INLAND WATERWAYS USERS BOARD
16TH ANNUAL REPORT
TO THE
SECRETARY OF THE ARMY
AND THE
UNITED STATES CONGRESS

WITH APPENDIXES

May 2002

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EXECUTIVE SUMMARY

The Inland Waterways Fuel Tax was established to support inland waterway infrastructure development and rehabilitation. Commercial users are required to pay this tax on fuel consumed in inland waterway transportation. Revenues from the tax are deposited in the Inland Waterways Trust Fund and fund 50% of the cost of inland navigation projects each year as authorized. The amount of tax paid by commercial users in 2001 is $.20 per gallon of fuel. This amounts to over a $100 million contribution annually to the Inland Waterways Trust Fund. Additionally, a tax of $.043 per gallon of fuel is paid toward General Treasury revenues and utilized for deficit reduction.

Reflecting the concept of "Users Pay, Users Say", the Water Resources Development Act of 1986 (Public Law 99-662) ("WRDA '86") established the Inland Waterways Users Board (the "Board"), a federal advisory committee, to give commercial users a strong voice in the investment decision-making it was supporting by its cost sharing tax payments. The principal responsibility of the Board is to recommend to the Congress, the Secretary of the Army and the U.S. Army Corps of Engineers the prioritization of new and replacement inland navigation construction and major rehabilitation projects. The Board uses a prioritization format to objectively identify differences between proposed projects. This ranking tool examines eight project factors; condition, capacity and future demand, costs and benefits, operating and safety considerations, traffic delays, environmental concerns, timing, and public and political support for projects.

The Board recommends completion of the following inland navigation construction projects and studies potentially leading to construction projects at optimum capabilities and that funding be provided at the full spending capability of the U.S. Army Corps of Engineers. A summary of the Board Recommended Prioritization of the projects and studies for FY 2003 follows:

Construction of New and Replacement Projects

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Priority No. 2: Ohio River Mainstem Systems Study, Illinois, Indiana, Kentucky, Ohio, Pennsylvania and West Virginia
Priority No. 3: Calcasieu Lock, Louisiana
Priority No. 4: Gulf Intracoastal Waterway (GIWW) Modifications, Texas

In conclusion, the long-term objectives of the Board that are hereby submitted to the Executive Branch and Congress involve rehabilitating and extending the life of the existing system to preserve its efficiency, coupled with a program for constructing needed replacement inland navigation facilities. The ultimate objective is an efficient, cost-effective, competitive and safe waterways system without the imposition of higher fuel taxes. The timely completion of each of these required navigation projects is critical to a viable and reliable waterways system and our Nation's global competitiveness.

By carefully scheduling new and replacement construction starts, the Board is convinced that necessary replacement and major rehabilitation projects discussed above can be accomplished in the next 10 years based on current Inland Waterways Trust Fund revenue projections, assuming matching federal funds are appropriated.

INLAND WATERWAYS USERS BOARD
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ANNUAL RECOMMENDATIONS AND PRIORITIES

INTRODUCTION AND BACKGROUND

The Inland Waterways Users Board (the "Board") is composed of 11 members that represent different geographical sections of the nation and different commodities such as farm products, coal, petroleum products and petrochemicals. The Board traditionally meets three times each year to develop and make recommendations to the Secretary of the Army and the Congress regarding construction and major rehabilitation investments, and spending levels on the commercial navigation features of the inland waterways system

In exercising its authorized mandate, the Board must carefully balance fuel tax revenues flowing into the Inland Waterways Trust Fund against the inland navigation project construction and major rehabilitation expenditures proposed and advocated by waterways users, exporters, the Administration, Congress, and others. Under the provisions of the Water Resources Development Act of 1986 ("WRDA '86"), the commercial users currently pay a $.20 per gallon fuel tax for contribution to the Inland Waterways Trust Fund. They also pay a $.043 per gallon fuel tax for contribution to the General Treasury for deficit reduction. It should be noted that the commercial users are the *only* beneficiaries of the inland waterways system who pay a user fee/fuel tax. Those beneficiaries who receive flood control, water supply, recreational and other benefits do not contribute to the construction or maintenance of the system providing these benefits. The revenues deposited into the Inland Waterways Trust Fund pay 50% of the cost of new and replacement construction and major rehabilitation projects with the Federal Government paying the other 50%. Maintenance of the existing fuel-taxed system is and has always been a 100% Federal responsibility.

As the Board issues its 16th Annual Report to the Secretary of the Army and Congress, the inland waterways continue to face a critical challenge in achieving capability funding levels for the projects to proceed in their recommended order of priority. The commercial users of the inland waterways have paid a considerable amount in fuel taxes since the fuel tax was enacted, however, the monies deposited in the Inland Waterways Trust Fund have not been fully utilized for the intended purpose of navigation infrastructure improvements. While the Congress has traditionally supported the inland navigation system, at this time adequate federal funding is not being made available to start new projects or to complete continuing construction projects in a cost efficient manner, let alone on time or on budget. The practice in recent years of using trust funds to balance the budget is an extraordinarily expensive short-term solution that creates infrastructure problems of much greater magnitude, importance and cost. The Board firmly

believes that future balanced budgets and our future economic competitiveness will be built upon a solid national infrastructure, of which the inland waterways are a significant, key component. Thus, the Board strongly endorses an appropriation and allocation process that will allow optimum use of the Inland Waterways Trust Fund and allow construction projects to proceed at full capability funding levels.

The Board is convinced that funds spent to maintain and improve our waterway infrastructure yield a very high benefit-to-cost ratio that will have a positive impact upon this Nation's economy for decades and generations to come. The United States' ability to compete and grow in the global economy is contingent upon our ability to efficiently transport raw goods, commodities, and finished products throughout the U.S. and for export. We have the best, most efficient waterways system in the world; one that is studied and emulated around the globe. The United States cannot maintain its world-class system without immediate attention to much-needed rehabilitation projects, small-scale improvements, scheduled construction of replacement projects, and effective use of realistic tools and models to study projects for future funding. This will require proper allocation and expenditure of Inland Waterways Trust Fund monies currently available.

Inland Waterways Users Board Meeting No. 40 was held in Fort Lauderdale, Florida, on November 30, 2001, and **Inland Waterways Users Board Meeting No. 41** was held in Chattanooga, Tennessee, on April 25, 2002.

RECOMMENDATIONS AND PRIORITIES

THE BOARD'S PERSPECTIVE ON INFRASTRUCTURE INVESTMENT

The Board supports a balanced program including new and replacement construction, major rehabilitation and small-scale improvements of inland navigation facilities without the imposition of additional fuel taxes. The Board is unequivocally opposed to any increase in user fees be they fuel taxes, lockage or congestion fees, harbor maintenance fees, or ton-mile fees. The Board strongly believes maintenance of the existing system is a 100% Federal responsibility and hopes several measures aimed towards project construction and operating cost reductions will preclude any other proposals for fuel tax increases. With matching federal funds, the primary goal must be to manage costs and spending before entertaining the question of raising taxes.

