

July 31, 2004

Mr. Denny Lundberg
U.S. Army Corps of Engineers, Rock Island
ATTN: CEMVR-PM (Lundberg)
Clock Tower Building
P.O. Box 2004
Rock Island, IL 61204-2004

Dear Mr. Lundberg:

INTRODUCTION

On April 29, 2004 the U.S. Army Corps of Engineers released “The Draft Integrated Feasibility Report and Programmatic Environmental Impact Statement for the Upper Mississippi River and Illinois Waterway System Navigation Feasibility Study.” Public Employees for Environmental Responsibility (PEER) hereby submits the following comments to the Draft Report.

SUMMARY OF COMMENTS

This Draft Report:

- Violates the National Environmental Policy Act (NEPA), the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies (P&G), and the Corps’ own Engineering Regulations (ER-1105-2-100);
- Mischaracterizes, ignores, and contradicts the explicit recommendations of the National Research Council (NRC) of the National Academy of Sciences; and
- Constitutes a significant step backwards in Corps planning to the detriment of the true system stakeholders, the taxpayers.

COMMENTS

1. It is impossible for the public or anyone to provide any real meaningful input regarding the performance, completeness, or robustness of the various navigation efficiency and ecosystem restoration alternatives presented in this report given the incomplete, inconsistent, computationally inaccurate, and un-reviewed

information presented as the estimated effects of the various alternatives in this draft report.

2. You are excluding obviously better alternatives from your limited list of candidate navigation alternatives such as immediately implementing a demand management measure to make the existing system more efficient and then observing over time the realized traffic patterns and demands to assess if large-scale, lock expansions or new locks might really be needed at some later date.
3. Environmental restoration plans designed to address the cumulative negative ecosystem impacts of over 50 years of commercial navigation on the UMR-IW are independent of and should not be held hostage to implementation of any of the navigation efficiency alternatives. The navigation alternatives are designed to address uncertain future system needs, while the restoration alternatives are designed to address known historic damages to the river's ecosystem.
4. Your preferred alternative plan is internally inconsistent. You recommend immediate implementation of Alternative 4, immediate authority to implement Alternative 6 in some yet to be determined manner, and you recommend that you continue to study another as yet unevaluated alternative (the local scheduling of commercial traffic at system locks) that will impact on the possible NED benefits achieved by implementing Alternatives 4 and 6. This preferred sequence of implementation is internally inconsistent and will yield fewer benefits than an implementation sequence of lock scheduling, followed by Alternative 4, as and if needed, followed by Alternative 6, as and if needed.
5. By your own NED analysis, Alternative 2 - Congestion Fees is by far the most robust NED alternative of the very limited group of navigation alternatives you have evaluated. It is also the least cost alternative of the limited group of alternatives you have evaluated and you have stated that you are seeking to find alternatives that are robust, yet you do not recommend the least cost Alternative 2. You offer the following reason for not recommending Alternative 2: "This alternative is safety and reliability neutral. It does provide more efficiency to the system, which is reflected in the NED computations. Alternative 2 improves efficiency by imposing a fee that drives marginal users off the system. However, it fails to meet the primary planning objective of ensuring an economically sustainable navigation system, since it constrains the future growth on the system." This reasoning is preposterous. This alternative is the most robust of all the limited number of alternatives that you have evaluated and without question contributes to the economic sustainability of the navigation system by discouraging inefficient overuse of the system. Further, in no way does this alternative constrain future growth of traffic on the system. What this alternative does constrain is inefficient traffic growth on the system by giving inefficient movements an economic incentive to switch modes or destinations where they do not then impose inefficient external costs on efficient system users. To some extent, all the navigation alternatives evaluated in your report constrain the future growth on the system. In fact by removing inefficient traffic from the existing

system, Alternative 2 provides more room for future growth and provides the added economic benefit of insuring that only economically efficient traffic will transit the system in the future. Alternative 2 must not be excluded from consideration as a recommended plan.

