



**US Army Corps  
of Engineers**  
Rock Island District

United States Department of Defense

US Army Corps of Engineers - Rock Island District

## **UMR-IWW Navigation Study 1994 Public Meetings**

### **Interim Product Report, November 1995**

### **"Response to Issues Raised at the Public and NEPA Scoping Meetings of November 1994"**

### **Issue Statements (Part 1 of 6)**

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## **ISSUE STATEMENTS**

The Corps of Engineers received comments from the public, governmental agencies, and various interest groups at the public meetings held in eight locations throughout the study area in November of 1994 and through letters, comments, and agency memoranda received pursuant to these meetings. These scoping questions and comments were used to develop the following "issue statements." These statements address the concerns and issues raised and consolidate similar comments. Immediately following each issue statement, the response to the issue statement and comments is provided. Following the response, the scoping comments and questions from which the issue statement was developed are listed. The number following the comments and questions represents the frequency of its occurrence. Every effort was made to capture the intent of the questions and issues presented in categorizing and consolidating the issues.

## **STUDY MANAGEMENT/PROJECT MANAGEMENT**

**1. Congress has authorized the Corps of Engineers to conduct various kinds of studies (e.g., navigation and flood control). What is the specific authority for this study and how does it impact the scope?**

**Response:** The Corps of Engineers completed an initial appraisal in 1988 under the authority of Section 216 of the Flood Control Act of 1970 (Public Law 91-611). This section gives the Corps of Engineers authority to review completed projects. In the case of the Navigation Study, Section 216 authority allows the Corps to review the original 9-Foot Channel Navigation Project. Section 216 states:

The Secretary of the Army, acting through the Chief of Engineers, is authorized to review the operation of projects, the construction of which has been completed and which were constructed by the Corps of Engineers in the interest of navigation, flood control, water supply, and related purposes, when found advisable due to significantly changed physical or economic conditions, and to report thereon to Congress with recommendations on the advisability of modifying structures or their operation, and for improving the quality of the environment in the overall public interest.

The results of the 1988 initial appraisal showed that significant economic benefits could be obtained and that further study was warranted. Based on the findings of this assessment, the Corps requested funds from Congress to conduct separate reconnaissance studies on both the Upper Mississippi River and Illinois Waterway. Congress began appropriating funds for the reconnaissance studies in fiscal year 1990 and provided yearly appropriations to complete the studies. As a result of the findings of those separate reconnaissance studies, a more thorough feasibility study was initiated in April 1993 which combined the two study areas into a single study. However, a separate congressional authorization and specifically earmarked appropriations are required before construction of navigation improvements, if any are recommended, can be made to the navigation system.

This system feasibility study is limited to assessing the need for navigation improvements on a waterway system that includes 37 locks (29 locks on the Upper Mississippi River and 8 locks on the Illinois Waterway) and the incremental impacts of additional traffic. In the past, the Corps of Engineers essentially performed only site-specific studies for navigation improvements. The Corps of Engineers now implements systems studies where appropriate. This system study involves looking at the specific sites where improvements may be made, as well as at what could happen or be impacted on the entire system. This results in a more complex and comprehensive analysis. The Corps of Engineers is working to address both navigation and related environmental issues associated with potential navigation improvements under the study authority. Some areas that are being examined include evaluating the impacts and relationships between navigation and other transportation modes, recreational craft, fish, plants, mussels, bank erosion, and sediment resuspension and distribution. (See Issue 14.)

**Comments:**

- How was project initiated? Authorized by Congress or initiated by Corps? (2)
- What congressional act authorizes this project? (1)
- Is an authorization required before construction? (1)
- Scope of study needs to be expanded to be more inclusive so conclusive results can be drawn. (1)
- Study is accurately and properly focused. (1)
- Are the impacts of expansion at several sites being evaluated together rather than in a piecemeal fashion? (1)

**2. The Corps of Engineers conducts various types of studies. The differences in conducting a "reconnaissance study" and "feasibility study" should be clearly explained.**

**Response:** A reconnaissance study is the first major step in the planning process. Typically, the reconnaissance study lasts approximately 1 year with the purpose of defining problems and opportunities based on the study's authority, identifying potential solutions, determining if there is a Federal interest (at least one feasible alternative that contributes to the national economic development consistent with protecting the environment, based on a preliminary appraisal of costs, benefits, and environmental impacts), and assessing the level of interest and support for potential solutions. In addition, a timeframe and cost estimate for the feasibility study is also estimated as part of this effort.