A critical element of assessing the condition of the Nation's navigation infrastructure is the backlog of maintenance for U.S. Army Corps of Engineers projects. The Corps has been extensively reviewing the size and nature of their maintenance backlog inventory at the direction of Lieutenant General Flowers, the Chief of Engineers. The value of the critical maintenance backlog by the end of FY 2003 is estimated to be approximately $811 million. The navigation share is about 66 percent or $534 million of which $364 million is for inland waterways. This is an indication of the deteriorating condition of our aging navigation infrastructure. More than 45 percent of the locks and dams operated by the U.S. Army Corps of Engineers are over 50 years

old. The Board is greatly concerned about the large amount of maintenance backlog and its growing size. Delaying the performance of necessary maintenance materially and adversely affects the service provided by these navigation projects. It also leads to further deterioration and accelerates the need for major rehabilitation work sooner than would be required and often at higher costs. If unchecked for an extended period, it could ultimately lead to the need for replacement projects years before otherwise needed. The Board encourages the U.S. Army Corps of Engineers to continue the efforts at reducing the maintenance backlog. Furthermore, the Board suggests that additional funds be appropriated for the Civil Works program over the next several years to be dedicated to reducing the large maintenance backlog.

The Board strongly supports inland navigation construction and rehabilitation projects that are affordable within the existing fuel tax rate structure, income of the Inland Waterways Trust Fund and matching federal funds. The Board is convinced that project costs can be reduced through innovative design and construction techniques. It is a much better bargain to build the projects awaiting construction in a timely and cost efficient manner and at significantly reduced costs, than to realize only one or two of these new starts each decade at inflated costs. Alternatively, should the Congress approve projects absent cost reductions, additional scarce federal resources will be spent and increased pressure will be exerted to impose additional fuel taxes which could render our inland and coastal shallow draft system largely noncompetitive and obsolete. The recommended investment program should reflect these cost reduction targets.

OVERVIEW OF THE BOARD'S RECOMMENDED NAVIGATION INVESTMENT PROGRAM

The Board has formulated a recommended navigation investment program using amounts contained in the President's budget for Fiscal Year 2003. The program contains the following components:

Construction of New and Replacement Projects. The Board's recommended program includes ongoing inland navigation construction projects and projects where construction can be initiated in the near future. Federal funds for these projects must be made available to match the 50% share from the Inland Waterways Trust Fund. The Board's program assumes optimum scheduling of these projects in priority order and the Board further recommends each project proceed at a full capability funding levels. This pace will allow for the maintenance of a positive Inland Waterways Trust Fund balance, without increasing the current tax rate of $.20 per gallon.

Major Rehabilitation Projects. The Board-recommended program includes adequate resources for major rehabilitation of inland navigation projects where appropriate. Any inland navigation investment program should include a major rehabilitation element. These expenditures support and extend the life of the existing waterways assets.

Preconstruction Engineering and Design (PED) Projects. The Board-recommended investments also include the future projects resulting from studies that are in an "interim" engineering and design phase before construction is initiated.

Studies and Future Projects. While not representing capital expenditures, planning studies are currently underway to identify the future inland navigation investment needs. The Board recognizes that, as potential projects are identified by these studies, investment priorities will have to be revisited. The Board has provided their perspective and recommendations on the studies.

CONSTRUCTION OF NEW AND REPLACEMENT PROJECTS

The Board recommends continuation and completion of the following inland navigation projects under currently approved schedules, but with special emphasis on project management, cost control, and innovative cost reduction techniques to complete the projects within budget.

The Board's recommended inland navigation project construction program includes new projects eligible for 50% funding from the Inland Waterways Trust Fund. Using the eight prioritization factors listed below, these new projects are evaluated and then ranked by investment priority. The Inner Harbor Navigation Canal (IHNC) Lock Replacement project was the last new project added to the Construction Projects category as funds to initiate construction were appropriated in FY 1999.

The Board developed a prioritization process for ranking projects pending construction approval. In order to arrive at a national prioritization ranking, the following factors were considered:

- Structural condition of project;
- Capacity and forecasted demand;
- Benefit-to-cost (B/C) ratio;
- Operational problems that affect navigation safety or efficiency;
- Traffic delays;
- Environmental issues;
- Timing with respect to the Inland Waterways Trust Fund balance; and
- Support or opposition for the project.

After serious consideration of the above-referenced factors, the Board makes the following recommendations:

PRIORITIZATION OF NEW AND REPLACEMENT CONSTRUCTION PROJECTS

Priority No. 1: Olmsted Locks and Dam, Illinois and Kentucky. Olmsted, authorized in the Water Resources Development Act of 1988, will replace the Ohio River Locks and Dams 52 and 53 and is located in Pulaski County, Illinois and Ballard County, Kentucky on the Ohio River near Olmsted, Illinois. It will consist of twin 110 by 1200-foot locks and a dam comprised of a 2,200-foot navigable pass and a fixed weir. Temporary 110 by 1200-foot locks

were completed at Locks and Dams 52 and 53 in 1969 and 1980, respectively, to permit transit of 15 barge tows with one lockage. This facility is located at the key confluence of the Ohio and Mississippi Rivers. Virtually all traffic moving between the Ohio River and tributaries and the Mississippi River and tributaries moves through the project area.

2003 Total Estimated Project Cost: $1.06 billion with $77.0 million requested for FY 2003 to continue construction, and $434.3 million necessary after FY 2003. Estimated Full Capability Funding Level for FY 2003: $89 million.

Priority No. 2: Inner Harbor Navigation Canal (IHNC) Lock, Louisiana. The IHNC Lock is a part of the Mississippi River - Gulf Outlet, Louisiana (MRGO) project, a deep draft seaway canal extending from New Orleans to the Gulf of Mexico, east of the Mississippi River. One of the MRGO project's four basic items is a new lock with connecting channels at the IHNC. Construction of a replacement lock was authorized in 1956. The existing lock was completed in 1923 by non-federal interests and ultimately ended up being purchased by the U.S. Army Corps of Engineers in 1986. The existing facility is a vital link between the Mississippi River and the Gulf Intracoastal Waterway (GIWW), and is a connecting link for ship traffic between the MRGO and the Mississippi River at New Orleans. The IHNC Lock is located in a highly congested urban and commercial area and forecasted future traffic will significantly exceed the lock's capability. Based on Congressional guidance, an open planning process has been adopted in an attempt to build consensus among the major stakeholders. Also, the Water Resources Development Act of 1996 authorized a comprehensive community impact mitigation plan to be implemented in conjunction with the lock project. A strong need exists for this replacement lock to eliminate huge delays that are consistently higher than at any other lock on the inland navigation system. The Board has ranked the IHNC Lock higher than most other inland navigation projects recently prioritized for construction. The Board recommends that construction proceed at the U.S. Army Corps of Engineers full capability. Innovative construction methods are being utilized to achieve significant cost savings, such as cellular, pre-cast and float-in construction. The Board reluctantly accepts the cost allocation formula used by the U.S. Army Corps of Engineers to assign project costs between the shallow and deep draft portions of this project and concurs with cost sharing the shallow draft portion from the Inland Waterways Trust Fund.

2003 Total Estimated Project Cost: $684 million including both shallow draft and deep draft portions. The requested amount for FY 2003 is $9.0 million and $603.9 million necessary after FY 2003. The Water Resources Development Act of 1986 provided that the costs allocable to inland navigation (shallow draft) be cost shared with the Inland Waterways Trust Fund. Estimated Full Capability Funding Level for FY 2003: $30 million.

