

Statement of Matt Woodruff

On behalf of

Kirby Corporation

and

Inland Waterways Users Board

Before the

Committee on Environment and Public Works

United States Senate

November 17, 2010

Chairwoman Boxer, Ranking Member Inhofe, Members of the Committee, thank you for providing me with this opportunity to testify concerning a new Water Resources Development Act. We are encouraged by the Committee's efforts to begin to develop this legislation. Your initial WRDA hearing earlier this year helped emphasize how very important Water Resources Development Acts, or WRDA's as many of us have come to refer to them, are to jobs, the economy, and the environment of the nation, a reality that is even more important today as we struggle to emerge from the worst economic downturn since the Great Depression.

I am Matt Woodruff, Director-Government Affairs of Kirby Corporation (Kirby). Kirby Corporation is the premier inland tank barge operator in the United States, offering safe, dependable, cost-efficient and environmentally sound transportation services of bulk liquid products throughout the Mississippi River System and the Gulf Intracoastal Waterway. Kirby currently operates 217 active inland towboats and 850 active tank barges having a cargo capacity of approximately 16.4 million barrels. Headquartered in Houston, Texas, Kirby and its marine transportation and diesel engine services subsidiaries employ approximately 2,625 employees, all of whom are in the United States.

In addition to my position with Kirby, I am also honored to serve as a member of the Inland Waterways Users Board (Users Board or IWUB), as General Counsel and Executive Committee member of the Board of Directors of Waterways Council Inc (Waterways Council or WCI), and as a member of the Board of Directors of the American Waterways Operators (AWO). The Inland Waterways Users Board is the federal advisory committee established 24 years ago by Congress in the Water Resources Development Act of 1986. Waterways Council is the national

public policy organization advocating in support of a modern and well-maintained national system of ports and inland waterways. The American Waterways Operators is the national trade association for the U.S. tugboat, towboat and barge industry.

Madam Chair, I mentioned that I am a member of the Inland Waterways Users Board (IWUB or Users Board). The Inland Waterways Users Board is a federal advisory committee established by Congress in Section 203 of the Water Resources Development Act of 1986 (Public Law 99-662, November 17, 1986), one of this Committee's many significant legislative achievements. Reflecting the concept of "Users Pay, Users Say", Congress created the Users Board to give commercial users a strong voice in the investment decisions those users are supporting with their diesel fuel tax payments. At full strength, the Users Board is comprised of eleven voting members, who are appointed to staggered two-year terms by the Secretary of the Army and are selected to represent the various regions of the country as well as a spectrum of commercial users and shippers of the inland marine transportation system. The Board currently has one vacancy. As envisioned in Section 302, the Secretaries of Army, Agriculture, Transportation, and Commerce each appoint a non-voting representative to act as an observer of the Users Board. The principal responsibility of the Users Board is to make recommendations regarding construction and rehabilitation priorities and spending levels on the commercial navigational features and components of the inland waterways and inland harbors of the United States.

On behalf of Kirby Corporation and the Inland Waterways Users Board, I am pleased to appear before the Committee this morning to testify in strong support of the recommendations developed by the Inland Marine Transportation System (IMTS) Capital Investment Strategy Team (CIST or CIS Team). These recommendations have been approved unanimously by the Users Board. They also have the broad and growing support of the waterways industry as evidenced by their unanimous endorsement by the boards of directors of Waterways Council Inc., the American Waterways Operators (AWO), and National Waterways Conference (NWC) and by similar expressions of support from more than 200 other associations and companies throughout the nation. (See Attachment A).

As I'll discuss in more detail in my testimony, the joint industry/Corps of Engineers CIS Team has produced a comprehensive, consensus-based set of proposals to address the capital investments that should be made over the next 20 years in order to preserve and enhance the performance of our nation's inland waterway transportation system. A copy of the Executive Summary of the report that accompanies and explains the CIS Team's recommendations is provided with this written statement as Attachment B. In sum, those recommendations present a proposed plan to:

- Identify ways to improve the Corps project delivery system,
- Implement a capital investment strategy that balances reliability and affordability
- Prioritize specific capital investments needed over the next 20 years, and
- Define a revenue and cost sharing approach that can be met with reasonable certainty and efficiency.

The need for a long-term capital investment plan for the inland waterways has been apparent for a number of years, and the Users Board has attempted to highlight this issue in its annual reports.

The nature of our inland waterway system challenge, however, has changed somewhat over the past 10 years or so. Ten years ago, the inland waterway industry and the nation were faced with the same kind of problem that all of the transportation trust funds had been experiencing: a growing surplus in the Inland Waterways Trust Fund as year after year more revenues were collected from the commercial users of the system than were withdrawn from the Trust Fund to make needed capital investments in the system. Those delays in expenditures resulted in preventable and greatly increased costs of projects. If the Trust Fund dollars had been spent properly in a timely fashion, we would have avoided much of the adverse impact from the dramatic rise in material prices like steel and concrete that occurred in intervening years.

Fortunately, with the help of this Committee and others, the surplus has been invested in modernization projects. Today the Trust Fund is operating as originally intended when it was created, with virtually all of its resources being spent quickly to modernize the system. As of the end of the just-completed 2010 fiscal year, which ended only a few weeks ago, the balance in the IWTF stood at \$58.5 million, with \$20.3 million of that amount already obligated by the Corps for ongoing project construction work.

The inland waterway modernization challenge going forward is the need to create and implement an improved program for the future. We have an aging system that needs recapitalization. We have a project funding and delivery system that is too inefficient, resulting in much wasted time and money. While we now have invested the surplus in the Inland Waterways Trust Fund, that has resulted in too few finished projects. And all of this comes in the face of an unprecedented economic crisis that is severely stressing our waterway industry and the nation.

Work has been underway for some time to address this situation. A little more than three years ago, leaders of industry and the Corps gathered at Corps headquarters to discuss the going-forward challenge. The Corps committed to undertake an internal review of then-current inland waterway construction project performance to help identify and understand opportunities to improve project delivery results. During the summer, 2008 meeting of the Inland Waterways Users Board, after presentation by and discussion with Corps leaders of the report that chronicled the results of that review (titled "Inland Navigation Construction, Selected Case Studies"), the Corps acknowledged shortcomings and the need for improvements and, to their credit, recommended that the Board should be more directly involved with Corps personnel in the development of an improved project delivery model. That led to formation of the industry/Corps CIS Team.

For roughly a year and a half, approximately 50 key Corps and industry representatives worked diligently to develop together a comprehensive solution to the future-oriented challenges facing our inland waterways infrastructure, a solution that improves the project delivery system, dimensions the most critical physical needs of the inland waterway system, figures out what it will cost to address those needs, and addresses how to pay for it and how to allocate funding responsibility. Included among industry's representatives were the presidents of seven major inland waterway companies and senior representatives from a number of other companies. On the Corps side were senior leaders and technical experts from virtually every level of the Corps hierarchy: headquarters, divisions, districts and technical support centers. A series of multi-day

face-to-face meetings was held throughout the country. Between those meetings, countless additional hours were spent in further discussions, phone conferences, and preparatory sessions.

I would also respectfully suggest that the CIS Team effort has the potential to stand as a model of what we believe President Obama meant when, shortly after his inauguration, the President wrote in a January 21, 2009, Memorandum for Heads of Executive Departments and Agencies:

“Government should be participatory. Public engagement enhances the Government’s effectiveness and improves the quality of its decisions. Knowledge is widely dispersed in society, and public officials benefit from having access to that dispersed knowledge. Executive departments and agencies should offer Americans increased opportunities to participate in policymaking and to provide their Government with the benefits of their collective expertise and information....Government should be collaborative. Collaborative activity engages Americans in the work of their Government....”

Thus far, the work of the CIS Team reflects those concepts. This effort has required an enormous commitment from all involved but, speaking for myself and also reflecting the views of the entire Inland Waterways Users Board, it was a most important endeavor and thus far a completely worthwhile commitment. At the end of the day, the CIS Team was able to meet the challenge it was given to develop the consensus recommendations I am now honored to testify in support of today.

The CIS Team proposes a \$7.6 billion 20-year inland waterway Capital Investment Program. The Program would entail an average annual investment level of \$380 million, comprised of two sub-component average annual program levels: \$320 million for “construction” projects and \$60 million for major rehabilitation projects. On average, of the \$380 million total, \$110 million would be contributed by the Inland Waterways Trust Fund and \$270 million would come from general revenues.