6. You considered and rejected a year-round fee (Alternative 2) designed to reduce total congestion rather than a real time congestion fee that would be implemented only during periods when system use is high and lock delays are their greatest. The fee you considered would have imposed charges on river users regardless of their location on the system and would have produced significant economic benefits, according to your estimates. You arbitrarily rejected this Alternative. A better alternative might be to assess a congestion toll only during periods when delays are significant, and assess tolls only at those locks with significant delays.
7. Your National Economic Development (NED) evaluation of Alternative 3 - Excess Lockage Time Fees is internally inconsistent and self-evidently incorrect. In your offered NED evaluation of this alternative, you have assumed that industry will respond to the imposition of an excess lockage time fee by installing powered winches on every hopper barge in America. Then you demonstrate that they in fact will not respond to excess lockage time fees in this manner if the benefits of doing so are limited only to small improvements in the double lockage times of the worst 25 percent performing tow boats and only at congested UMR-IW locks. Consequently, even if your economic evaluation of winches was correct (and it is not as it clearly undercounts the benefits at locations other than UMR locks of installing these winches) then you have only demonstrated that the industry will not respond to excess lockage time fees in this manner. Therefore, it is not possible to evaluate the robustness of the economic benefits of this alternative because you have not evaluated how the industry will really respond to the imposition of an excess lockage time fee. Consequently, you have grossly misestimated the national economic benefits of Alternative 3. Further, other incentive systems could be created to reward operators who use locks more efficiently. In your analysis of excess lockage time charges, you assumed that excess time charges would only encourage the slowest 25 percent of tow operators to “process” their barges as fast as the second slowest 25 percent of tow operators. In fact, charges could be set at levels that would ensure that all tow operators had the financial incentive to “process” their barges as quickly at the fastest 25 percent of tow operators, thereby dramatically increasing the benefits of this measure. You should correct your analysis of this measure to reflect more realistic response to excess lockage time fees.
8. Why do you not quantitatively evaluate the uncertainty of the costs of implementing your various navigation alternatives and the potential risks to service for ongoing navigation of implementing the various alternatives? You go into great detail about the risks of net NED benefits occurring dependant on a small group of economic assumptions but you do not incorporate the relative cost and construction risks of the alternatives into your quantitative risk analysis.

These un-quantified risks can have at least as great an impact on your net NED benefit computations as the quantified benefit risks and therefore could greatly influence your plan formulation and ultimate recommendation.

9. As the NAS Committee noted in 2001, a scenario based analysis “can produce insights but it rarely produces useful estimates.” The Committee then identified the steps it believed were needed to complete useful traffic demand forecasts. Unfortunately, you have chosen to ignore these recommendations and undertaken none of these steps. The NAS Committee recommended that you conduct traffic forecasts by: (1) forecasting world grain import demands and potential US grain export supplies, explicitly including likely grain production and export trends in Argentina, Brazil and other important grain-producing countries; (2) forecasting the amount of grain producers would want to send to each potential market at various market prices, including domestic grain processing markets; (3) aggregating the net revenue maximizing decisions of individual grain producers to calculate the market equilibrium for both the uses of grain and the shipping modes to those possible markets; and, (4) forecasting the performance of each shipping mode and alternative route in response to possible demands placed upon the modes and routes. The NAS Committee further recommended explicitly identifying the risk and uncertainties inherent in completing long-range traffic forecasts. You completed none of these tasks and instead created five future traffic scenarios based on the recommendation of a single barge industry consultant. It is the height of folly to base a \$2.4 billion dollar infrastructure recommendation on the traffic guesstimates of a single forecaster.
10. Four out of five future traffic scenarios in your report forecast a substantial and regular growth in traffic based upon the work of the Sparks Companies. The Sparks Companies mission statement is “To be a vital force in the success of food and agricultural industries around the world.” Given this mission statement and the role that water transportation plays in exporting agricultural products, their forecasts, which are your only forecasts of possible agricultural product flows, are not likely to be unbiased and objective. These ever increasing forecasts of agricultural product exports are completely inconsistent with the past 20 years of relatively steady export levels. Your report should seek to utilize truly unbiased forecasts from other independent forecasters not connected to the barge industry. These truly independent forecasts of U.S. grain exports should present explanations for likely export trends after 2003 that are consistent with history and with other expert opinions on likely future conditions in global grain and transportation markets.
11. The traffic growth forecasts represented by your five arbitrary scenarios are themselves internally inconsistent in that the agricultural demands for water transportation are estimated independently of the demands for water transportation of non-agricultural commodities. When you form your unconstrained traffic forecasts by simply combining these two demands you ignore the interdependency of the demands of the various commodity groups

created by the competition for the scarce privately provided resource of barge transportation. When the demand for water transportation of one commodity group increases over time, the demand of other commodity groups for barge transportation tends to be “crowded out” in part, all other things being equal. Hence, assuming as you do that the demands for water transportation of other commodity groups do not respond to the changes in the demand of agricultural products for water transportation tends to overestimate traffic levels for increasing traffic scenarios and underestimate traffic levels for decreasing traffic scenarios. Deriving total water demand traffic forecasts by simply summing these two demands will overstate the total demand for water transportation for all four scenarios that forecast growth. This overstatement of demand will bias your national economic benefit estimates upward and renders your economic analyses of these four scenarios meaningless.

