

UPPER MISSISSIPPI RIVER - ILLINOIS WATERWAY SYSTEM
NAVIGATION STUDY
GOVERNORS LIAISON COMMITTEE

May 20, 1997
Renaissance St. Louis Hotel
9601 Natural Bridge Road
St. Louis, Missouri
(314) 429-1100

AGENDA

- 3:30 p.m. Welcome, Introductions, Approval
of Agenda and February 18
Meeting Summary.....Dwight Beranek
- 3:40 Corps of Engineers Division
Restructuring Transition
Plan.....MG Robert B. Flowers
- 3:50 Navigation Study Update.....Mark Gmitro
- 4:20 Product Completion:
Small Scale Measures.....Denny Lundberg
- 4:45 Product Completion: Relative
Modal Cost Shift Analysis.....Don Sweeney
- 5:00 Product Completion:
Cultural Resource Studies.....Ken Barr
- 5:15 Primer on National Economic
Development (NED) Plan.....Don Sweeney
- 5:45 Open Discussion and Public Comment
- 6:00 Adjourn

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SUBJECT: Upper Mississippi River - Illinois Waterway System Navigation Study; Meeting of Governors Liaison Committee (GLC), 18 February 1997

1. The UMR Governors were represented by Don Vonnahme (IL), Jim Hall (IA), Dick Lambert (MN), David A. Shore (MO), and Ellen Fisher (WI). Participants included COL James Van Epps, NCD Division Commander, and COL Charles S. Cox, NCR District Commander. The meeting was chaired by Dwight Beranek, NCD, Corps of Engineers. The sign-in sheet and agenda are shown at Enclosures 1 and 2.

2. Dwight Beranek welcomed all participants. The record of the previous meeting was accepted without change.

3. Mark Gmitro provided the navigation study update (see Enclosure 3).

a. Changes to Project Study Plan (PS). Mark reported that the PSP is being updated to reflect the 13 Schedule and Cost Change Requests (SACCR's) since 1994 Baseline Initial Project management Plan and unfunded changes to the study plan that have occurred since initiation of the study.

(1) Changes in the study plan since 1994 include additional scoping efforts in 1994-95 for additional environmental studies requested by the navigation Environmental Coordination Committee, assumption of independent technical review, incorporation of Risk and Uncertainty Analysis, and greater past and future efforts with coordination committees, including an enhanced plan formulation process involving the Governors Liaison Committee as well as additional public forums. Other additional items include development of a navigation system lockage simulation model and additional efforts to formulate small scale measures and evaluate their benefits and costs. The net result is a \$930,000 increase in study costs. However, there is no impact to the study completion date of December 1999.

(2) Dwight said the Corps had debated whether this is the right time to revise the PSP and concluded that some changes need to be institutionalized now. Mark added there will undoubtedly be future changes, which the Corps will try to encapsulate in PSP revisions as they occur.

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(3) Mark said the study network is being revised due to new software; this software will allow the operator to input desired finish dates and run what-if scenarios. The Corps of Engineers is moving to a new financial management system that will allow the network to reflect costs entered directly by all study personnel in real time. Dwight said the Corps would be willing to put network information on the Net if the states are interested; the states did not indicate a desire to access this information.

(4) Terry Moe asked what is covered by Independent Technical Review. Dwight responded that in mid-study the role of the Division offices was changed to eliminate their technical review function. Review must be accomplished by a separate group from those who did the work. This review is now accomplished at the District level, so each study or project is charged with the costs of that review.

b. Don Vonnahme asked about the status of the budget surplus identified at the November 1996 meeting. COL Van Epps said Corps Headquarters would like to reapply surplus funds to pressing needs elsewhere. However, we will retain the funds needed for the on-schedule execution of the navigation study. [Note: Unexpended carryover at the end of FY 97 is currently estimated to be \$492,000. These funds would be available to supplement the FY 98 allocation.]

c. Mark displayed three future and current decision points for mussels, fish spawning habitat, and small scale timing data.

(1) The decision point for mussels will be ready for discussion at the next GLC meeting.