Priority No. 3: McAlpine Locks and Dam, Kentucky and Indiana. The project is located in Louisville, Kentucky, on the Lower Ohio River. Congestion, navigation complexities and obsolescence of this facility cause major delays and a significant bottleneck on the Ohio

River. Funds to initiate construction were appropriated in FY 1996. The project was authorized in 1990 and consists of a new 1200-foot chamber to be constructed to replace the old 600-foot auxiliary chamber using innovative design and construction methods to achieve reduced costs, and the construction of a new bridge to access Shippingport Island. During construction of the new lock chamber, only one chamber, the 1200-foot main chamber, will be available. The U.S. Army Corps of Engineers has dewatered and performed major maintenance on this chamber to avoid the loss of this chamber during the construction period. The Board is very concerned that the construction of the new lock could be delayed due to a reduced stream of funding. If this occurs, it is a real possibility that traffic flows could be interrupted causing huge delays if the main chamber is shut down for any reason as there is no auxiliary chamber to pass the traffic.

2003 Total Estimated Project Cost: $278 million with $6.19 million requested for FY 2003 and $195.44 million necessary after FY 2003. Estimated Full Capability Funding Level for FY 2003: $30 million.

Priority No. 4: Monongahela River Locks and Dams 2, 3 and 4, Pennsylvania. The project is located on the lower portion of the Monongahela River near Pittsburgh, Pennsylvania, and was authorized by the Water Resources Development Act of 1992. These three facilities are the last of the old and undersized locks on the Monongahela River and have been in service for almost 100 years. These facilities are dangerously near the end of not just their design life, but their practical life as well. They will be replaced with two new facilities. The Dam at Lock 2 and the Locks and Dam at Lock 3 are badly deteriorated and subject to failure. The condition and size of these locks are a major impediment to low cost water transportation on the Monongahela River and the Upper Ohio River. Construction was initiated in 1995. The project consists of a new gated dam to be installed at Lock and Dam 2, and new twin 84 by 720-foot chambers at Lock and Dam 4, which will provide adequate capacity to meet the needs of navigation on the Lower Monongahela River for the next 50 years.

2003 Total Estimated Project Cost: $750 million with $36.02 million requested for FY 2003 and $495.81 million necessary after FY 2003. Estimated Full Capability Funding Level for FY 2003: $63 million.

Priority No. 5: Marmet Locks and Dam, Kanawha River, West Virginia. The project is located in Kanawha County near Belle, West Virginia, on the Kanawha River about 68 miles above the confluence with the Ohio River. Funds to initiate construction were appropriated in FY 1998. The project was authorized in the Water Resources Development Act of 1996 and calls for the addition of a 110 by 800-foot lock on the landward side of the existing chambers. With the new lock now operational at Winfield, this facility is the busiest lock in the inland navigation system due to its small twin 56 by 360-foot chambers, which can only process one modern 35 by 195-foot barge at a time, and excessive navigation delays have increased significantly causing serious congestion problems. This project is more than 60 years old and the size of the chambers severely restricts the use of modern, efficient towing equipment. The Marmet and Winfield locks must be viewed as an integrated system and the Board strongly

believes this project should have been integral to the Winfield project and constructed concurrently.

2003 Total Estimated Project Cost: $313 million with $10.98 million requested for FY 2003 and $236.88 million necessary after FY 2003. Estimated Full Capability Funding Level for FY 2003: $58.5 million.

Priority No. 6: Kentucky Lock and Dam, Kentucky. The Kentucky Lock project is located in Livingston County, Kentucky on the Tennessee River, 22.4 miles above the confluence with the Ohio River. The project was authorized for construction in the Water Resources Development Act of 1996, and calls for an additional lock measuring 110 by 1200-feet landward of the existing lock. Funds to initiate construction were appropriated in FY 1998. The facility faces potential increased traffic stemming from: (1) increasing Cumberland River traffic using Barkley Canal and Kentucky Lock rather than the Lower Cumberland River; (2) increasing Tennessee River traffic; and (3) new traffic using the Tennessee-Tombigbee Waterway. Lock delays average five hours and occasionally some are as much as 19 hours. The Barkley route is currently under-utilized, therefore, the Board believes a non-structural traffic control system should be employed to reduce delays during construction of a replacement chamber at Kentucky Lock.

2003 Total Estimated Project Cost: $533 million with $27.4 million requested for FY 2003 and $418.06 million necessary after FY 2003. Estimated Full Capability Funding Level for FY 2003: $62.7 million.

SPECIAL CONSIDERATION OF OTHER CONSTRUCTION PROJECTS

The Board would like to make special note of two ongoing inland navigation construction projects that are being cost sharing with the Inland Waterways Trust Fund and have been included in the annual investment recommendations for the past several years. The Board feels these two projects should be completed as soon as possible, as the locks have been operational for years, and removed from the inventory of construction projects. The Board recommends that the remaining work for these projects be expedited for completion by FY 2003 so the Construction, General appropriation accounts can be closed out. The Board offers comments on these projects as follows:

Robert C. Byrd Locks and Dam, West Virginia and Ohio. The project (formerly Gallipolis), authorized in the Water Resources Development Act of 1986, is located at Ohio River mile 279.2 in the Middle Ohio Valley, about 30 miles upstream from Huntington, West Virginia. The new 110 by 1200-foot main chamber and 110 by 600-foot auxiliary chamber provide better lock approach conditions. The project also includes rehabilitation of the existing dam, replacing the roller gates and strengthening its foundation. The project eliminated a major congestion problem, a severe navigation hazard, and increasingly difficult O&M problems due to old age. The locks became operational in October 1992 and the dam rehabilitation should be completed as soon as possible.

2003 Total Estimated Project Cost: $381 million with $1.5 million requested for FY 2003 to continue the existing dam rehabilitation and mitigation activities, and $4.96 million necessary after FY 2003. Estimated Full Capability Funding Level for FY 2003: $12.3 million.

Winfield Locks and Dam, West Virginia. The Winfield Locks and Dam project, authorized for construction in the Water Resources Development Act of 1986, is located on the Kanawha River near Eleanor, West Virginia, about 31 miles above the confluence with the Ohio River. Winfield was the busiest project in the inland navigation system in terms of lockages until the new 110 by 800-foot lock became operational in November 1997. The existing 56-year-old, twin 56 by 360-foot chambers are being used as auxiliary locks. The project includes a 110-foot wide non-navigable gate bay also.

2003 Total Estimated Project Cost: $235.9 million with $200,000 requested for FY 2003 to continue construction, and $6.09 million necessary after FY 2003. Estimated Full Capability Funding Level for FY 2003: $3.6 million.

MAJOR REHABILITATION PROJECTS

The Board continues to believe that appropriately timed use of Inland Waterways Trust Fund monies for major rehabilitation of projects is a fiscally sound and wise investment of limited resources. The inland navigation industry agreed to compromise on funding such projects despite the lack of statutory support. The use of these funds for rehabilitation will delay the spending of far larger sums on capital replacement projects.

The Board wishes to make special mention of future infrastructure needs as related to the major rehabilitation program. The key factor in assessing future needs is costs, especially in light of the level of traffic growth on the system.

