dr. Bray? If not, again, thank you very much for the presentation. Very informative, very important.

DR. BRAY: Thank you.

MR. LITTLE: Next on the agenda is the public comment period. So if anyone from the public wishes to make a comment at this time. No one is indicating an interest in doing so, so no public comments. I will go ahead and close the meeting with some of my comments and then turn it over to General Temple and Secretary Darcy if she wishes to make any closing remarks.

This has been a very important meeting of the Board. And today we've seen presentations that the team brought forward with some very strong analysis and some real critical thinking that went into it and specific recommendations that we can move forward with from here on as we try to come up with a long-term investment delivery system. So very heartened by the work that's been done. And if we put our heads together and come up with a strategic communication plan and our path forward, I think ultimately we will be successful.

And, again, I want to thank the Corps for their help throughout this process. It's been a very good day and a very good meeting. I do want to mention one other thing before I turn it over to General Temple and that is, as I understand it, today may be the last meeting that he attends. He's been moved up to Deputy Chief of Engineers. So that likely will mean that the spring meeting, whenever it takes place, he may not be here. But in his short tenure here on the Board, he has been a tremendously positive influence on the work that the Board has done throughout this process, on the team, the IMTS team. So, General, I sincerely appreciate the way you've gone about helping us as a Board operate in a constructive way. You've engaged us in these discussions and helped get us on the right path. And we wish you the very best of luck in your future role. You'll be missed, but we sincerely appreciate all of the good work you've done here. Thank you.

MAJOR GENERAL TEMPLE: Well, thank you very much, Mr. Chairman. I very much appreciate the opportunity to serve with the Board and extremely appreciative of not only the team work exhibited by the Corps but most importantly by the members of industry represented here and afar out in the field. It's really opened my eyes to how important our inland waterway transportation system is to the country and how important our efforts are to improving it in a way that's most beneficial to the Nation. So thank you for the opportunity and wish everyone well. Thank you.

MR. LITTLE: Thank you, General. Secretary Darcy.

MS. DARCY: Thank you, Mr. Chairman. And I think that General Temple has -- and I think all of you recognize the positive influence he's had over this Board and he'll be missed, but he's still going to be part of the Corps, just in a different capacity. I just want to thank you for having the foresight to look at a problem and being able to tackle it head on and looking at the resources within the Corps that are going to help you get there.

And I look forward to the report that hopefully will layout your plan ahead and hoping that we can continue this work together. I appreciate it.

MR. LITTLE: Thank you, Secretary Darcy. I believe that concludes the agenda, so this meeting is adjourned. Thank you, gentlemen.

(AT THIS TIME, THE MEETING WAS CONCLUDED AT OR ABOUT 12:10 P.M., AND THE RECORD WAS CLOSED.)