If the reconnaissance study indicates that a Federal interest exists for further study, the next step is to prepare a more thorough feasibility report. The purpose of the feasibility study is to investigate alternatives; provide a complete presentation of study results and findings; recommend solutions; demonstrate compliance with applicable statutes, executive orders, and policies; and provide a sound and documented basis for decision makers to judge any recommended solutions. Feasibility studies are more detailed and typically last 3 years or more based on the complexity. There is also considerably more focus on determining the engineering feasibility, environmental soundness, economic viability, and public acceptability of the project.

As part of the feasibility study, the National Economic Development (NED) Plan and Recommended Plan are identified. The NED Plan is the plan which provides the greatest net economic benefits consistent with protecting the nation's environment and Federal planning regulations. The Recommended Plan may vary from the NED Plan if an exception is granted by the Assistant Secretary of the Army (Civil Works) in cases where there are overriding Federal, State, local or international concerns. (See Issue 56 on NED.)

The UMR-IWW System Navigation Study reconnaissance reports were completed separately for the Illinois Waterway and Upper Mississippi River in 1990 and 1991, respectively. The 6-year, 9-month feasibility phase began in April of 1993 and is scheduled to be completed in December of 1999. At that point, the North Central Division Commander will issue a public notice of study completion and the Feasibility Report will be forwarded along with the EIS to Washington, D.C., for processing through Corps of Engineers Headquarters and the Assistant Secretary of the Army for Civil Works (ASA(CW)) through OMB to Congress.

**Comment:**

- Is there a difference between the Corps "reconnaissance study" and "feasibility study"? (1)

**3. This study is part of larger questions involving the role of government in transportation and agriculture. How can issues of government priorities and policies be addressed?**

**Response:** This study is looking at the relationships between navigation and other transportation modes and the environment. However, the analysis will only be conducted to the extent of determining the impacts related to any incremental improvements in the navigation system. The study authority, Section 216 of the Flood Control Act of 1970, allows the Corps of Engineers to evaluate issues related to the navigation system. However, the study scope, in consideration of Federal laws and Corps of Engineers missions, guidance, and resource constraints, is to evaluate the need for navigation improvements at locks to reduce delays in commercial traffic and to assess the environmental impacts related to any improvements. Issues such as the larger role of government and government priorities are well beyond the scope of this feasibility study. However, the potential solutions are being addressed from a national benefits perspective as defined by established laws, regulations, and policies for possible recommendation to Congress, which must ultimately decide the nation's spending priorities. Congress, through allocating funds for major rehabilitations, continued operation and maintenance, navigation studies, and cost sharing for navigation improvements, has demonstrated continuing support for Federal involvement in the inland waterway navigation system. (See Issue 1 on study authority and Issue 46 on modal analysis.)

**Comments:**

- Should look at bigger questions of Government priorities, e.g., spending and subsidies, before doing Navigation Study. (1)

- Corps should be evaluating "do we as a nation want to expand navigation" before they do specific study on Mississippi and Illinois. (1)
- Is someone studying bulk commodity transit needs outside the context of this navigation study? (2)
- Is there any "think tank" type work being done to develop new transportation technology? (1)

**4. The Navigation Study was initiated to assess the need for navigation improvements to address delays to commercial navigation traffic. What trends or practices are driving the need for these changes?**