As part of the Water Resources Development Act of 1992, the Inland Waterways Trust Fund pays 50% of the cost of major rehabilitations, which is work designed to extend the life of a project without having to completely replace it. Over the next few decades there will be roughly $40 million a year of additional major rehabilitation required, half of which will be paid from the Inland Waterways Trust Fund. This will constitute a major future obligation for the inland navigation industry. Many parts of the system are in need of major repairs, and the magnitude of expenditures required, plus the number of eligible projects, means that major rehabilitation is equivalent to about two replacement construction project starts every decade. If actual needs exceed or fall short of $40 million annually, the scheduling and pace of replacement construction projects would be affected accordingly.

The major rehabilitation projects currently underway or expected soon for the Upper Mississippi River are needed to ensure continued operation of that waterway segment because construction of necessary replacement facilities cannot be advanced in the proper time frame.

This is of major concern to the Board because these major rehabilitation projects do not address the significant capacity constraints on the Upper Mississippi River.

PRIORITIZATION OF MAJOR REHABILITATION PROJECTS

Priority No. 1: Lock and Dam 24, Mississippi River, Illinois and Iowa. This project is located at Mississippi River Mile 273.5 above the mouth of the Ohio River, in the vicinity of Clarksville, Missouri. The Board supports the rehabilitation work for this facility to ensure adequate lock serviceability until the construction of a new 1200-foot lock. Rehabilitation work includes the replacement of miter gates and miter gate machinery, the auxiliary lock closure structure, power distribution system, lock motors and controllers, and control system; addition of a protection cell, bendway weirs, and debris openings in the dam guardwall; and repairs to the dam bridge columns. Additional major rehabilitation work will be performed on the existing lock landwall, intermediate wall, upstream and downstream guidewalls, and the Illinois Abutment. Furthermore, the Board strongly recommends that the construction of a new 1200-foot lock or the extension of the existing chamber be initiated immediately at this location. The Board recommends that the U.S. Army Corps of Engineers accelerate completion of the Upper Mississippi River - Illinois Waterway Navigation study and pursue authorization for the construction of new 1200-foot locks or the extension of the existing chambers at Locks and Dams Nos. 25, 24, 22, 21 and 20 on the Mississippi River. The Board is firmly convinced that completion of the study will provide the appropriate support for construction of a new lock or the extension of the existing chamber at Lock and Dam 24 based upon the eight factors listed above including structural condition of the facilities, capacity and forecasted demand, navigation safety and efficiency, and benefit-to-cost ratio.

2003 Total Estimated Project Cost: $83.75 million with $10.0 million requested for FY 2003 and $42.8 million necessary after FY 2003. Estimated Full Capability Funding Level for FY 2003: $16.7 million.

Priority No. 2: London Locks and Dam, Kanawha River, West Virginia. The project is located at mile 82.8 on the Kanawha River above the confluence with the Ohio River. The study examining the navigation facilities on the Kanawha River recommended that the facility at London undergo a major rehabilitation. This project is more than 60 years old and the size of the chambers severely restricts the use of modern, efficient towing equipment. Future delays will increase significantly with the completed construction of a new lock at Winfield and an authorized new lock being constructed at Marmet. The Board agrees that condition problems here warrant major rehabilitation, but is unaware of additional investment needs eligible for cost sharing with the Inland Waterways Trust Fund.

2003 Total Estimated Project Cost: $22.9 million with $11.93 million requested for FY 2003 to complete the project. Estimated Full Capability Funding Level for FY 2003: $11.93 million.

Priority No. 3: Lock and Dam 11, Mississippi River, Iowa and Wisconsin; Lock and Dam 12, Mississippi River, Iowa and Illinois. The Board recognizes and acknowledges that the Mississippi River Locks and Dams Nos. 11 and 12 are separate projects with individual funding requirements. However, the Board strongly believes that these projects should be viewed together as a single undertaking and should be funded simultaneously. If approached one at a time, navigation restrictions and delays, with their corresponding costs, will merely be shifted from the first project undertaken to the second project. Scheduling which allows for significant work to be performed during non-navigable periods of the year will also allow for work to proceed on both facilities simultaneously. The Board fully supports and is grateful to the Congress for authorizing the major rehabilitation at Lock and Dam No. 11 as a New Start in the FY 2002 construction program of the U.S. Army Corps of Engineers.

Lock and Dam 11, Mississippi River, Iowa and Wisconsin. The project is located at Mississippi River Mile 583.0, at Dubuque, Iowa. Lock and Dam No. 11 became operational in 1937 and has been in service for 62 years. However, reliability and operational problems are occurring that have significant impacts. The mechanical and electrical systems, which are original equipment installed in the 1930's, are obsolete and increasingly break down. Spare and replacement parts are difficult to find. Any failure of the electrical components, the miter gates or anchorages, tainter valve or gate machinery, or culvert valve will significantly reduce the efficiency and effectiveness of the facility and could lead to closure for an extended period. The major rehabilitation work includes replacement of miter gate electrical systems, miter gate and tainter valve machinery, miter gate anchor bar and dam tainter gate chain; culvert valve rehabilitation; and additional scour protection above and below the dam.

2003 Total Estimated Project Cost: $26.2 million with $1.37 million requested for FY 2003 and $24.41 million necessary after FY 2003. Estimated Full Capability Funding Level for FY 2003: $4.5 million.

Lock and Dam 12, Mississippi River, Iowa and Illinois. The project is located at Mississippi River Mile 556.7, near the City of Bellevue, Iowa. Lock and Dam No. 12 became operational in 1939, and has been in service for 60 years. However, reliability and operational problems are occurring that have significant impacts. The mechanical and electrical systems are original equipment installed in the 1930's, are obsolete and are increasingly breaking down. Spare and replacement parts are difficult to find. Any failure of the electrical components, the miter gates or their anchorages, tainter valve or gate machinery, or culvert valve will significantly reduce the efficiency and effectiveness of the facility and could lead to closure for an extended period. The major rehabilitation work includes replacement of miter gate electrical systems, miter gate and tainter valve machinery, miter gate anchor bar and dam tainter gate chain; culvert valve rehabilitation; and additional scour protection above and below the dam.

2003 Total Estimated Project Cost: $14.7 million with $5.4 million requested for FY 2003 to complete the project. Estimated Full Capability Funding Level for FY 2003: $5.4 million.

Priority No. 4: Lock and Dam 3, Mississippi River, Minnesota. The project is located on the Mississippi River 56 miles downstream from Minneapolis and six miles upstream of Red Wing, Minnesota. The facility has a main embankment that is subject to overtopping and severe damage during major flood events, and an extensive system of spot dikes that are deteriorating at an accelerated rate. Major rehabilitation work includes repairs and modifications of the system of spot dikes and the main embankment to protect the dikes and prevent probable failure of the embankment system and loss of pool, which would curtail navigation if left in the current condition.

2003 Total Estimated Project Cost: $20.0 million with $3.0 million requested for FY 2003 and $13.55 million necessary after FY 2003. Estimated Full Capability Funding Level for FY 2003: $3 million.

PRECONSTRUCTION ENGINEERING AND DESIGN (PED) PROJECTS

These Preconstruction Engineering and Design (PED) projects will potentially lead to near-term future New and Replacement Construction Projects.