The CIS Team’s proposal would preserve the existing 50% industry/50% federal cost-sharing formula for new lock construction and major rehabilitation projects costing \$100 million or more.

The plan would adjust the current model to provide 100% federal funding for dam construction and major rehabilitation projects and for smaller lock rehabilitation projects. The proposed funding for dams was made in recognition of the enormous value derived by other beneficiaries from the dams and the pools created by those dams. As the report points out, “such large and varied segments of the U.S. population benefit from the presence of dams on the (inland waterway) system that it is most appropriate for general revenues to fully fund dam construction and major rehabilitation costs”. Categories of those non-navigation beneficiaries of the dams include municipal water supply, hydropower, recreation, industrial water supply, national defense and security, flood damage prevention, agricultural water supply, environmental restoration, local and regional economic development, property value enhancement, and international competitiveness.

The proposal also includes a project-by-project cost-sharing cap to provide some protection to industry from unreasonable cost escalation and project delays and to place additional emphasis on the need to produce more reliable project cost estimates in the underlying decision document and manage projects within the identified cost estimates and schedules. The cap would be set at the Feasibility or Rehabilitation Evaluation Report base cost, including contingencies reflected in the relevant decision document, escalated to the new construction start date based on the IMTS capital investment program schedule.

After reviewing alternative options for generating additional revenues for the IWTF, the CIS Team proposes a 30% to 45% increase---between 6 and 9 cents per gallon ---in the current diesel fuel tax (i.e., to a level between 26 and 29 cents per gallon). The Team reached this conclusion based on its sense that the current diesel tax revenue-raising system is fair and equitable and is a “workable, understood, acceptable, and auditable system for collecting the waterways industry’s share of the IMTS capitalization costs”. While the industry representatives of the CIS Team clearly would have preferred to avoid this increase, it is a measure of the seriousness and spirit of compromise that they brought to the CIS Team effort that they were willing to agree in an unprecedented way to this increase as part of the total comprehensive package.

Under the Team’s proposal, project construction funding would be provided to complete a prioritized list of specific projects. The projects were prioritized through use of a ranking system that was based on two broad categories: structural and operational risk and reliability and economic return. Project-by-project information was used that sought to assess the project’s current condition, the likelihood of diminished project performance, the consequence of diminished performance, and how the proposed investment would improve the project’s and the system’s performance. Prioritization occurred in three categories---authorized and under construction, authorized but not yet under construction, and other potential projects most of which were completely unstudied. In making its recommendations, the Team emphasized completing work that was already underway or was un-started but had already been approved by Congress.

To address the opportunity to improve internal Corps project delivery performance, the CIS Team makes a number of recommendations. Some of these recommendations are already in the process of being implemented. Others will require additional review within the Corps before they can be implemented. At least one project delivery recommendation, relating to the use of continuing contracts in the construction of inland waterways system modernization projects, may require Congressional action before it can be implemented. The project delivery improvement recommendations cover items such as:

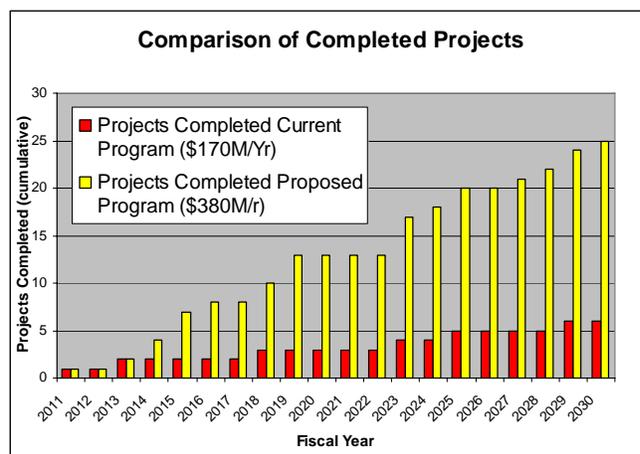
- Highly-reliable risk-based cost estimates,
- Independent external peer reviews,
- Certification requirements for project managers,
- Development of an IMTS Capital Investment Program regulation,
- Increased participation by the Inland Waterways Users Board,
- Use of Military Construction Program efficiency approaches,
- Acquisition strategy advances,
- Virtual design and review centers of expertise, and
- Standardization of designs.

The Team’s report covers each of these and others in more detail. At our most recent Users Board meeting, the Corps reported on their progress in achieving each of these goals. Going forward, we expect the Corps to provide objective assessments at each Users Board meeting of their progress in attaining each of the goals that are within their power to achieve.

A fundamental assumption of the Team’s recommendations, in fact the Team’s underlying premise, is that the federal government will provide the funds envisioned in the plan in an efficient manner. Inefficient funding will significantly impair the ability to implement this program. This point cannot be over-emphasized. It is critically important.

Madam Chair, the Corps has conservatively estimated that the CIS Team’s proposed plan is expected to avoid cost growth of between \$600 million and \$2.1 billion over the defined 20-year program. Other economic benefits include avoiding far more than \$2.8 billion in additional national economic development benefits foregone. The \$2.8 billion figure was calculated looking only at projects currently under construction and does not include, as it should in order to more completely reflect the entire plan, the value of beginning other projects under the proposed program much earlier than otherwise would be possible. And, of course, the plan would also deliver the additional non-economic environmental, societal, safety and energy benefits that accrue to the nation because of the inland waterway system’s use.

Under the proposed CIS Team plan, significant modernization of the inland waterway system will occur. Without the plan, necessary achievable progress completing lock and dam and channel improvement projects will languish, dangerously threatening our nation’s well being. The following chart, taken from the Team’s report, starkly illustrates that reality.



The CIS Team concludes its report with these words: “While unlikely that any set of recommended improvements could completely eliminate cost increases and schedule delays, these recommended improvements---in combination with the development of the capital investment strategy and with the underlying premise that the funding will be provided in an efficient manner---will achieve the goal of an improved capital projects business model”. Kirby Corporation and the Inland Waterways Users Board believe that statement to be true and urges the Committee to include in its next Water Resources Development Act the provisions that are

necessary to fully implement this comprehensive inland waterway system modernization plan. We also believe that, when the Committee acts in this fashion, it will be following the incredible, almost-prayerful insight of our first President, George Washington, who wrote 217 years ago:

“Prompted by these observations, I could not help taking a more contemplative and extensive view of the vast inland navigation of these United States, from maps and the information of others; and could not but be struck with the immense diffusion and importance of it, and with the goodness of that Providence, which has dealt her favors to us so profuse a hand. Would to God we may have wisdom enough to improve them.”

That concludes my statement. Thank you again for the opportunity to testify this morning. I’d be pleased to respond to any questions that Members of the Committee have.

ATTACHMENT A



The American Waterways Operators



Support the Inland Waterways Capital Development Plan *Invest in America's Inland Waterways Transportation System*

Benefits to America

America's inland waterways are a precious resource, and the envy of the world because of the natural "water highway" the waterways system provides for commerce. Modern lock and dam infrastructure is critical to U.S. competitiveness in the world market, to environmental protection, to energy efficiency, to the sustainment of well-paying American jobs and to congestion relief. Inland waterways transportation is a key component of the intermodal transportation network, and is essential to our nation's economy, environment, and quality of life.

A Consensus Plan to Improve Inland Waterways Navigation Infrastructure

Industry and the U.S. Army Corps of Engineers have worked together over the past year to develop a comprehensive, consensus package of recommendations to improve the continued vitality of this critical system. The recommendations, unanimously endorsed by the congressionally established Inland Waterways Users Board on December 15, 2009, will:

- **Prioritize the completion of navigation projects across the entire system,**
- **Improve the Corps of Engineers' project management and processes to deliver projects on time and on budget, and**
- **Recommend an affordable funding mechanism to meet the system's needs.**

The recommendations represent a new approach to meet the longstanding need for efficient delivery and timely completion of critical projects and sustainable funding for the Inland Waterways Trust Fund. The nation's transportation system and taxpayers would benefit from the completion of essential navigation infrastructure and the containment of cost overruns. The final report detailing these recommendations was approved by the Inland Waterways Users Board meeting on April 13, 2010.