(2) Impacts of increased barge traffic on fish spawning habitat is a go decision that will add \$310,000 to the overall study cost. \$200,000 will be applied in FY 97. There will be no impact to the study completion date.

(3) The small scale timing data is a no-go decision. Chris Brescia questioned the adequacy of existing data, some of which is 20 years old. Mark said a wealth of data is available from the L/D 26 experience and the two expert solicitations. Brad Thompson said the Corps' Lock Performance Monitoring System

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data is very detailed, and that we have data for the relevant sites. Chris said it will be important to document the industry input to these findings. COL Van Epps and Dwight said the Corps would brief MARC 2000 if requested.

d. Mark noted that the charts provided with the briefing do not show that the projected \$1 million study surplus in FY 97 has been reduced by \$40,000 for work related to the bank erosion go decision and \$200,000 for the fish spawning habitat go decision. (Note that \$268,000 was subsequently transferred out of the study, leaving a current projected surplus of \$492,000 for FY 97).

e. Mark noted that the Corps is scheduled to have a decision briefing on 14 March (later changed to 4 April) regarding adoption of the commodity projections. Terry Moe asked if the projections assume all traffic increases are by barge until diverted by capacity constraints. Don Sweeney said the projections assume all transportation costs stay the same. The Relative Modal Cost Shift analysis will look at changes in costs for the various modes; the projections and modal cost shift analyses must then be tied together. Don Vonnahme asked if the projections assumed much land would be freed up, since Illinois will keep some land out of agricultural production. Don Sweeney said the assumption was based on Washington level action, now commonly called "freedom to farm"; this assumption was not a big part of the increase.

f. Mark displayed a Governors Liaison Committee plan formulation schedule. Three cycles of GLC involvement are planned. A cycle is defining alternatives, evaluating them, and discussing them. Dwight said the Corps would like the GLC to help narrow the alternatives. A round of public meetings would occur between the second and third cycles involving the GLC. These are tentatively scheduled as additions to the regular GLC meetings.

g. The January 1997 navigation study newsletter was done by a contractor and was mailed out to 9500 addressees.

h. In response to a question from Holly Stoerker, Mark said the budget figures displayed for FY 98 do not reflect needs from the PSP revisions. Larry Hiipakka said it is likely the study

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will need at least a partial recapture of Savings & Slippage; we expect Headquarters will be sensitive to this need. Dwight and Mark pointed out that much of the cost increase is for FY 99 efforts.

4. Don Sweeney and Jeff Marmorstein presented a demonstration of the navigation study's system lockage simulation model, using a simplified and more graphic model of the L/D 22-25 subsystem with a fleet of 200 tows.

a. Terry Moe asked if the delay totals estimated by the models are verified in real life. Don said that when you view the entire system as 1500 rounds trips, equivalent to 3000 lockages at the lower end, there is little variability. Terry further asked if the model verifies the delays reported in the reconnaissance report. Don said the answer is yes for the existing condition but not for the future; our economic studies to date have shown that the reconnaissance report overstated future delays and benefits of improvements by underestimating the ability and willingness of shippers to use alternative modes to different destinations.

b. Dick Lambert asked if lock downtime was included. Don said the model being demonstrated did not include a factor for downtime, but it could be added.

c. The 3-lock subsystem model indicates that small scale measures at all three lock would reduce lockage times by about 18 minutes. Assuming a large scale measure at all three locks would reduce lockage time by about 36 minutes.

5. Ken Barr presented the results to date of the environmental studies (see study cost breakdown on Enclosure 4.) These studies can be considered to be in two categories.

a. Site-specific studies of the impacts of construction and operation of lock improvements are on schedule to be completed by Oct 97 for use in the preliminary economic assessment.

b. Systemic studies of the impacts of increased commercial navigation traffic began with monitoring of some 200 tow passages by the Illinois Natural History Survey under EMP funding in 1989 when it was not certain there would be a navigation study or that

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it would include efforts such as in the current PSP to identify these impacts. Approximately 800 additional events have been monitored by the navigation study as well as simulations under laboratory conditions.