12. You make many statements in this report such as, “The need for navigation efficiency improvements is very much dependent on the assumptions of demand elasticity” and “The need for future navigation efficiency improvements is very much dependent on the traffic forecasts.” These statements are blatantly incorrect. The need or lack of need for navigation improvements will be determined by the real water transportation markets that you are attempting to model, not by the assumptions you’ve chosen to incorporate into your economic models.
13. In this restructured study you have spent a large amount of taxpayers’ money adapting the Ohio River “Tow Cost” economic model for use on this river system despite its well known bias for overestimating the economic benefits of inland navigation projects. The “Tow Cost” model is particularly ill-suited for use on the UMR-IW system, will significantly overstate estimated benefits for all your future traffic scenarios, and should be completely removed from the report. The fundamental problem with the Tow Cost Model that renders it unsuitable for use in the UMR-IWW Navigation System Feasibility study is that the model does not incorporate the full range of alternatives available to shippers to respond to changes in the price of water transportation. The Tow Cost Model represents shippers’ decisions as all or nothing decisions between inland water transportation and some other mode of transportation from a fixed origin market to a fixed destination market for a fixed quantity. The Tow Cost Model does not and can not consider other important real world responses to increased water transportation prices such as altering the desired quantities of water shipments or altering the origin or destination markets for portions of water shipments. By limiting the shippers’ decisions to all or nothing transportation modal choice decisions, the Tow Cost Model unambiguously overestimates the willingness to pay for water transportation and, therefore, biases upward the estimated National Economic Development (NED) benefits of inland water transportation infrastructure improvements. This overestimate of the willingness to pay for inland water transportation can create an order of magnitude overstatement of estimated system NED benefits, especially in a system such as the UMR-IW,

- where shippers have a broad range of options available to them to respond to changes in water transportation prices. The original study team, the Office of Management and Budget, and two National Research Council panels have recommended that this model not be used in this study. You should comply with their recommendations and remove this model from the report.
14. Your report also employs the ESSENCE system economic model, but does not address the serious flaws identified by the NAS panel in 2001 in your version of that model that renders it unsuitable for use in this study. In particular, you have not updated your ESSENCE model to include current and accurate data regarding the quantity, origin, destination and price of grain shipments by barge, rail and other modes as recommended by the NAS panel. You also have not eliminated assumptions that shipment costs are proportional to distance and that agricultural yields are uniform in your study area as recommended, and you have not used current data to estimate demand and supply sensitivities. Instead, you have simply used your existing, flawed ESSENCE model as developed in the original feasibility study, and arbitrarily populated the model with two hypothetical guesses of the elasticity of demand for barge transportation. This model sheds no light on the real world transportation benefits of your navigation alternatives and should not be used in this report.
 15. In the previous incarnation of this study three senior Corps of Engineers Commanders were disciplined by the Department of the Army for attempting to falsify analyses and fostering an environment to encourage the falsification of analyses in an effort to prematurely attempt to justify these lock expansion projects. How can you assure us that this command interference has not occurred in the production of this report and will not occur again as you move to make your final recommendation in this restructured study?
 16. Alternative 2 - Congestion Fees, appears to be the best national economic plan with the most robust performance across all five scenarios. How much money will be generated by these fees and can these revenues be used to offset the \$160.5 million in annual taxpayer subsidy you forecast to operate and maintain the system in your Alternative 1 – No Action?
 17. In Alternative 1 – No Action, you forecast an annual expenditure of \$193 is required to operate, maintain, and rehabilitate the existing system. This is clearly a more resource intensive alternative than the arbitrary “No Action” label suggests. How do these forecast annual expenditures compare to existing expenditures to operate and maintain the system and will these expenditures permit the same level of navigation services that we currently enjoy on the UMR-IWW system?
 18. Table 12-1, entitled “Initial NED Comparison of Navigation Efficiency Alternatives 1 through 6” on page 424 contains computational and logical errors, is incorrect as presented, and must be revised. This table is one of the most

critical tables in your draft report as it serves as the basis for your “risk analysis” evaluation of the various navigation alternatives. Specifically in Table 12-1, Alternative 1 is misidentified as providing the least economic benefits per economic condition in seven of the fifteen cases you evaluate when the true number is zero of fifteen cases. Alternative 1, best described as the “operate and maintain the existing system plan to the existing level of navigation service”, is considerably more robust when evaluated against your economic cases than your Table 12-1 represents. This mistake should be corrected and your plan evaluation should reflect and consider the true robustness of Alternative 1.