Supporters of the Inland Waterways Capital Development Plan

National Organizations

The American Waterways Operators	National Association of Manufacturers
National Waterways Conference, Inc.	National Audubon Society
Waterways Council, Inc.	National Corn Growers Association
American Agri-Women	National Council of Farmer Cooperatives
American Land Conservancy	National Grain and Feed Association
American Soybean Association	National Mining Association
Dredging Contractors of America	North American Equipment Dealers Association
Inland Rivers Ports & Terminals, Inc.	Steel Manufacturers Association
International Liquid Terminals Association	Transportation Research Board/Marine Board
The International Propeller Club of the United States	U.S. Chamber of Commerce

State, Regional, and Local Organizations

Alabama State Port Authority	Jersey County (Ill.) Farm Bureau
Association of Tennessee Valley Governments	Kane County (Ill.) Farm Bureau
Bond County (Ill.) Farm Bureau	Kendall County (Ill.) Farm Bureau
Boone County (Ill.) Farm Bureau	Kentuckians for Better Transportation
Bureau County (Ill.) Farm Bureau	Kentucky Chamber of Commerce
Calhoun County (Ill.) Farm Bureau	Kentucky Corn Growers
California Marine Affairs & Navigation Conf. (CMANC)	Kingdom of Callaway (Mo.) Chamber of Commerce
Carpenters' Dist. Council of Greater St. Louis and Vicinity	Knox County (Ill.) Farm Bureau
Carroll County (Ill.) Farm Bureau	LaSalle County (Ill.) Farm Bureau
Chemical Industry Council of Illinois	Lee County (Ill.) Farm Bureau
City of Pittsfield, Ill.	Little Rock Port Authority
Clark County (Ill.) Farm Bureau	Louisiana Assn. of Waterway Operators and Shipyards
Coalition of Alabama Waterway Associations, Inc.	Macon County (Ill.) Farm Bureau
Cook County (Ill.) Farm Bureau	Marshall-Putnam (Ill.) Farm Bureau
Coosa-Alabama River Improvement Association, Inc.	Mason County (Ill.) Farm Bureau
DeWitt County (Ill.) Farm Bureau	McDonough County (Ill.) Farm Bureau
DeWitt (Mo.) Drainage and Levee District	McLean County (Ill.) Farm Bureau
Ducks Unlimited, St. Louis Mid-County Chapter	Menard County (Ill.) Farm Bureau
DuPage County (Ill.) Farm Bureau	Mercer County (Ill.) Farm Bureau
Effingham County (Ill.) Farm Bureau	MidCentral Illinois Regional Council of Carpenters
Farm Resource Center	Minnesota Chapter of ASFMRA
Grain & Feed Association of Illinois	Minnesota Corn Growers Association
Great River Economic Development Foundation	Minnesota Grain and Feed Association
Greene County (Ill.) Farm Bureau	Mississippi Water Resources Association
Gulf Intracoastal Canal Association	Missouri Corn Growers Association
Hancock County (Ill.) Farm Bureau	Missouri Levee & Drainage District Association
Huntington District Waterways Association	Mo-Ark Association
Illinois AgriWomen	Montgomery County (Ill.) Farm Bureau
Illinois Association of Drainage Districts	Ogle County (Ill.) Farm Bureau
Illinois Biotechnology Industry Organization	Ohio Corn Growers Association
Illinois Corn Growers Association	Pacific Northwest Waterways Association (PNWA)
Illinois Farm Bureau	Paducah Area Chamber of Commerce
Illinois Fertilizer & Chemical Association	Peoria County (Ill.) Farm Bureau
Illinois Grape Growers & Vintners Association	Perry County (Ill.) Farm Bureau
Illinois Seed Trade Association	Pike and Scott County (Ill.) Farm Bureaus
Illinois Soc. of Prof. Farm Managers and Rural Appraisers	Port of Cincinnati, LLC
Illinois Soybean Association	Port of Houston Authority
Indiana Corn Growers Association	Board of Commissioners of the Port of New Orleans
Indiana Soybean Alliance	Port of Pittsburgh Commission
International Union of Operating Engineers Local 513	Port of Portland (Oregon)
Iowa Corn Growers Association	Port of Vancouver, Wash.
Jasper County (Ill.) Farm Bureau	Red River Valley Association
Jersey County (Ill.) Business Association	Rock Island County (Ill.) Farm Bureau

Support the Inland Waterways Capital Development Plan

Invest in America's Inland Waterways Transportation System

Recommended Reforms

The proposal would:

- Preserve the existing 50% industry/50% federal cost-sharing formula for new lock construction and major lock rehabilitation projects costing \$100 million or more.
- Adjust the current model to provide 100% federal funding for dam construction and major rehabilitation and smaller lock rehabilitation projects, recognizing the value derived by other beneficiaries from dams and the pools created by dams.
- Include a cost share cap on new lock construction projects to incentivize keeping projects on budget and prevent industry taxpayers from bearing the burden of paying for unreasonable cost overruns. This will strengthen the ability of the Inland Waterways Trust Fund to fund more priority projects in the pipeline.

The proposed new funding parameters will necessitate a 30% to 45% increase (between 6 and 9 cents per gallon) in the existing fuel tax of 20-cents-per-gallon that is paid by the barge and towing industry, the only users of the system who currently are taxed. At the same time, the recommended reforms to the Corps of Engineers' project management and delivery process would ensure that these additional resources are spent wisely.

Endorsements

On January 12, 2010, the Board of Directors of Waterways Council, Inc., the national public policy organization advocating a modern and well-maintained national system of ports and inland waterways, voted unanimously to support the recommendations of this industry-Corps joint effort.

On January 22, 2010, the Board of Directors of The American Waterways Operators, the national trade association for the American tugboat, towboat and barge industry, voted to authorize AWO to advocate before the Administration and Congress in favor of the recommended plan.

On February 24, 2010, the Board of Directors of the National Waterways Conference, Inc., the national organization advocating for the enactment of common-sense policies recognizing the widespread public benefits of our nation's water resources infrastructure, voted unanimously to support the plan.

The more than 200 organizations on the following page join us in supporting this important effort:

Supporters of the Inland Waterways Capital Development Plan

State, Regional, and Local Organizations

Rosedale-Bolivar County (Miss.) Port Commission	Tri-State Development Summit
Sangamon County (Ill.) Farm Bureau	Tri Rivers Waterway Development Assoc.
Shelby County (Ill.) Farm Bureau	Tulsa Port of Catoosa
Stark County Farm (Ill.) Bureau	Upper Mississippi Waterway Association
Stephenson County (Ill.) Farm Bureau	Upper Mississippi, Illinois & Missouri Rivers Assn.
Tennessee Cumberland Waterways Council	Warrior-Tombigbee Waterway Association
Tennessee River Valley Association	Washington County (Ill.) Farm Bureau
Tennessee-Tombigbee Waterway Development Auth.	Waterways Association of Pittsburgh
Tennessee-Tombigbee Waterway Development Council	Whiteside County (Ill.) Farm Bureau
Texas Agri Women	Will County (Ill.) Farm Bureau
Texas Waterways Operators Association	

Companies

Advantus Strategies, LLC	Holcim (US) Inc.
AEP River Operations	Ingram Barge Company
Ag-Land FS, Inc.	Inland Marine Service
Agriservices Of Brunswick, LLC	The Integra Group, Inc.
Alter Barge Line, Inc.	J.A.M. Marine Services, LLC
American Commercial Lines	Kirby Corporation
American Inland Ports, LLC	K-Sea Transportation Partners LP
American River Transportation Company	Lafayette Workboat Rentals, LLC
Amherst Madison, Inc.	LeBeouf Bros. Towing, LLC
Artco Fleeting Service	Magnolia Marine Transport Co.
B&G Towing LLC/Acme Marine LLC	Marathon Petroleum Company LLC
Bayou Fleet Inc.	MARMAC, LLC d/b/a McDonough Marine Service
Bludworth Marine LLC	Marquette Transportation Company, LLC
Blue Danube Incorporated	Martin Marine
Bob Brackmann Farms	McNational Inc.
Brennan Marine, Inc	Mulzer Crushed Stone
Brunswick River Terminal, Inc.	Natures Way Marine, LLC
Buffalo Marine Service, Inc.	New Orleans Shipyard
Bunge North America	Northern Partners Cooperative
C&C Marina Maintenance Company	Nucor Steel Tuscaloosa, Inc.
Campbell Transportation Company	Osterholt Farms
Canal Barge Company, Inc.	Parker Towing Company
Cargill, Inc.	PowerSouth Energy Cooperative
CF Industries Holdings, Inc.	Rentech Energy Midwest
CGB Enterprises, Inc.	Sause Bros., Inc.
Channel Shipyard Companies	Servco FS Cooperative
CHS Inc.	Smurfit Stone Container Corporation
Cincinnati Bulk Terminals, LLC	T & T Marine Salvage, Inc.
CITGO Petroleum Corporation	Thomson, Rhodes & Cowie P.C.
Clarkson Grain Company Inc.	Tidewater Barge Lines, Inc.
Colusa Elevator Co.	TradeWinds Towing LLC
CONSOL Energy	Trinity Marine Products, Inc.
Crouse Corporation	Turn Services, LLC
Deloach Marine	Twomey Company
E.ON U.S.	United Ocean Services
Farm Credit Services of Illinois	Upper River Services LLC
FirstEnergy Solutions	Valero Energy
Grain Processing Corporation	Volunteer Barge & Transport Inc.
GROWMARK	Vulcan Materials Company
Hartsburg Grain Company	The Waterways Journal, Inc.
Hodel Farms Inc.	Yager Materials, LLC