Priority No. 1: Upper Mississippi River and Illinois Waterway Navigation, Illinois, Iowa, Minnesota, Missouri, and Wisconsin. The system study being conducted by the Corps Mississippi Valley Division addresses the need for navigation capacity expansion along the Mississippi River, including 29 locks and dams, between Minneapolis-St. Paul and the confluence of the Mississippi River and Ohio River, and along the Illinois Waterway, including eight locks and dams, between Chicago and the Great Lakes and the Mississippi River above Melvin Price Locks and Dam. After nearly 12 years and $60 million spent on the reconnaissance and feasibility phases of this study, the U.S. Army Corps of Engineers is a few months away from a promised July 2002 completion deadline for an Interim Report on the need for navigation improvements on the Upper Mississippi River and Illinois Waterway. The Corps has told the Congress and others the Interim Report will address needs and opportunities for navigation improvements, as well as for ecosystem restoration and floodplain management, and will present an assessment of the potential contents of a comprehensive plan for meeting all those needs. While completion of the feasibility study is not likely to occur for at least two years, the Board expects it will provide the appropriate basis and justification for the construction of new 1200-foot locks or the extension of the existing diminutive 600-foot chambers on the lowermost reach of the study area. No projects are authorized for construction yet.

2003 Estimated Cost: The total cost for PED for each of the seven locks and dams being reviewed for improvements is estimated to be between $7 million and $8 million. No funds for PED activities have been requested for FY 2003 for these projects. Estimated Full Capability Funding Level for FY 2003: Not available.

Recommendations: The Board believes that the locks and dams in the southernmost

reach of the study area are most in need of improvement and that both the interim and final Feasibility reports will demonstrate that the U.S. Army Corps of Engineers should seek Congressional authorization for new 1200-foot locks or the extension of the existing chambers at Locks and Dams Nos. 25, 24, 22, 21 and 20 on the Mississippi River and for the Peoria and LaGrange Locks and Dams on the Illinois Waterway. The Board notes with increasing concern the inordinate amount of time and money spent thus far on this study. To prevent further delay and to expedite realization of the national economic benefits that will result from timely lock modernization, the Board strongly recommends that the U.S. Army Corps of Engineers proceed as soon as possible in Fiscal Year 2003 to resume Preconstruction Engineering and Design (PED) of new or extended locks on the southernmost reach of the Upper Mississippi River and Illinois Waterway. The Board recommends that PED should commence initially on whichever element or elements of the navigation modernization work that has been authorized by Congress prior to the beginning of Fiscal Year 2003 or, if no such authorization has occurred, and pending such authorization, PED should begin as soon as possible after the beginning of Fiscal Year 2003 on whichever new 1200-foot lock construction or extension element has been determined by the Corps at that time to be most clearly justified. The Water Resources Development Act of 1999 directed the U.S. Army Corps of Engineers to expedite completion of the study and if justified, proceed directly to PED for the design of new 1200-foot locks at Locks and Dams Nos. 25, 24, 22, 21 and 20 on the Mississippi River. The Board also recognizes that the reconstituted feasibility study currently being processed by the Corps seeks to achieve both navigation improvement and environmental restoration objectives on a parallel and contemporaneous track. Thus, the Board also supports moving forward on PED for appropriate environmental features at the same time PED is proceeding for the navigation modernization projects.

Priority No. 2: Bayou Sorrel Lock, Intracoastal Waterway, Louisiana. A comprehensive system analysis of seven (7) Gulf Intracoastal Waterway (GIWW) locks in southern Louisiana, between the Mississippi River and the Sabine River was conducted to determine if the seven GIWW locks should be replaced or if additional locks should be constructed. Results of the Reconnaissance phase indicated that there were immediate needs for capacity increases at Bayou Sorrel and Calcasieu locks and determined that all the locks are structurally sound, but experience significant delays due to restrictive dimensions. The Feasibility phase began in June 1995, but was limited to addressing capacity needs at Bayou Sorrel only. Bayou Sorrel was expedited because it has the most immediate need for additional capacity and needs to be replaced for flood control purposes as well. The Board recognizes the replacement of Bayou Sorrel Lock represents a near-term opportunity for cost-effectively addressing both flood damage reduction and navigation needs.

2003 Estimated Cost: $1.5 million with $110,000 requested for FY 2003 to initiate PED and $1.39 million necessary after FY 2003. PED activities are currently scheduled for completion in September 2013. Estimated Full Capability Funding Level for FY 2003: $500,000.

Recommendations: The Board urges the U.S. Army Corps of Engineers to initiate engineering and design for Bayou Sorrel as soon as possible. This will allow commencement of construction of this project that is important for both navigation and flood damage reduction.

Priority No. 3: John T. Myers Locks and Dam, Ohio River, Indiana and Kentucky. Initial results of the Ohio River Mainstem study indicated a need for capacity increases at John T. Myers and Greenup Locks and Dams. The anticipated recommendation from the interim Feasibility report for this facility is the construction of a second 1,200-foot chamber by extending the existing 600-foot auxiliary chamber. The estimated project cost for this construction is $230 million.

2003 Total Estimated Cost: $8.0 million with $1.35 million requested for FY 2003 and $2.96 million necessary after FY 2003 to complete PED activities, currently scheduled for September 2005. Estimated Full Capability Funding Level for FY 2003: $2.1 million.

Recommendations: The Board recommends that PED activities continue through to an expeditious completion to allow the U.S. Army Corps of Engineers to proceed with project authorization and implementation, consistent with the ability of the Inland Waterways Trust Fund to provide efficient funding for the project within the current fuel tax rate structure.

Priority No. 4: Greenup Locks and Dam, Ohio River, Kentucky and Ohio. Initial results of the Ohio River Mainstem study indicated a need for capacity increases at John T. Myers and Greenup Locks and Dams. The anticipated recommendation from the interim Feasibility report for this facility is the construction of a second 1,200-foot chamber by extending the existing 600-foot auxiliary chamber. The estimated project cost for this construction is $238.8 million.

2003 Total Estimated Cost: $5.7 million with $1.3 million requested for FY 2003 and $1.35 million necessary after FY 2003 to complete PED activities, currently scheduled for September 2004. Estimated Full Capability Funding Level for FY 2003: $2.1 million.

Recommendations: The Board recommends that PED activities continue through to an expeditious completion to allow the U.S. Army Corps of Engineers to proceed with project authorization and implementation, consistent with the ability of the Inland Waterways Trust Fund to provide efficient funding for the project within the current fuel tax rate structure.

Priority No. 5: Chickamauga Lock and Dam, Tennessee River, Tennessee. The lock and dam at Chickamauga, owned by the Tennessee Valley Authority (TVA), are badly deteriorating from adverse reactions of the aggregate used to build the facility. Despite the many efforts of the TVA and the U.S. Army Corps of Engineers to offset the effects of the

deterioration, the facility will permanently shut down in several years due to its condition. The Board recognizes a need for action to be undertaken at Chickamauga Lock and Dam and fully supports the design and construction of a replacement facility at this location before the facility is forced to close. If this navigation facility were to be closed, hundreds of miles of navigable waterways on the upper reaches of the Tennessee River would be eliminated. The anticipated recommendation from the Feasibility report for this facility is the construction of a replacement chamber to replace the existing 360-foot chamber. The estimated construction costs are $239.4 million for a 75x400 foot chamber and $265.2 million for a 110x600 foot replacement.