**Response:** Delays are fairly common at the locks on the lower part of the system in view of the high volume of commodity tonnage shipped relative to the carrying capacity of the locks in the system. If traffic continues to increase in the future, the being experienced will increase. Currently, there are regular delays of varying lengths at 16 locks in the study area, 11 through 25 on the Upper Mississippi River and La Grange and Peoria on the Illinois Waterway. The tows often are waiting at approaches a mile or more from the locks to avoid blocking the approach to the lock. Eleven of these locks were identified by the Corps of Engineers 1988 *Inland Waterways Review* as being among the 20 locks in the country with the highest average delays. While all 37 locks in the system are being evaluated for small-scale measures, only these 16 locks (Locks 11 through 25 on the Upper Mississippi River and La Grange and Peoria on the Illinois Waterway) are being considered for large-scale measures (e.g., new or expanded 600-foot or 1,200-foot lock chambers).

The driving force behind looking at these locks, including ones with somewhat lower levels of existing delays, is that the study is designed to look at system needs over 50 years. Traffic forecast data were generated by several governmental agencies and independent firms using historical data and projections of regional, national, and international economic activity. The Corps of Engineers Institute of Water Resources used these data to generate three sets of traffic projections based on low, medium, and high growth rates in traffic through 2010. The medium growth rates when applied to basic traffic yielded a 2 percent growth rate which was used as part of the reconnaissance studies to project future traffic. These numbers will be refined by independent sources under contract to provide future traffic projections as part of the economic portion of this feasibility study. In projecting traffic, the Corps of Engineers is aware that uncertainty increases as the forecast period is extended. This variability will be accounted for by using ranges of uncertainty as part of our traffic projection analysis.

The original locks were designed for tows no longer than 600 feet, but changing economic situations over time have caused the towing industry to utilize tows up to 1,200 feet to reduce operating costs. This change has contributed to increases in delays due to the relatively time-consuming double lockage process which takes from an hour and a half to two hours. In contrast, a single lockage takes less than one hour. The Corps of Engineers is not authorized to regulate tow size. While tow size has been left to industry and economics, even if 1,200-foot locks are constructed, channel constraints and associated maneuverability on the Upper Mississippi and traffic density related to the amount of goods shipped likely would limit the tow size to a 1,200-foot tow configuration.

**Comments:**

- Why do we need increased lockage capacity for navigation? (2)
- Why is barge traffic increasing? (1)
- If there are only delays at 2 locks, why are several being examined for expansion? (1)
- Why can't system handle more traffic? (1)
- How do you determine what demand will be for system in 50 years? (1)
- Why are barges running the bigger configurations? (1)
- Are the 600-foot locks the problem? Will 1,200-foot lock really alleviate delays? (1)
- The potential for even bigger tows of 15+ barges should be investigated as an outcome of expanding locks. (5)
- Current inefficiencies of the waterway system impact farmers, consumers, and the general public. (1)
- Study completion is critical to assessing future needs and continuing navigation into the 21st century. (3)
- When will all these expansion projects stop? (2)

**5. In looking at implementing measures at locks, the Corps should consider long- term impacts related to the decision. In particular, attention should be given to exploring the possibility that delays will simply shift to other limiting structures: upstream locks, bridges, and other structures.**

**Response:** Currently, the existing locks present the greatest system delays for commercial navigation traffic. Therefore, this study is focusing on alternative measures to reduce congestion at the locks. All 37 locks on the Upper Mississippi River and Illinois Waterway are being considered for small-scale measures. As a result of our reconnaissance studies, 16 sites (Locks 11 through 25 on the Upper Mississippi River and La Grange and Peoria on the Illinois Waterway) were identified for consideration of large- scale measures (such as 600- and 1,200-foot lock construction). This feasibility study process will make a recommendation on what, if any, measures should be implemented and at what locations they should be placed. Other river restrictions, such as bridges, river bends, and channel constraints, are not being studied since they are not causing comparable systemic delays. However, the reliability of the 9-foot channel and the costs associated with keeping it in operation are being examined as part of the engineering study effort. (See Issues 27 and 70.)