Supporters of the Inland Waterways Capital Development Plan

Alabama

Alabama State Port Authority	PowerSouth Energy Cooperative
Coalition of Alabama Waterway Associations, Inc.	Tennessee Cumberland Waterways Council
Coosa-Alabama River Improvement Association, Inc.	Tennessee River Valley Association
Natures Way Marine, LLC	Tri Rivers Waterway Development Assoc.
Nucor Steel Tuscaloosa, Inc.	Vulcan Materials Company
Parker Towing Company	Warrior-Tombigbee Waterway Association

Arkansas

Little Rock Port Authority

California

American Land Conservancy	California Marine Affairs & Navigation Conf.
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District of Columbia

Dredging Contractors of America	National Mining Association
International Liquid Terminals Association	Steel Manufacturers Association
National Association of Manufacturers	Transportation Research Board/Marine Board
National Council of Farmer Cooperatives	U.S. Chamber of Commerce
National Grain and Feed Association	

Florida

TradeWinds Towing LLC	United Ocean Services
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Illinois

Ag-Land FS, Inc.	Illinois Soybean Association
American Inland Ports, LLC	Jackson County (Ill.) Farm Bureau
American River Transportation Company	Jasper County (Ill.) Farm Bureau
Artco Fleeting Service	Jersey County (Ill.) Business Association
Bob Brackmann Farms	Jersey County (Ill.) Farm Bureau
Bond County (Ill.) Farm Bureau	Kane County (Ill.) Farm Bureau
Boone County (Ill.) Farm Bureau	Kendall County (Ill.) Farm Bureau
Bureau County (Ill.) Farm Bureau	Knox County (Ill.) Farm Bureau
Calhoun County (Ill.) Farm Bureau	LaSalle County (Ill.) Farm Bureau
Carroll County (Ill.) Farm Bureau	Lee County (Ill.) Farm Bureau
CF Industries Holdings, Inc.	Macon County (Ill.) Farm Bureau
Chemical Industry Council of Illinois	Marshall-Putnam (Ill.) Farm Bureau
City of Pittsfield, Ill.	Mason County (Ill.) Farm Bureau
Clark County (Ill.) Farm Bureau	McDonough County (Ill.) Farm Bureau
Clarkson Grain Company Inc.	McLean County (Ill.) Farm Bureau
Colusa Elevator Co.	Menard County (Ill.) Farm Bureau
Cook County (Ill.) Farm Bureau	Mercer County (Ill.) Farm Bureau
DeWitt County (Ill.) Farm Bureau	MidCentral Illinois Regional Council of Carpenters
DuPage County (Ill.) Farm Bureau	Montgomery County (Ill.) Farm Bureau
Effingham County (Ill.) Farm Bureau	Northern Partners Cooperative
Farm Credit Services of Illinois	Ogle County (Ill.) Farm Bureau
Farm Resource Center	Peoria County (Ill.) Farm Bureau
Grain & Feed Association of Illinois	Perry County (Ill.) Farm Bureau
Great River Economic Development Foundation	Pike and Scott County (Ill.) Farm Bureaus
Greene County (Ill.) Farm Bureau	Rentech Energy Midwest
GROWMARK	Rock Island County (Ill.) Farm Bureau
Hancock County (Ill.) Farm Bureau	Sangamon County (Ill.) Farm Bureau
Hartsburg Grain Company	Shelby County (Ill.) Farm Bureau
Hodel Farms Inc.	Stark County Farm (Ill.) Bureau
Illinois AgriWomen	Stephenson County (Ill.) Farm Bureau
Illinois Association of Drainage Districts	Tri-State Development Summit
Illinois Biotechnology Industry Organization	Twomey Company
Illinois Corn Growers Association	Upper Mississippi, Illinois & Missouri Rivers Assn.
Illinois Farm Bureau	Washington County (Ill.) Farm Bureau
Illinois Fertilizer & Chemical Association	White County (Ill.) Farm Bureau
Illinois Grape Growers & Vintners Association	Whiteside County (Ill.) Farm Bureau
Illinois Seed Trade Association	Will County (Ill.) Farm Bureau
Illinois Soc. of Prof. Farm Managers and Rural Appraisers	

Supporters of the Inland Waterways Capital Development Plan

Indiana

American Commercial Lines
Indiana Corn Growers Association
Indiana Soybean Alliance

Mulzer Crushed Stone
Osterholt Farms

Iowa

Alter Barge Line, Inc.
Grain Processing Corporation

Iowa Corn Growers Association

Kansas

American Agri-Women

Kentucky

Crouse Corporation
E.ON U.S.
Huntington District Waterways Association
Inland Marine Service
Kentucky Chamber of Commerce

Kentucky Corn Growers
Marathon Petroleum Company LLC
Marquette Transportation Company, LLC
Paducah Area Chamber of Commerce
Yager Materials, LLC

Louisiana

B&G Towing LLC/Acme Marine LLC
Bayou Fleet Inc.
Board of Commissioners, Port of New Orleans
CGB Enterprises, Inc.
Canal Barge Company, Inc.
Channel Shipyard Companies
Deloach Marine

Inland Rivers Ports & Terminals, Inc.
Lafayette Workboat Rentals, LLC
LeBeouf Bros. Towing, LLC
Louisiana Assn. of Waterway Operators and Shipyards
New Orleans Shipyard
Red River Valley Association
Turn Services, LLC

Massachusetts

Holcim (US) Inc.

Minnesota

Cargill, Inc.
CHS Inc.
Minnesota Chapter of ASFMRA
Minnesota Corn Growers Association

Minnesota Grain and Feed Association
Upper River Services LLC
Upper Mississippi Waterway Association

Missouri

AEP River Operations
Agriservices Of Brunswick, LLC
American Soybean Association
Brunswick River Terminal, Inc.
Bunge North America
Carpenters' Dist. Council of Greater St. Louis and Vicinity
DeWitt (Mo.) Drainage and Levee District
Ducks Unlimited, St. Louis Mid-County Chapter
The Integra Group, Inc.
International Union of Operating Engineers Local 513

Kingdom of Callaway (Mo.) Chamber of Commerce
Missouri Corn Growers Association
Missouri Levee & Drainage District Association
Mo-Ark Association
National Audubon Society
National Corn Growers Association
North American Equipment Dealers Association
Smurfit Stone Container Corporation
The Waterways Journal, Inc.

Mississippi

Magnolia Marine Transport Co.
Mississippi Water Resources Association
Rosedale-Bolivar County (Miss.) Port Commission

Tennessee-Tombigbee Waterway Development Auth.
Tennessee-Tombigbee Waterway Development Council

New Jersey

Donjon Marine Co., Inc.

K-Sea Transportation Partners LP

Ohio

Cincinnati Bulk Terminals, LLC
FirstEnergy Solutions

McNational Inc.
Ohio Corn Growers Association

Oklahoma

Tulsa Port of Catoosa

Supporters of the Inland Waterways Capital Development Plan

Oregon

Pacific Northwest Waterways Association (PNWA)
Port of Portland (Oregon)

Sause Bros., Inc.

Pennsylvania

Blue Danube Incorporated
C&C Marina Maintenance Company
Campbell Transportation Company
CONSOL Energy

Port of Pittsburgh Commission
Thomson, Rhodes & Cowie P.C.
Waterways Association of Pittsburgh

Tennessee

Association of Tennessee Valley Governments
Ingram Barge Company

Volunteer Barge & Transport Inc.

Texas

Bludworth Marine LLC
Buffalo Marine Service, Inc.
CITGO Petroleum Corporation
Gulf Intracoastal Canal Association
J.A.M. Marine Services, LLC
Kirby Corporation
MARMAC, LLC d/b/a McDonough Marine Service

Martin Marine
Port of Houston Authority
T & T Marine Salvage, Inc.
Texas Agri Women
Texas Waterways Operators Association
Trinity Marine Products, Inc.
Valero Energy

Virginia

Advantus Strategies, LLC
The American Waterways Operators
The International Propeller Club of the United States

National Waterways Conference, Inc.
Waterways Council, Inc.