2003 Total Estimated Cost: $6.4 million with $252,000 requested for FY 2003 and $5.8 million necessary after FY 2003 to complete PED activities. Estimated Full Capability Funding Level for FY 2003: $4 million.

Recommendations: The Board recommends that PED activities continue through to an expeditious completion to allow the U.S. Army Corps of Engineers to proceed with project authorization and implementation.

STUDIES AND FUTURE PROJECTS

The Board recognizes that additional investment needs will be identified by pre-authorization planning studies currently underway. Many of these studies are evaluating solutions to significant problems of capacity, condition, and environmental compliance. The Board also notes that as these studies are completed, integration of the resulting projects into design and construction priorities will be required. The Board has ranked Studies and Future Projects because they will identify navigation projects necessary to continue a viable waterways system.

The Board's evaluation and comments related to individual studies follows:

Priority No. 1: Upper Mississippi River and Illinois Waterway Navigation, Illinois, Iowa, Minnesota, Missouri, and Wisconsin. The Reconnaissance phase of the study began in 1990 and was completed in 1993. The Feasibility phase began in April 1993. The system study is being conducted by the Corps Mississippi Valley Division. The study addresses lock capacity and reliability and the need for navigation capacity expansion on the Mississippi River from St. Louis to Minneapolis-St. Paul and on the Illinois Waterway from the confluence with the Mississippi River to Chicago and Lake Michigan. The study area covers 1,202 river miles encompassing 37 existing locks and dams, 29 on the Mississippi River and eight on the Illinois Waterway, a river reach constituting 10 percent of the inland waterways system and providing the origin or destination of 48 percent of the ton-miles of the total inland waterways system. The study is a comprehensive and complex examination of an entire navigation system, involving engineering, economic and environmental analyses of impacts associated with a wide variety of future conditions on the two rivers. The system's principal problems are, (1) delays to commercial traffic at locks on both rivers upstream of Melvin Price Locks and Dam due to increasing traffic and limited lockage capacity caused primarily by diminutive 600-foot locks

that are unable to handle modern 1200-foot tows without engaging in costly, time-consuming multi-locking operations; (2) system congestion resulting in competition and conflict between recreational and commercial users; and (3) the need to properly balance the use of this vital water transportation corridor with preservation of its nationally significant environmental values. Criticism by the Army Inspector General and the National Academy of Science's National Research Council led to a five-month suspension of the study during 2001 while procedures were reviewed and improved, where appropriate. The study resumed in August 2001.

2003 Estimated Cost: The total estimated study cost is $67.71 million with $1.0 million requested for FY 2003 to continue the Feasibility phase. The current schedule calls for an Interim Report to be submitted to Congress in July 2002 and submission of a final report two years later. Estimated Full Capability Funding Level for FY 2003: $3.7 million.

Recommendations: The Board is increasingly concerned about the significant delays that have occurred in completing this study and strongly recommends that full funding be appropriated to complete all elements of both the Interim Report and the Final Report as soon as possible. The Board believes that after 12 years and more than $60 million spent to date on this study, the U.S. Army Corps of Engineers must dedicate whatever technical and managerial resources necessary to meet the July 2002 deadline to complete the Interim Report and submit it to Congress. The Board further believes that the Interim Report should present recommendations for structural and other measures that should be pursued immediately to help eliminate the significant costs being imposed on our national economy by barge traffic inefficiencies at the locks and to help improve the effectiveness of the navigation system in an environmentally sustainable manner. The Board remains convinced that completion of the study will provide the appropriate justification for construction of new locks or the extension of the existing locks based upon the eight factors listed above including structural condition of the facilities, capacity and forecasted demand, navigation safety and efficiency, and benefit-to-cost ratio. The Board believes that the locks and dams in the southernmost reach of the study area are most in need of improvements and that the study will demonstrate that the U.S. Army Corps of Engineers should seek Congressional authorization of new 1200-foot locks or the extension of the existing chambers at Locks and Dams Nos. 25, 24, 22, 21 and 20 on the Mississippi River and Peoria and LaGrange Locks and Dams on the Illinois Waterway. Further, The Board notes and supports language in the Water Resources Development Act of 1999 (P.L. 106-53) that directs the U.S. Army Corps of Engineers to expedite completion of the study and if justified, proceed directly to Preconstruction Engineering and Design (PED) for the design of new 1200-foot locks at Locks and Dams Nos. 25, 24, 22, 21 and 20 on the Mississippi River. The Board likewise supports expedited PED initiation and completion for the Peoria and LaGrange Locks and Dams as soon as the improvement of each has been found to be economically justified. None of the five Mississippi River or two Illinois Waterway projects have been authorized for construction yet.

Priority No. 2: Ohio River Mainstem Systems Study, Illinois, Indiana, Kentucky, Ohio, Pennsylvania and West Virginia. This study is a navigation system analysis. The Feasibility phase will address the economic, social and environmental impacts of both large scale investments and small scale improvements for additional lock capacity at Ohio River navigation facilities such as John T. Myers, Newburgh, and Cannelton Locks and Dams located downstream of McAlpine Locks and Dam, and Elmsworth, Dashields and Montgomery Locks and Dams located on the Upper Ohio River. The emphasis will be on the Lower Ohio River where forecasted traffic growth is the greatest.

2003 Estimated Cost: The total estimated study cost is $50.3 million with $3.0 million requested for FY 2003 to continue the Feasibility phase and $2.74 million necessary after FY 2003. The Feasibility phase is scheduled for completion in March 2005. Estimated Full Capability Funding Level for FY 2003: $3 million.

Recommendations: The Board recommends the study of this critical waterway segment continue as scheduled because additional capacity is anticipated for several Ohio River navigation facilities. Progressing project specific improvements simultaneously with this system study should seriously be considered because there is a small window of opportunity whereby innovative design and construction can achieve significant savings. If not done simultaneously the opportunity will be lost and costs will dramatically increase.

Priority No. 3: Calcasieu Lock, Louisiana. Initial results of a study of seven Intracoastal Waterway Locks in southern Louisiana indicate that there are immediate needs for capacity increases at Bayou Sorrel and Calcasieu locks. It determined that all the locks are structurally sound, but experience significant delays due to restrictive dimensions. As a result, this Feasibility effort is specifically addressing capacity needs at Calcasieu Lock only. The Board recognizes that Calcasieu Lock represents a near-term opportunity to address navigation needs.

2003 Estimated Cost: The total estimated study cost is $3.19 million with $150,000 requested for FY 2003 to continue the Feasibility phase, initiated in FY 2000 per a favorable Reconnaissance report, and $1.93 million necessary after FY 2003 to complete the Feasibility phase, currently scheduled for September 2013. Estimated Full Capability Funding Level for FY 2003: $800,000.

Recommendations: The Board strongly recommends the Feasibility phase of this interim study continue as scheduled. Progressing project specific improvements from the system study is prudent to take advantage of the window of opportunity.