c. The Illinois Waterway monitoring of the La Grange pool, which is narrow with fine sediments, indicated a 7-9 minute period after tow passage for a return to ambient conditions. In Pool 26, which is wider and more sandy, a return to ambient conditions took only two minutes with a 15 barge tow. Terry Moe inquired how these results would be used to determine cumulative effects. Ken said that the biological studies yet to be completed would determine if these physical perturbations had a significant biological effect. *NOTE other monitored events indicated up to 50 min. greater time to return to ambient at the Illinois.*

d. The draft report for Phase 1 of the bank erosion studies is due at the end of February. Phase 2 will incorporate wake effects and wind models.

e. Impacts on fish.

(1) Depending on species, lab tests showed 30-80 percent mortality of larval fish through a 19-inch propeller; the next step is to estimate whether this loss of larval fish has a significant impact on the adult fish population.

(2) Many adult fish congregate in the main channel. After 80 runs, the study team netted 25 fish behind tows, including three dead gizzard shad. The conclusion so far is that most adult fish seem to be smart enough to get out of the way. The second season of entrainment sampling will start in about two weeks.

f. Plant/wave action. Our lab tests have shown that in less than three feet of water, a current of 1.5 ft/sec will cause rooted aquatic plants to lay down. These plants begin to break off at 2.5 ft/sec.

g. Mussels. Disturbances from passing tows do not seem to affect mussels. A draft report^s will be available soon, and we will be seeking comments.

~~h. The environmental work group has compiled arc-info spacial data on Pools 1-22. A contract has been awarded for the St. Louis District area and for the Illinois Waterway.~~

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6. Dwight indicated the Corps intends to brief the following product completions at the next Governors Liaison Committee meeting:

- a. small scale measures
- b. relative modal cost shift analysis
- c. cultural resources studies

In addition, the agenda will include a primer on how the Corps calculates the National Economic Development (NED) Plan. David Shore asked that the Corps make sure the cultural resources reports get to the State Historic Preservation Offices.

4 Enclosures
As Stated

Thomas Hempfling
CENCD-P-CE

GOVERNORS LIAISON COMMITTEE

18 Feb 97

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**Upper Mississippi River
Illinois Waterway System
Navigation Study**



**Governor's Liaison Committee
18 February 1997**



Agenda



- PSP Revisions
- Study Updates
 - Decision Points
 - Engineering (Small Scale)
 - Environmental (Fish Study)



PSP Revisions



- Purpose
- PSP Revisions
- Schedule
- Funding
 - Funded Changes
 - Unfunded Changes
 - Sunk Costs
- Cost



Purpose of Revisions



- To update PSP to reflect:
 - Already Approved SACCRS
 - Mandates from HQUSACE
 - Under/Over Estimates



PSP REVISIONS Engineering



- Reflects actual costs for completed activities
- Reflects changes in methodologies used
- Added activities from Apr. 95 and Dec 96 SACCR's



PSP REVISIONS Environmental



- REFLECTS APPROVED SACCRS
 - FISH, PLANTS, MATH MODEL
 - CUMULATIVE IMPACTS
 - BANK EROSION
- FUNDING SHORTFALLS
 - SCOPING COORDINATION



PSP REVISIONS Study Management



- Refined Plan Formulation Process
- Risk & Uncertainty: 15 Aug 94 Guidance
- Alternatives Formulation Briefing:
25 Jul 95 Planning Guidance Letter 95-02
- Independent Technical Review



PSP REVISIONS Economics



- Added Simulation Model
- Risk and Uncertainty
- ID Alternate Water Routings
- Formulate Alternatives
- TM - Work Group Meetings
- Public Involvement & ECC
- RED Analysis



PSP REVISIONS Public Involvement



- Increased cost for Public Meetings
- Support for Others activity costs
are less than expected
- TRC was eliminated from study



Revised Network



- Reports Earned Value
- WBS and Resource Allocation Plan
- Each Activity has its own Cost Curve
- Progressed several ways
 - Physical Percent Complete
 - Expected Finish
 - Remaining Duration
- Interface with PROMIS and CEFMS