Washington

Port of Vancouver, Wash.

Tidewater Barge Lines, Inc.

Wisconsin

Brennan Marine, Inc
Servco FS Cooperative

Wisconsin Farm Bureau Federation

West Virginia

Amherst Madison, Inc.

ATTACHMENT B

Inland Marine Transportation Systems (IMTS) Capital Projects Business Model

Final Report

Revision 1

April 13, 2010



Prepared by:
IMTS Capital Investment Strategy Team

The views and recommendations contained within this report reflect those of the Inland Marine Transportation System Capital Investment Strategy Team and not necessarily those of the Inland Waterways Users Board, the U.S. Army Corps of Engineers, or the Administration.

Revision 1 includes minor formatting and grammatical changes, and acknowledges the Inland Waterways Users Board approval, adoption and subsequent forwarding of the report to the Assistant Secretary of the Army for Civil Works for consideration by the Administration

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Contributors

This report was prepared at the request of the Inland Waterways Users Board and represents a collaborative effort between navigation industry representatives and U.S. Army Corps of Engineers inland navigation experts. The views, opinions, and findings contained in this report are those of the Inland Marine Transportation System Capital Investment Strategy Team (IMTS CIS Team, or Team). The report should not be construed as an official Agency position, policy, or decision, unless so designated by other official documentation.

On 13 April 2010, the Inland Waterways Users Board unanimously approved and adopted this report and transmitted the report to the Assistant Secretary of the Army for Civil Works (ASA(CW)), requesting that the Administration adopt and implement those recommendations of the report within the purview of the Administration. The Board further transmitted the report to the Congress, recommending that Congress implement those recommendations requiring legislative action.

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Executive Summary – IMTS Capital Projects Business Model

The U.S. Army Corps of Engineers (Corps) has played a major role in the nation's marine transportation system and inland water management since the country's founding and, through its navigation mission, retains a pivotal role in managing inland waterways into the future. The Corps Navigation mission is to provide a safe, reliable, efficient, effective, and environmentally sustainable waterborne transportation system for the movement of commerce, national security needs, and recreation. In fulfilling the navigation mission, the current project delivery model, that was effective in the past, is no longer appropriate for successful inland waterways management. Fundamentally, local district and regional division efforts that previously focused on addressing regional needs and improving infrastructure problems neither provide optimal solutions for managing a nationwide portfolio of assets nor the investments needed to maintain those assets. As investigated in the *Inland Navigation Construction Selected Case Studies* report and specifically recognized by the Inland Marine Transportation System (IMTS) Capital Investment Strategy Team (IMTS CIS Team or the Team), in recent years there has been an undesirable trend of lock and dam construction projects exceeding, by unacceptable amounts, their originally authorized cost and schedule expectations.

After many years of a growing balance in the Inland Waterways Trust Fund (IWTF or Trust Fund), which funds half of navigation construction and major rehabilitation projects, the Trust Fund balance began to decline in fiscal year (FY) 2003 as the Administration and Congress dedicated increased amounts of Trust Fund resources to address modernization of the inland waterway system. This trend continued through FY 2009, resulting in a decline of the Trust Fund balance to the point that expenditures must be limited to the amount of annual fuel tax revenues collected for that particular year. The increased costs and constrained IWTF have resulted in a backlog of authorized projects that have not yet begun construction. This backlog, in turn, exacerbates the declining reliability of the IMTS.

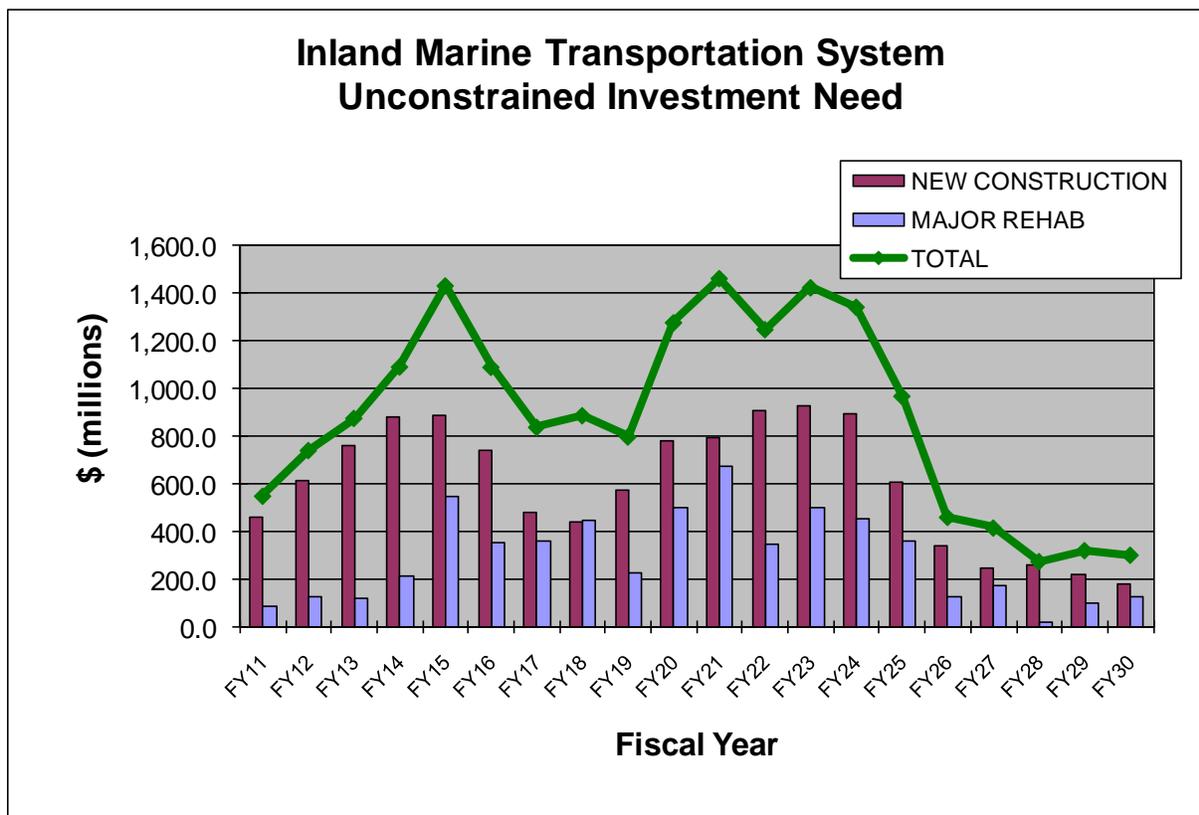
Given current average annual revenues of \$85 million, the substantial backlog of authorized projects, and the declining reliability of the IMTS, the Corps is collaborating with the Inland Waterways Users Board (IWUB or the Board) to identify ways to improve the capital projects business model in tandem with developing an investment strategy designed to improve and ensure the long-term viability of the IMTS. The goals of the IMTS CIS Team are the following:

1. Identify ways to improve the project delivery system (i.e., more reliable cost estimates and construction schedules, better contracting practices, improved project management) to ensure that future system improvements can be completed on time and within budget.
2. Develop a list of long-term capital needs for the inland navigation system, including an objective methodology for prioritizing those needs.
3. Develop a capital investment strategy that balances reliability with affordability.
4. Develop and recommend a strategy to help ensure that funding requirements can be met with reasonable certainty and efficiency.

Unconstrained Project List

To aid the IMTS CIS Team in identifying future needs/demands on the IWTF and help in establishing a funding strategy, the Corps developed an “unconstrained” list of projects. Currently, the Corps has identified over 100 projects in the inland and intracoastal waterways system that require, or could conceivably require, capital investments in the next 20 years. For analytical purposes, this list was developed without regard to funds that would be available to perform the work. Each district identified new construction or major rehabilitation projects that were (1) under construction (Phase 1 projects) or (2) that were authorized but not yet under construction (Phase 2 projects). In addition, districts identified potential future projects over the 20-year time horizon, a few of which are already under study, assuming the availability of completely unconstrained funding (Phase 3 projects).