Priority No. 4: Gulf Intracoastal Waterway (GIWW) Modifications, Texas. The study encompasses two locations on the Gulf Intracoastal Waterway (GIWW) along the Texas coast: Brazos River Floodgates, located approximately seven miles southwest of Freeport, Texas,

at the intersection of the Brazos River an the GIWW; and the Colorado River Locks, located approximately 45 miles southwest of Freeport, Texas, at the intersection of the Colorado River and the GIWW. In 1991, the Colorado River was diverted into Matagorda Bay, Parkers Cut was closed and a bypass channel was constructed. These changes created major navigation hazards and have resulted in deaths, injuries, pollution incidents, changes in fish migration patterns and major navigation delays. Both crossings were designed when barges were carried astern on a towline rather than the current practice of pushing a string of barges. Potential alternatives include realigning the approaches to the crossings, increasing the width of the gates or removing them entirely.

2003 Estimated Cost: The total estimated study cost is $9.05 million with $225,000 requested for FY 2003 to continue the Feasibility phase, and $8.4 million necessary after FY 2003 to complete the interim Feasibility phase, currently scheduled for 2009 for the Colorado River and 2013 for the Brazos River. Estimated Full Capability Funding Level for FY 2003: $2 million.

Recommendations: The Board is concerned about both the cost and time consumed for these studies and recommends that both interim Feasibility studies be expedited. The Board recommends that complete removal of the locks and floodgates be objectively evaluated.

SPECIAL CONSIDERATION OF OTHER INLAND NAVIGATION PROJECTS

The Board desires to make special note of certain navigation-related projects that have been undertaken but are either not subject to cost sharing with the Inland Waterways Trust Fund or not related to the prioritization tasks undertaken by the Board. The Board offers comments the following project:

While there are no new navigation construction projects or major rehabilitation efforts proposed for the **Columbia or Snake rivers** at this time, the Board is greatly concerned about a proposal to remove or breach the dams at Ice Harbor, Lower Monument, Little Goose and Lower Granite on the Snake River in an attempt to restore endangered salmon populations. Currently, the Columbia-Snake River system allows commercial navigation from the coastal deep draft ports all the way to Lewiston, Idaho. This is a vital transportation link for the manufacturers and farmers in the Pacific Northwest, especially for grain and farm products and timber and forest products destined for export markets. The proposal to breach these four dams is single purpose in nature and fails to address the significant economic impacts in the region estimated to be well over $300 million per year. Breaching these dams would: eliminate commercial navigation on the Snake River extending 140 miles to Lewiston, Idaho; eliminate hydropower generated electricity at a time when energy shortages are plaguing the West; eliminate irrigation of approximately 35,000 acres of farmland; and also adversely impact water supply and flood control. The Board is aware of alternatives to help restore salmon populations that do not include the breaching of dams. The Board fully supports efforts to restore the salmon population in the Pacific Northwest using other measures that do not mandate the breaching of these dams

and the associated adverse impacts to the economy of the region.

ACKNOWLEDGMENTS

The Inland Waterways Users Board wishes to express its sincere appreciation to Major General Robert H. Griffin, the U.S. Army Corps of Engineers Director of Civil Works and Executive Director to the Board, Mr. Norman T. Edwards from the Corps Directorate of Civil Works Planning Division and Executive Secretary to the Board, and Mr. Mark R. Pointon, the Executive Assistant to the Board from the Corps Institute for Water Resources for all the support they provide. Also, the Corps' division and district staffs and the staffs at Corps Headquarters and the Institute for Water Resources have provided thorough and timely information for the Board's use and have always tried to best answer the Board's tough questions.

APPENDIX A

INLAND WATERWAYS USERS BOARD MEMBERS
(As of April 1, 2002)

APPENDIX A

INLAND WATERWAYS USERS BOARD MEMBERS
(As of April 1, 2002)

Board Chairman

Mr. Daniel P. Mecklenborg
Vice President and General Counsel
Ingram Barge Company
Nashville, Tennessee

Board Vice Chairman

Mr. Lester E. Sutton
Manager, Government Affairs
Kirby Corporation
Houston, Texas

Board Members

Mr. Gerald W. Brown
President
Cargill Marine and Terminal, Inc.
Minneapolis, Minnesota

Mr. Larry R. Daily
President
Alter Barge Line, Inc.
Bettendorf, Iowa

Mr. Mark K. Knoy
President
MEMCO Barge Line, Inc.
Chesterfield, Missouri

Mr. Timothy M. Parker, Jr.

President
Parker Towing Company, Inc.
Tuscaloosa, Alabama

Mr. Michael R. Rayphole
Vice President, Transportation and Customer Services
Peabody COALSALES Company
St. Louis, Missouri

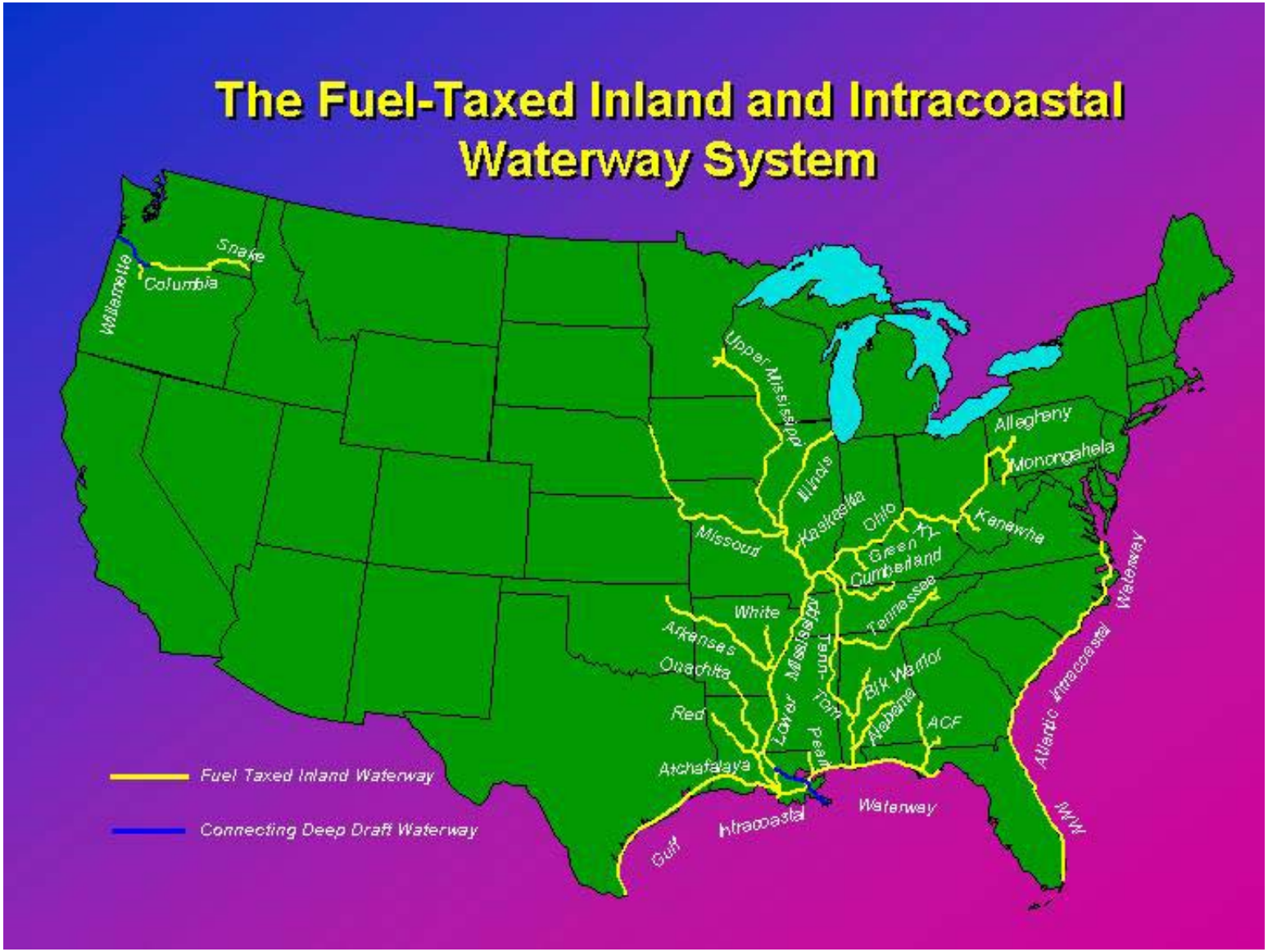
Mr. George H. Shaver
President
Shaver Transportation Company
Portland, Oregon