The Corps of Engineers has shifted its focus in navigation planning from site-specific to a system orientation to address the questions related to the impacts of a project on the entire river system. As part of identifying the system-wide impacts, we are evaluating the consequences of how relieving congestion, bottlenecks, at one or more sites might shift congestion to other sites. While some shifting of congestion could occur if improvements are made, our iterative alternative evaluation process will seek to minimize delays on the overall system. As part of this process, the criteria of completeness, effectiveness, efficiency, and acceptability (which includes the impacts associated with the various alternatives) are used to determine which alternative results in an acceptable and balanced plan for the Upper Mississippi River and Illinois Waterway. While an acceptable level of delay has not been predetermined, the study analysis will evaluate which, if any, improvements to the navigation system are feasible based on delays and expected traffic growth. For an option to be considered for implementation, it must provide system benefits greater than the costs. An "acceptable delay" would be defined as congestion that results in delay costs lower than the implementation costs of measures to address the delay, taking into consideration engineering and environmental constraints and public acceptability concerns.

**Comments:**

- How many lock locations are being considered for expansion? (4)
- If delays are relieved where they currently occur, what is to prevent the bottleneck from simply moving to the next upstream lock? (2)
- If improvements are made, what is to keep congestion from continuing to occur only at a higher level? (1)
- Study seems to only be addressing congestion at lock and dam structures. What about other limiting factors, bridge passages and river bends that may cause bottlenecks once ones at locks and dams are relieved? (1)
- How many drawbridges are there on the UMR and IWW? (2)
- The impacts of extending 1,200-foot locks all the way to Minnesota should be evaluated as an alternative. (2)
- Has an acceptable level of delay been identified? (1)

**6. The cost of the study, the breakdown of where that money is being spent, and who is paying for it need to be clearly defined.**

**Response:** The navigation feasibility study and the two reconnaissance studies are 100 percent federally funded through appropriations made by Congress. The Corps of Engineers cost-sharing requirements were established as part of the Water Resources Development Act (WRDA) of 1986 (Public Law 99-662). Section 105 of the Act establishes that feasibility studies are cost-shared at 50 percent with a non-Federal sponsor, except for projects with the purpose of navigational improvements on inland waterways.

The current total study cost is \$50.36 million. Of this, \$4.38 million was expended for conducting the reconnaissance studies and \$45.98 million is the current estimate for the feasibility study. The feasibility study costs have changed from \$39.02 million reported at the November 1994 public meetings following the approval of study cost increases in April and May 1995. These changes added \$320,000 to conduct a Regional Economic Development analysis, \$525,000 for innovative lock design efforts, \$5,224,000 for environmental efforts, and additional funds to adjust for inflation.

In September 1995, additional adjustments in study funding took place as \$1.5 million was reprioritized from other efforts within the study to increase funding to address cumulative impacts and the future without-project condition. The funding for this effort will be provided from existing study funds by reducing the environmental study of impacts of recreation craft on the environment by \$200,000, the environmental math modeling by \$300,000, the engineering large-scale measure analysis by \$100,000, and the first detailed site-specific effort by \$800,000, and by eliminating the Technical Coordinating Committee for \$100,000.

The cost of the study was determined based on the work activities required to fully evaluate the need for system improvements in consideration of delays to commercial navigation. This study requires determining the completeness, effectiveness, efficiency, and acceptability of various alternatives as they relate to environmental, economic, engineering, and public involvement considerations. The tasks required to meet these objectives were thoroughly identified in determining the project costs. The study costs include work efforts being performed by Corps of Engineers personnel, contractors, and other Federal agencies involved with the study. The following is a breakdown of the current study costs by work group.

<b>Work Group</b>	<b>(\$ Million)</b>	<b>(Percent)</b>
Economics	4.03	8.8
Engineering	13.95	30.3
Environmental	20.30	44.1
Historic Properties	1.29	2.8
Public Involvement	2.09	4.6
Study and Project Management	4.32	9.4
<b>Total</b>	<b>\$45.98</b>	<b>100.0</b>

The funding for the environmental portion is \$20.30 million. These funds are allocated to determine the impacts of increased navigation traffic on the environment and to prepare the Environmental Impact Statement (EIS). If significant impacts are determined, the Corps of Engineers will begin mitigation planning. The cost and extent of required mitigation cannot be determined until after the impacts of increased navigation have been identified.