Over the 20-year period from fiscal year (FY) 2011 to FY 2030, the districts’ unconstrained financial requirements to address the infrastructure needs of the IMTS is reflected in Figure ES-1 and totals nearly \$18.0 billion, or an annual average of nearly \$900 million. Of the \$18.0 billion identified for expenditure, nearly \$12.1 billion (67 percent) would be for new construction and \$5.9 billion (33 percent) would address major rehabilitation projects.



Note: Fully funded estimates assume a 3 percent escalation of costs per year.

Figure ES-1. Unconstrained Investment Need of IMTS, FY 2011 to FY 2030

Prioritization Criteria and Prioritized List

Inland waterways system users, policy makers in the U.S. Congress and within the Administration, and others share a desire to better understand both the value of existing IMTS assets and the return on investments made to the system. Reflecting this desire, the IMTS CIS Team worked together to develop and apply logical metrics to help guide system modernization investments. After discussing numerous

approaches, the Team concluded that the most useful representation of system value and return on investment should include assessments on an asset-by-asset basis using the following:

1. The asset's current condition
2. The likelihood of diminished asset performance
3. The consequence of diminished performance in terms of repair costs, outages, and economic losses
4. How the proposed investment would improve performance or reduce the asset's likelihood of diminished performance
5. For new assets, whether the project could be expected to improve system performance.

The criteria the IMTS CIS Team selected for ranking projects fell into two broad categories: (1) structural and operational risk and reliability and (2) economic return. Structural and operational risk and reliability metrics were represented either by a Dam Safety Action Classification (DSAC) rating or a Condition Index (CI) rating.¹ Economic consequence metrics included Net Benefits, Benefit-Cost Ratio (BCR), and Remaining Benefit Remaining Cost Ratio (RBRCR) (for Phase 1 and Phase 2 projects only), and Economic Impact (for all projects, however this is the only category of economic criteria used for Phase 3 projects). The risk and reliability criteria were depicted as numeric grades of 1 through 5 for DSAC ratings (with 1 being the worst/failed condition), and as letter grades of A through F for CI ratings (with F being the worst/failed condition). Those risk and reliability criteria metrics were then converted to numeric scores, with a maximum weight of 40 for Phase 1 and Phase 2 projects or 60 for Phase 3 projects. The rationale for a higher weight for risk and reliability for Phase 3 projects was necessitated by the limited economic analyses data performed on Phase 3 projects and recognition that infrastructure in a failed or failing condition could require earlier attention. The economic criteria were depicted as dollars for net benefits, as ratios for BCRs and RBRCRs, and as numeric grades of 1 through 100 for economic impact. These metrics were normalized to the highest value observed for that metric in the project list, with a maximum weight of 60 or 40 depending on the project phase. Table ES-1 and Table ES-2 display the criteria used to prioritize the unconstrained project list.

Table ES-1. IMTS Investment Strategy Criteria Weighting

Criteria	Phases 1 and 2	Phase 3
Risk and Reliability	40	60
Condition Index for Locks (rated A through F)		
DSAC for Dams (rated 5 through 1)		
Economic Return	60	40
Net Benefits	15	
BCR	5	
RBRCR	25	
Economic Impact	15	40
Totals	100	100

¹ The team is assessing the relative importance of channels on a case-by-case basis. Metrics compatible with those used for locks and dams were not available at the time this report was prepared.

Table ES-2. IMTS Investment Strategy Condition Weights

Risk and Reliability DSAC Condition Index Rating	Phase 1 and 2	Phase 3
1 F	40	60
2 D	25	45
3 C	10	30
4 B	5	10
5 A	0	0

IMTS Capital Investment Program

The IMTS CIS Team evaluated what should be reasonably addressed and completed in the next 20 years to maintain a reliable IMTS. It became apparent from this examination that two separate program component levels were required to ensure that both new construction as well as major rehabilitation projects are being prioritized and funded effectively. It was recognized that worthwhile projects already under construction should be completed as efficiently as possible. The Team recommended that new construction projects should be allocated an annual funding level of about \$320 million. Figure ES-2 shows the proposed timing associated with those new construction projects that are recommended in the plan.

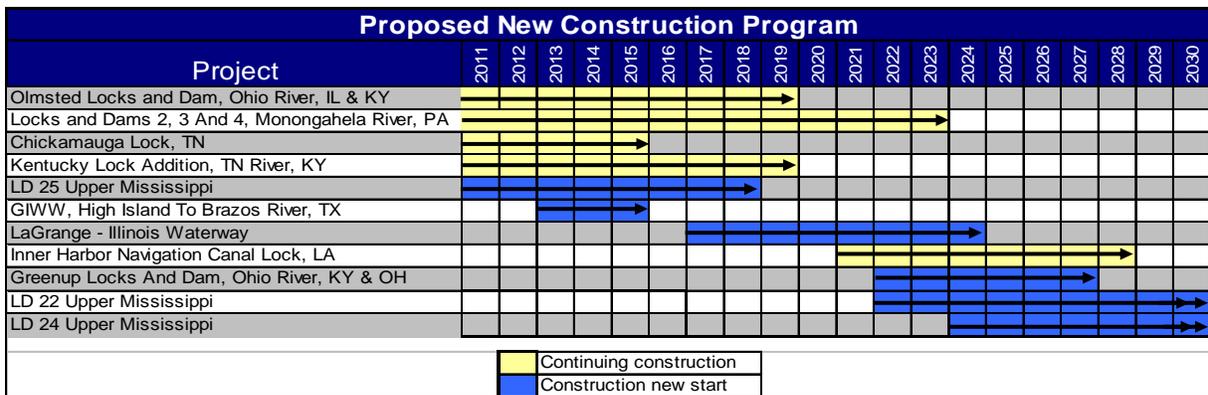
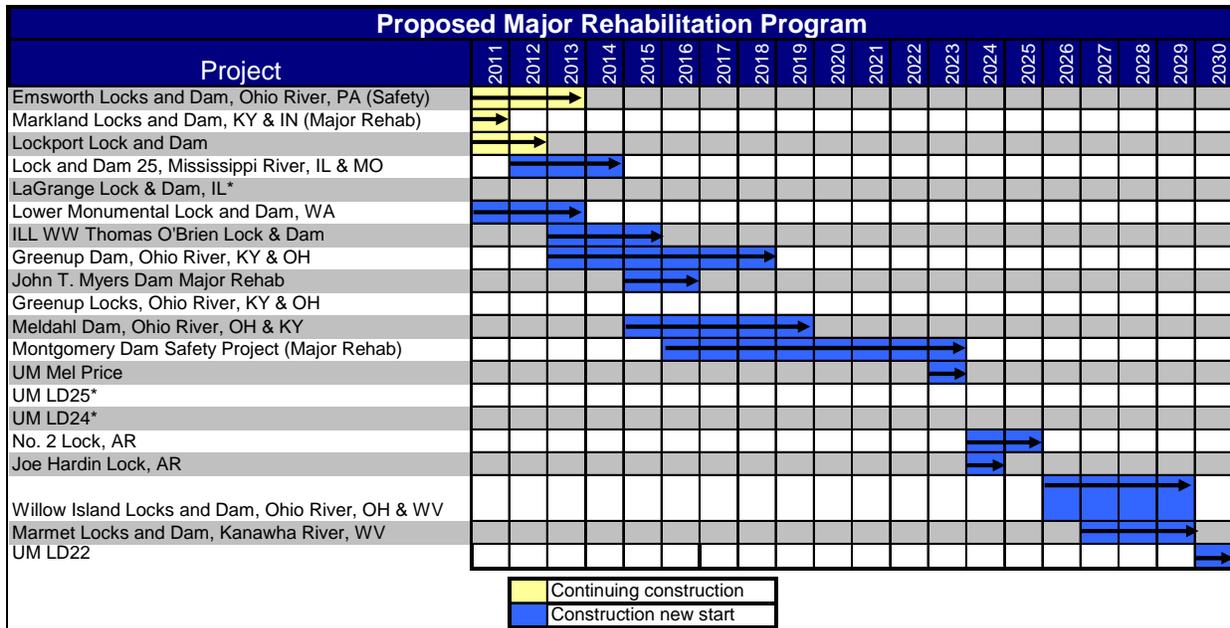


Figure ES-2. Proposed New Construction Projects Timeline

To ensure that existing infrastructure is being continually maintained and rehabilitated in a timely and appropriate manner, the IMTS CIS Team also looked at separately funding major rehabilitation projects. The Team recommends using the average amount spent on major rehabilitation projects in the last three years, which amounts to approximately \$60 million per year. Figure ES-3 shows the proposed timing associated with major rehabilitation projects. Because there is a large bottleneck of new construction early in the capital investment strategy, the funding allocations between new construction and major rehabilitation would be skewed to new construction in the immediate near term. The target total for the 20-year capital investment strategy for new construction and major rehabilitation on average is \$380 million per year.