Mr. Looman F. Stingo
Senior Vice President of Logistics
Holcim (US), Inc.
Ann Arbor, Michigan

Mr. Ronald G. Stovash
Vice President, Transportation and Marketing Services
CONSOL Energy, Inc. (CONSOL)
Pittsburgh, Pennsylvania

APPENDIX B

MAP AND LIST OF THE FUEL TAXED INLAND AND INTRACOASTAL WATERWAY SYSTEM


The Fuel-Taxed Inland and Intracoastal Waterway System
Willamette
Snake
Columbia
Upper Mississippi
Illinois
Allegheny
Monongahela
Kaskaskia
Ohio
Kanawha
Missouri
Green
Ky.
Cumberland
Tennessee
White
Arkansas
Ouachita
Red
Black Warrior
Tenn-Tom
Lower Mississippi
Alabama
ACF
Pearl
Atchafalaya
Atlantic Intracoastal Waterway
Gulf Intracoastal Waterway
Fuel Taxed Inland Waterway
Connecting Deep Draft Waterway

Statutory Definitions of
Inland and Intracoastal Fuel Taxed Waterways
of the United States

SOURCES: Public Law 95-502, October 21, 1978.
Public Law 99-662, November 17, 1986.

1. Alabama-Coosa Rivers: From junction with the Tombigbee River at river mile (hereinafter referred to as RM) 0 to junction with Coosa River at RM 314.

2. Allegheny River: From confluence with the Monongahela River to form the Ohio River at RM 0 to the head of the existing project at East Brady, Pennsylvania, RM 72.

3. Apalachicola-Chattahoochee and Flint Rivers (ACF): Apalachicola River from mouth at Apalachicola Bay (intersection with the Gulf Intracoastal Waterway) RM 0 to junction with Chattahoochee and Flint Rivers at RM 107.8. Chattahoochee River from junction with Apalachicola and Flint Rivers at RM 0 to Columbus, Georgia at RM 155 and Flint River, from junction with Apalachicola and Chattahoochee Rivers at RM 0 to Bainbridge, Georgia, at RM 28.

4. Arkansas River (McClellan-Kerr Arkansas River Navigation System): From junction with Mississippi River at RM 0 to Port of Catoosa, Oklahoma, at RM 448.2.

5. Atchafalaya River: From RM 0 at its intersection with the Gulf Intracoastal Waterway at Morgan City, Louisiana, upstream to junction with Red River at RM 116.8.

6. Atlantic Intracoastal Waterway: Two inland waterway routes approximately paralleling the Atlantic coast between Norfolk, Virginia, and Miami, Florida, for 1,192 miles via both the Albermarle and Chesapeake Canal and Great Dismal Swamp Canal routes.

7. Black Warrior-Tombigbee-Mobile Rivers: Black Warrior River System from RM 2.9, Mobile River (at Chickasaw Creek) to confluence with Tombigbee River at RM 45. Tombigbee River (to Demopolis at RM 215.4) to port of Birmingham, RM's 374-411 and upstream to head of navigation on Mulberry Fork (RM 429.6), Locust Fork (RM 407.8), and Sipsey Fork (RM 430.4).

8. Columbia River (Columbia-Snake Rivers Inland Waterways): From the Dalles at RM 191.5 to Pasco, Washington (McNary Pool), at RM 330, Snake River from RM 0 at the mouth to RM 231.5 at Johnson Bar Landing, Idaho.

9. Cumberland River: Junction with Ohio River at RM 0 to head of navigation, upstream to Carthage, Tennessee, at RM 313.5.

10. Green and Barren Rivers: Green River from junction with the Ohio River at RM 0 to head of navigation at RM 149.1.

11. Gulf Intracoastal Waterway: From St. Mark's River, Florida, to Brownsville, Texas, 1,134.5 miles.

12. Illinois Waterway (Calumet-Sag Channel): From the junction of the Illinois River with the Mississippi River RM 0 to Chicago Harbor at Lake Michigan, approximately RM 350.

13. Kanawha River: From junction with Ohio River at RM 0 to RM 90.6 at Deepwater, West Virginia.

14. Kaskaskia River: From junction with Mississippi River at RM 0 to RM 36.2 at Fayetteville, Illinois.

15. Kentucky River: From junction with Ohio River at RM 0 to confluence of Middle and North Forks at RM 258.6.

16. Lower Mississippi River: From Baton Rouge, Louisiana, RM 233.9 to Cairo, Illinois, RM 953.8.

17. Upper Mississippi River: From Cairo, Illinois, RM 953.8 to Minneapolis, Minnesota, RM 1,811.4.

18. Missouri River: From junction with Mississippi River at RM 0 to Sioux City, Iowa, at RM 734.8.

19. Monongahela River: From junction with Allegheny River to form the Ohio River at RM 0 to junction of the Tygart and West Fork Rivers, Fairmont, West Virginia, at RM 128.7.

20. Ohio River: From junction with the Mississippi River at RM 0 to junction of the Allegheny and Monongahela Rivers at Pittsburgh, Pennsylvania, at RM 981.

21. Ouachita-Black Rivers: From the mouth of the Black River at its junction with the Red River at RM 0 to RM 351 at Camden, Arkansas.

22. Pearl River: From junction of West Pearl River with the Rigolets at RM 0 to Bogalusa, Louisiana, RM 58.

23. Red River: From RM 0 to the mouth of Cypress Bayou at RM 236.

24. Tennessee River: From junction with Ohio River at RM 0 to confluence with Holstein and French Rivers at RM 652.

25. White River: From RM 9.8 to RM 255 at Newport, Arkansas.

26. Willamette River: From RM 21 upstream of Portland, Oregon, to Harrisburg, Oregon, at RM 194.

27. Tennessee-Tombigbee Waterway: From its confluence with the Tennessee River to the Warrior River at Demopolis, Tennessee.