**Comments:**

- What is the cost of the study? (2)
- Study's \$44 million cost is too high. (3)
- What is the study cost breakdown for navigation vs. environment? (2)
- Why is so little money being spent on the effects of navigation on fish and wildlife? (1)
- How much money is being spent on an EIS? (1)
- Who pays for this study? (5)
- Why spend so much money on a study when it should never be built? (2)
- The study is a waste of money; budget should be used to repair existing problems with the locks and dams. (1)

**7. Based on the Corps of Engineers role as a Federal water projects construction agency, there appears to be a potential bias towards construction and conflict of interest in conducting the study. How is the Corps addressing these issues?**

**Response:** A common concern is that the Corps of Engineers has already decided what the study recommendation will be and that the study is solely focusing on

large-scale construction measures, such as 600- and 1,200-foot locks. No decision has been reached on what will be implemented. Once a recommended plan is decided upon, it must be authorized by Congress to be implemented if it involves a capital investment. However, the results of reconnaissance studies, which have been completed, have shown the potential need for navigation improvements. This feasibility study is further evaluating the need for improvements and considering a wide range of small- and large-scale measures to address any identified needs. Following an initial screening of 92 small-scale measures (low-cost structural measures and non-structural measures to reduce delays), 16 are being carried forward for detailed consideration in the plan formulation process. (See Issue 67.)

The future without-project condition, or no Federal action alternative, looks at continuing to operate the system as it has been and not implementing small- or large-scale measures. This no Federal action alternative will be the result of the study unless another alternative plan can clearly show that it makes a significant contribution to the nation consistent with criteria of completeness, acceptability, efficiency, and effectiveness. However, the study scope, in consideration of Federal laws and Corps of Engineers missions, guidance, and resource constraints, is to evaluate the need for navigation improvements at locks to reduce delays in commercial traffic and to assess the environmental impacts related to any improvements. Based on this focus, the Corps of Engineers is concentrating its efforts on looking at a wide range of small- and large-scale measures and screening them to identify the best options for further consideration. Once the most viable measures in terms of anticipated time savings have been quantified, an iterative process will be used to select combinations of measures for application to the system and evaluation.

As part of the study process, the Corps of Engineers is working to provide an objective and accurate assessment of the system and its future needs. The study is working to provide a wide variety of opportunities for the public to learn about and comment on the study. In addition, a Navigation Environmental Coordination Committee, an Economics Coordination Committee, a Public Involvement Coordination Committee, an Engineering Coordinating Committee and a Governors' Liaison Committee have been established to more formally include the study area states, agencies, and others in the study process. These interagency committees include participation by the Missouri Department of Conservation; the Illinois, Iowa, Minnesota, Missouri, and Wisconsin Departments of Natural Resources; the Illinois, Iowa, Minnesota, Missouri, and Wisconsin Departments of Transportation; Iowa State University; MARC (Midwest Area River Coalition) 2000; the U.S. Department of Agriculture; the U.S. Fish and Wildlife Service; the U.S. Environmental Protection Agency; and the U.S. Army Corps of Engineers. These meetings are open to the public and are attended by other interested individuals and organizations. The sensitive aspects of the economics analysis and forecasts have been contracted to agencies and organizations outside the Corps of Engineers and the Corps is working to be responsive to comments and concerns. (See Issues 16, 43, and 55.)