19. Your draft report does not identify a most likely future without project condition as required by your own Engineering Regulation ER-1105-2-100, April 2000, and the Water Resource Council’s “Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies”, published March 10, 1983. Please identify a most likely future without condition as required.
20. Your draft report does not contain an explicit evaluation of your hybrid “preferred alternative” plan as required by your own Engineering Regulation ER-1105-2-100, the Water Resource Council’s “Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies”, published March 10, 1983, and NEPA regulations. Please provide a complete evaluation of all of the accounts for your preferred alternative.
21. You recommend a combination of Alternatives 4 and 6 for implementation, yet you do not analyze the impacts of Alternative 4 on the desirability and potential benefits, costs, and risks of implementing Alternative 6 at some later date. Alternative 6 will have a different marginal cost, marginal benefit, and marginal risk distribution when viewed from the perspective of already having Alternative 4 in place in the system. In fact, the need for implementing Alternative 6 will be postponed further into the future when viewed from the perspective of already having Alternative 4 in place. The table below illustrates the average annual costs and net average annual NED benefits of Alternatives 5 and 6 measured incrementally to Alternative 4 using your Elb and Eub ESSENCE models and your five hypothetical traffic scenarios. The unreasonable Tow Cost model has been eliminated from this risk analysis as the NED benefits generated by Alternatives 5 and 6 occur in the very distant future and the Tow Cost model embodies unreasonable estimates of the elasticity of demand in the distant future. Note that when evaluated with the Eub model that both Alternatives 5 and 6 produce negative net incremental NED benefits estimates under all your hypothetical traffic scenarios after Alternative 4 has already been implemented. Note further that only at future traffic levels represented by Scenario 5 and then only with relatively inelastic demand does Alternative 6 significantly outperform Alternative 5 at more than twice the incremental cost. The net NED benefits that are estimated for Alternative 5 range from an annual loss of \$41 million to an annual gain of \$22 million and the net NED benefits estimated to be generated by

Alternative 6 range from an annual loss of \$98 million to an annual gain of \$48 million. There appears to be significantly more downside than upside risk given the limited data available from your model runs, however the risk management implications are clear. It is foolhardy to commit now to construction of either Alternative 5 or Alternative 6 when you have already implemented Alternative 4.

	Net NED Benefit Estimates										
	Incremental Cost	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
		Elb	Eub	Elb	Eub	Elb	Eub	Elb	Eub	Elb	Eub
Alt 4	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Alt 5	\$65	(\$39)	(\$41)	(\$2)	(\$22)	\$20	(\$8)	\$20	(\$8)	\$22	(\$3)
Alt 6	\$144	(\$98)	(\$99)	(\$32)	(\$60)	\$20	(\$33)	\$27	(\$30)	\$48	(\$17)

22. The Regional Economic Development accounts are incomplete and only measure the regional effects of construction and not the regional effects of transportation cost changes resulting from the plan. These accounts must be completed to present a full picture of the inter-regional gains and losses of your alternatives.
23. Since your scenario based analyses reveal a strong link between the willingness to pay for water transportation, future traffic levels, and the potential national economic benefits derived from implementation of the various navigation alternatives, why did you not investigate in detail the “optimal” timing of the implementation of the various combinations of navigation alternatives and the changes in optimal implementation timing that result from the differential willingness to pay and traffic demand levels that you have posited in your scenario analyses? This would be especially useful in evaluating the desirability of implementing combinations of measures in that you can capture the economic benefits of the more readily implemented, less expensive, smaller scale measures in deferring the need for the less readily implemented larger scale measures such as new and extended lock construction. You currently ignore these substantial synergies in your risk evaluations.

Sincerely,

Jeffrey Ruch
Executive Director

CC: American Rivers
Audubon
Illinois Department of Natural Resources
Illinois Department of Transportation
Iowa Department of Natural Resources
Iowa Department of Transportation
Midwest Area River Coalition 2000
Minnesota Department of Agriculture
Minnesota Department of Natural Resources
Minnesota Department of Transportation
Mississippi River Basin Alliance
Missouri Department of Conservation
Missouri Department of Natural Resources
Missouri Department of Transportation
National Corn Growers
The Izaak Walton League of America
The Nature Conservancy
U.S. Department of Transportation, Maritime Administration
U.S. Fish and Wildlife Service
U.S. Geological Study
U.S. Environmental Protection Agency
Upper Mississippi, Illinois and Missouri River Association
Upper Mississippi River Conservation Committee
Upper Mississippi River Basin Association
Wisconsin Department of Natural Resources
Wisconsin Department of Transportation
Wisconsin Governor's Office