* Note – Lagrange, Greenup, UM LD 25 and UMLD24 do not show scheduled rehabilitation projects due to new construction projects at these facilities. Their priority remains as a placeholder until the new construction work begins and criteria is re-evaluated for these projects.

Figure ES-3. Major Rehabilitation Projects Timeline

The proposed 20-year capital investment strategy generally addresses the highest priority new construction and major rehabilitation projects as determined by the criteria weighting and decision principles implemented. With a \$380 million average annual investment level, this investment strategy addresses at least 27 of the candidate projects that have been identified by Corps districts and highlights how those projects would be prioritized based on the recommended investment level. Figure ES-4 compares cumulative project completions at the current investment level of about \$170 million per year (\$85 million from general appropriations and \$85 million from the IWTF) with project completions at the recommended investment level of \$380 million per year. The recommended investment plan addresses five DSAC 1 and three DSAC 2 dams, as well as one lock facility that was rated F and six that were rated D through the operational condition assessment process.

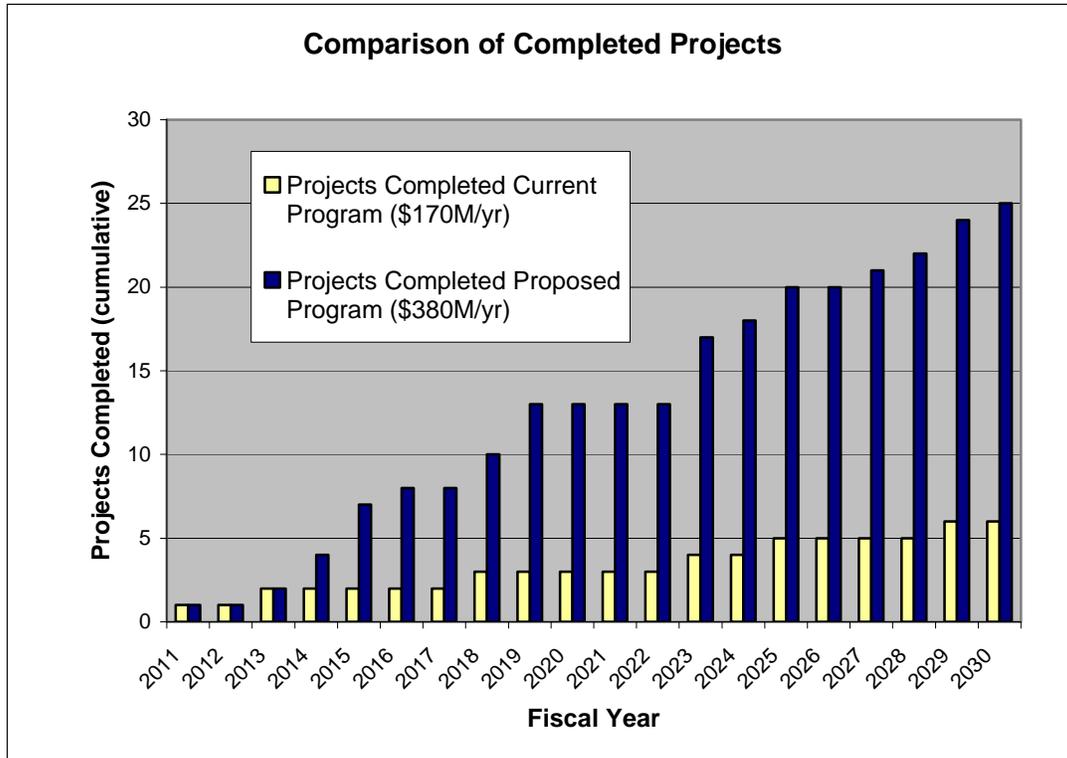


Figure ES-4. Comparison of Completed Projects

Funding Model

Cost-Share Recommendations

With the recommended \$380 million annual funding-level program, IWTF revenues are proposed to be increased beyond what is anticipated under current law to address the needs of the IMTS. The IMTS CIS Team members understand the implications of an increase in revenues and have strived to develop cost-sharing recommendations that are fair and equitable.

The IMTS CIS Team reviewed and evaluated more than a dozen options for funding the IMTS capital investment program. These options included maintaining the current cost-sharing arrangement of 50 percent federal and 50 percent IWTF for all capital investments; varying that percentage; excluding some projects/features, such as dam or major rehabilitation projects; setting different thresholds for the cost-sharing of major rehabilitation projects; and capping the IWTF share for some projects with significant cost increases, such as Olmsted Locks and Dam and Lower Monongahela Locks & Dams 2, 3, and 4 (Lower Mon).

After a high-level review and evaluation of the options presented, the IMTS CIS Team recommends the following cost-sharing program:

- All *lock* construction projects should be cost-shared 50 percent from general appropriations and 50 percent from the IWTF and all major rehabilitation *lock* projects costing at least \$100 million should be cost-shared at 50 percent from general appropriations and 50 percent from the IWTF.
- Construction and major rehabilitation *dam* projects and major rehabilitation *lock* projects below \$100 million should be entirely funded from general appropriations.

- With the program recommendation of \$380 million per year and the proposed program shown in Figure ES-2 and Figure ES-3, the average IWTF requirement over the next 20 years is \$110 million per year, with the federal cost-sharing requirement averaging \$270 million per year. In the future, these average amounts may vary depending on the mix of projects in the program.

Another feature the Team recommends is establishment of a project-by-project cost-sharing cap to protect industry from unreasonable cost escalation and project delays. The IMTS CIS Team recommends that the cap be set at the Feasibility or Rehabilitation Evaluation Report base cost using risk-based cost and schedule estimates. This risk-based cost estimate will include contingencies reflected in the relevant decision document and will be escalated to the new construction start date, plus whatever additional amount, if any, that both the Corps and the Board agree is appropriate. This cap places additional emphasis on the need to produce more reliable project cost estimates in the underlying decision document and to manage projects within the identified and agreed upon project budgets and schedules, protecting both the waterways industry and the general taxpayer from preventable project cost escalation and delay.

Revenue Recommendations

The IMTS CIS Team also reviewed alternative options for generating revenues for the IWTF. These options included the current revenue plan consisting of a waterways fuel tax, a user fee, bonding, and other revenue sources, such as state funding or other beneficiaries of the IMTS. The Team acknowledged that the current revenue-raising system is a workable, understood, acceptable, and auditable system for collecting the waterways industry's share of the IMTS capitalization costs and that the additional revenues required in the Teams' consensus recommendations should best be raised through an increase in the current fuel tax. The recommended program would require a 30–45 percent increase in the current fuel tax (a \$0.06–\$0.09 per gallon increase). The 30 percent increase is based on an assumption that, under current law, anticipated future revenues would equal the average \$85 million annual amount generated over the past five years, while the 45 percent increase is based on FY 2009 actual revenues of \$76 million.

Process Improvements

Given the challenges with the current project delivery model, as highlighted with a few recent projects, and the need to improve the process so that the IMTS remains viable for the foreseeable future, change is essential. In addition to insufficient funding identified in *The Inland Navigation Construction, Selected Case Studies Report*, other factors identified in the report also have contributed significantly to the cost increases and schedule delays affecting recent Corps capital projects. Because many of these issues could be controlled with an improved project delivery process, the IMTS CIS Team, in combination with its development of the capital investment strategy, examined the Corps' current project delivery process and developed a number of recommended process improvements. Together with the underlying premise that the necessary project funding will be provided in an efficient manner, the team believes that these improvements will achieve the goal of an improved capital projects business model. Some of these recommendations are already in the process of being implemented and just need to be measured and monitored. Other recommendations can immediately be put into practice, while still others will take additional study or authority to implement. The following recommendations have been organized into those three categories:

Already Implemented Process Improvement Recommendations

1. **Encourage project management certification.** A project management certification program was recently developed and implemented. Senior leaders within the Corps should emphasize the benefits of and encourage certification. The Corps should ensure that only certified project managers are assigned to critical IWTF projects.