#### Comments:

- Corps primary concern seems to be increasing barge traffic. (3)
- Feel the Corps has already decided what it is going to do. (8)
- Concerned that new locks are basically a done deal. (2)
- Corps has a vested interest in construction projects. (2)
- Why does the Corps of Engineers promote the interest of barge operators to the exclusion of competing interests such as recreation and environment? (2)
- Large grain companies, etc., seem to be calling the shots; study needs to balance commercial navigation with other uses. (1)
- How is Corps addressing concerns by commercial and environmental interests that Corps listens too closely to the other interest? (1)
- What is the Corps long-term plan for the river? (1)
- Why is Corps doing the study the way it is? (1)
- Study is very thorough. (1)
- Corps of Engineers is doing a good job. (2)
- Corps appears to be covering all the bases, including environmental and general population impact. (1)
- We have been told Corps is becoming a more environmentally conscious agency; the Mississippi River provides an excellent opportunity for the Corps to demonstrate this. (1)

#### **8. Substantial amounts of data have been collected and analyzed as part of previous studies; how this information is being incorporated needs to be explained.**

**Response:** The Corps of Engineers is aware of and has been examining a number of reports and documents relevant to the UMR-IWW System Navigation Study. Data and information from previous environmental and navigation studies are being examined for consideration in the current Navigation Study. Literature searches are and have been conducted by Corps of Engineers and contractors involved in the study. For example, data collected for the Comprehensive Master Plan for the Management of the Upper Mississippi River System and Great River Environmental Action Team (GREAT Studies) during the 1970s and 1980s are sources of information which are being examined. A number of the work group study efforts are also conducting literature searches more specifically aimed at their respective topics. As part of maximizing the use of Navigation Study resources, existing relevant work is being reviewed and included wherever it is practical to do so.

#### Comments:

- Should look at work produced by other studies - GREAT, UMR Basin Commission Plan, Master Plan. (3)
- Is *A River of Grain* by Richard Hoops from University of Wisconsin being studied? (1)
- Is the Corps aware of and examining the University of Iowa study? (9)
- Price Waterhouse study concludes UMR and IWW support 400,000 full and part time jobs, generate \$4 billion in income and \$11 billion in business revenue. (5)
- Office of Management and Budget report states waterways are the most heavily subsidized mode of transportation. (2)
- Has Corps examined Minnesota DOT study of Modal Shifts from January 1991? (1)
- Do any studies support what the Corps is doing? (1)

- Is older information available? If so, why spend \$39 million when usable information exists? (2)

#### 9. The study's relationship to flood control efforts, the Flood of 1993, and the "Galloway Report" should be explained.

**Response:** The purpose of the UMR-IWW System Navigation Study is to assess the need for navigation capacity expansion at 37 locks on the UMR-IWW and the incremental impacts of additional traffic. As such, this study is not looking at flood control and related floodplain management issues.

The locks and dams systems as designed and operated are not flood control structures. They provide the water levels necessary to maintain the 9-foot navigation pool during periods of low flow. As the flow rate increases and the river levels rise, the dam gates are raised to allow the increased water volume to pass downstream. The dam gates can be completely raised out of the water during floods, allowing the river to flow freely. During extreme events like the Flood of 1993, many lock and dam sites can be completely flooded. Past studies, including the Galloway Report, have shown that the locks and dams have an insignificant impact on flood levels from events such as those experienced during the Flood of 1993. (See Issue 28 for information on water regulation.)

The Corps of Engineers is taking a prominent role in examining the causes and effects of the Flood of 1993 under other authority and separate study efforts. The White House assembled the Floodplain Management Review Committee, which was composed of 31 professionals assigned to Federal agencies dealing with water resources. Directed by Gerald E. Galloway, Brigadier General, U.S. Army, their report, *Sharing the Challenge: Floodplain Management into the 21st Century*, has since become known simply as the "Galloway Report." This report made 36 recommendations and presented more than 60 actions to be taken to help alleviate future damage like that caused by the Flood of 1993. In addition, a Floodplain Management Assessment was completed by the Corps of Engineers in June of 1995. This report was initiated at the direction of Congress and provides additional information on the system-wide flood control and floodplain management needs of the Upper Mississippi and Lower Missouri Rivers and tributaries.

#### Comments:

- How is the study being coordinated with the Galloway Report? (5)
- Why is the study not addressing flood control issues? (3)
- Should also look into the flood problems we will have with the silt problems in the backwaters. (1)
- Has the Flood of 1993 changed the Corps of Engineers focus or broadened it? (5)
- Will changes in floodplain development be examined? (1)

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