2. Develop highly reliable risk-based cost estimates for IMTS projects meeting certain thresholds. Risk-based cost estimates are now required for all projects over \$40M and meeting certain thresholds. Only a few of existing projects incorporate updated risk-based cost estimates. As a first step, the IMTS CIS Team will recommend a list of existing projects to be reevaluated using risk-based cost estimating techniques by the summer 2010 Board meeting. In the future, all IMTS projects being proposed for congressional authorization would have a risk-based cost estimate having at least an 80 percent confidence level performed prior to completion of the project's feasibility report.
3. Require independent external peer reviews for IMTS projects meeting certain criteria. Independent external peer reviews are a new requirement for large or controversial capital projects. The IMTS CIS Team will follow the new regulation, which was implemented in December 2009, for external peer reviews. No additional specific action is required at this time.

Immediately Implementable Process Improvement Recommendations

1. Appoint a Board representative to each IMTS project. The Board Chairman should assign a representative from the Board to each active project by the summer 2010 IWUB meeting. Those representatives will be forwarded to the project managers for inclusion as Project Delivery Team (PDT) members.
2. Provide project status communication to the Board. The following template, shown in Figure ES-5, should be used for briefing project status beginning at the summer 2010 Board meeting.



Lock and Dams 2, 3 & 4 Monongahela River Navigation Project



Project Cost: \$1,438,700,000 (Oct 2008)
 Remaining Balance: \$894,800,000
 FY10 Allocation: \$6,200,000

Status (one slide/project)

- Recent events since last Board Meeting
- Upcoming events in support of milestones
- At macro level.....not in the weeds!
- All red dates need to be addressed
- Example for Lower Mon; actual dates not used

Schedule of Remaining Work	Design Initiated	Contract Award	Construction Complete	Project Benefits	Capitalized Cost Closeout
Charleroi River Wall	1-Oct-02	30-Sep-05	1-Nov-10	N/A	30-Jan-11
Upper and Lower Guard Walls	1-Oct-02	28-Aug-09	30-Sep-11	N/A	31-Dec-11
Charleroi River Chamber	1-Oct-02	30-Sep-12	30-Sep-14	31-Jul-14	31-May-15
L/D 3 Removal	1-Oct-12	30-Sep-13	30-Sep-14	31-Jul-14	31-Dec-15
Dredging	1-Oct-01	30-Apr-12	30-Jun-14	1-Jul-04	31-Dec-15
Municipal Relocations	1-Oct-97	Various dates	30-Jun-14	31-Jul-14	31-May-15
Port Perry Bridge Relocation	1-Oct-04	30-Sep-12	30-Sep-14	31-Jul-14	31-Dec-15
Charleroi Land Chamber	1-Oct-02	30-Sep-15	30-Sep-20	30-Apr-20	30-Apr-21

Legend	
Completed	
Scheduled prior to next IWUB Meeting	
Date changed since last report	

Building Strong!

1

Figure ES-5. Proposed Project Status Briefing Template

3. Include the Board chairman and representative as signatories for all project management plans (PMPs). Project management plans for new projects should be developed during the planning

phase. Existing PMPs should be updated to include the Board representative and Chairman as signatories over the next year. All plans should be signed by the spring 2011 Board meeting.

4. **Apply lessons learned to managing new projects.** The Navigation Community of Practice (COP) should set up a system to capture lessons learned specifically for IMTS projects and ensure that they are reviewed prior to initiating new work.
5. **Evaluate use of early contractor involvement as a contract vehicle for an IMTS project.** The Corps should identify one or more pilot projects where early contractor involvement would improve the outcome.
6. **Implement applicable principles from the Military Construction (MILCON) Model.** Adopting several principles of the MILCON model would result in a culture change; these principles should be reinforced at all levels throughout the Corps Civil Works program hierarchy. Principles include that cost estimates cannot be exceeded, schedules must be met, and a multiyear funding stream must have a commitment from the U.S. Congress. Contracts should be structured with awardable options that can be eliminated if costs are exceeded, but still provide a functioning facility. Project managers and project staff members should follow guidance requiring that budgets and schedules be met and abandon the presumption that additional funding will always be available. The culture should reflect that the construction program cannot afford what would be “nice” for the projects, but can address only what is necessary.
7. **Establish procedures for recommending new construction starts.** Through the new IMTS capital projects business model, the Corps should establish the procedures for recommending new construction starts.

Process Improvement Recommendations Requiring Additional Study or Authority

1. **Revisit use of the continuing contracts clause.** Use of an appropriately structured continuing contracts clause or fully funding contracts often is essential to move forward with the larger civil works IMTS project being proposed. The Corps must work with the U.S. Congress to develop a continuing contracts clause that adequately protects the prerogatives of both the legislative and executive branches while not causing unnecessary project delay and cost escalation. One approach for consideration is to fully fund all contracts up to \$50 million (current Corps regulations require all contracts \$20 million or less to be fully funded), while allowing contracts greater than \$50 million to have the option of using an agreed-upon continuing contracts clause.
2. **Draft and ultimately obtain approval for a capital projects business model regulation.** The process improvements and funding strategies recommended in this report should be incorporated into a regulation to direct future IMTS project prioritization and funding. A smaller subset of this Team should develop the regulation with a draft prepared by September 30, 2010.
3. **Create Design/Review Center(s) of Expertise.** Implementation of this recommendation would require organizational changes affecting a number of non-navigation-related considerations that would in turn have to be evaluated. This recommendation is offered to Corps senior leadership for study and evaluation.
4. **Develop a portfolio of standardized designs.** A team from Corps Engineering and Operations should be identified to consider a pilot project for design of a lock component that could be used throughout the IMTS. In addition, for new projects, it may be helpful to begin requiring a design concepts meeting that involves senior design and technical personnel who are not otherwise involved in the project to brainstorm ideas, solutions, and experiences on past projects.

Benefits

The capital investment strategy and process improvements described above are expected to result in measurable benefits to the IMTS. Cost growth that has become typical with IMTS projects will be reduced. Using the *Selected Case Study Report* as a basis, cost growth on IMTS projects under the in-place business model can be as high as 60 percent of the initial cost. Of that amount, about 30 percent is attributable to inefficient funding and 70 percent to other factors, such as differing site conditions or design changes. Another benefit to the capital investment strategy is avoiding additional benefits foregone on construction projects by completing current ongoing projects efficiently and on time. Additionally, it is important to monitor and measure project performance as the capital investment strategy is implemented to document the benefits of the program with this improved process. The Team estimates the benefits of the recommended program to be the following:

- The avoided cost growth due to inefficient funding over the 20-year capital investment program is conservatively estimated to be between \$350 million and \$1,180 million.
- Benefits foregone to date at only two of the larger construction projects, Olmsted and Lower Mon, are calculated to be \$5.2 billion.
- With the 20-year capital investment program, more than \$2.8 billion in additional benefits foregone would be avoided when looking only at the projects that are currently under construction and the schedule for completing these projects under the current program.

Future Improvements

The Team recognizes that as the process matures, changes will be needed to continue to provide the best program and a reliable IMTS. Additional studies and data are recommended to advance the current recommended process, including, but not limited to, the following:

- Developing criteria for channels that are comparable to those developed for lock and dam projects. These criteria would eliminate the need to evaluate channel projects to determine their priority without an established process for comparison.
- Changing the rating scale for the Relative Risk Matrix Rankings for Operations and Maintenance budget work packages (currently ranked 25 to 1 and 5 to 1, with 25 and 5 being the worse condition) to parallel the DSAC scale (1 through 5, with 1 being the worse condition) for consistency.
- Identifying and quantifying other IMTS beneficiaries to develop a fuller understanding of the IMTS and its importance to the nation's waterways.
- Developing and standardizing additional economic data for proposed projects to improve the information used to prioritize projects.
- Developing reliability data for all projects to use the full capability of the Impact Algorithm.
- Automating the prioritization process to more efficiently manage the program and enable analysis of different factors/constraints.

The inland waterways project delivery process has faced increased criticism over funding priorities, the timing of capital projects funding, escalating costs and construction schedules, and project delivery issues. The IMTS CIS Team's review and analysis resulted in the recommended capital investment strategy and process improvements. While unlikely that any set of recommended improvements could completely eliminate cost increases and schedule delays, these recommended improvements—in combination with the development of the capital investment strategy and with the underlying premise that the funding will be provided in an efficient manner—will achieve the goal of an improved capital projects business model.

This report was prepared at the request of the Inland Waterways Users Board and represents a collaborative effort between industry representatives and U.S. Army Corps of Engineers inland navigation experts. The views, opinions, and findings contained in this report are those of the Inland Marine Transportation System Capital Investment Strategy Team and should not be construed as an official agency or board position, policy, or decision, unless so designated by other official documentation.