Funded Changes



- SACCRS
 - Math Models
 - Environmental Decision Points
 - RED analysis
 - Engineering
 - Cumulative Impacts
 - Small Scale Assessment



Unfunded Changes



- Unfunded
 - Scoping at beginning of Study
 - Risk and Uncertainty
 - Constrained Budget Assessment
 - Independent Technical Reviews
 - Extended Overhead



Study Update



- Execution
- FY97 Budget Status
- FY97 Work Plan
- Critical Activities
- Work Group Status



FY97 Execution



- Expenditures to date
 - FY 97 \$ 1.7 Million
 - Schedule \$26.1 Million
 - Actual \$26.4 Million
- Obligations to date
 - FY 97 \$ 4.5 Million
 - Schedule \$29.1 Million
 - Actual \$29.8 Million



FY97 Budget



- FY97 Budget

• FY97 Allocation	\$ 9,595K
• FY96 Carryover	\$ 624K
Total Avail	\$10,219K
- FY97 Expenditure Plan

– FY96	\$ 395K
– Work Plan	\$ 8,825K
Total Planned	\$9,220K
- Excess Funds \$1,000K



FY97 Work Plan



	NCR	NCS	LMS	OTHER	TOTAL
ENVIRONMENTAL	700	113	229	4,215	5,257
HISTORIC PROP	55	15	20	310	400
ENGINEERING	435	20	230	85	770
ECONOMICS	386	133	297	280	1,096
PROJ/STUDY MGMT	648	74	136	134	992
PUBLIC INVOLVE	103	171	8	28	310
TOTAL	2,326	527	919	5,053	8,825



Critical Activities



- Economics
 - Est. Future W/O Project Fleet
 - Est. W/O Project Capacities
 - Est. Unconstrained Traffic Forecasts
 - Relative Modal Cost Shift Analysis
- Engineering
 - W/ Project Small Scale Add. Timing
 - W/ Project Large Scale Add. Screening
 - Report write up - Engineering Appendix



Critical Activities



- Environmental
 - Fish Study
 - Entrainment Effects on Early Life Stages
 - Entrainment Mortality of Small Fish
 - Entrainment Mortality of Large Fish
 - Sublethal Effects of Incr. Nav. Traffic
 - Plant Study
 - Establishment and Success of Reproductive Propagules
- Historic Properties
 - Consolidate Extant Data



Study Update Engineering



- Small scale analysis-Illinois Waterway
- Small scale additional timing analysis
- Additional screening for large and small scale measures
- Engineering Appendix
- ITR



Study Update Economics



- Prepare Data for NED Analysis
- Unconstrained Traffic Forecasts
- RED Analysis
- Extend Existing Transportation Cost Data to Full Population of Movements
- Small Scale Measures
- System Simulation Model



Environmental Decision Point



- ALTERNATIVE MODES
 - TRAFFIC IMPACTS
- FISH SPAWNING HABITAT
 - TREND POOLS
 - NAVPAT



Study Update Study Management



- Revision of PSP
- Finalizing QCP
- Initiating Feasibility Report Writing
- Developing Detailed Formulation Plans



GLC Plan Formulation Interaction



- Cycles A, B, C
- Run Models, Provide Outputs
- Meet with GLC, Discuss & Comment
- Public Forum after Cycle B for Comment & Input



GLC Plan Formulation Schedule



PRELIMINARY ALTERNATIVE PLANS OCT-DEC 97



MEET WITH GLC 21 JAN 98



SYSTEM ENV TOOLS AVAILABLE APR 98



MEETINGS WITH GLC APR OCT 98



PUBLIC MEETINGS JULY 1998



MEETING DATES 21 JAN, 2 APR, 13/14 MAY 25/26 JUN 6/7 OCT



Study Update Public Involvement



- Newsletter mailed in January 97
 - 9,500 Addresses
 - Written by contractor
- April newsletter is currently being drafted
- Initiated work on next round public meetings



Environmental Studies Results to Date





Study Update ENVIRONMENTAL



- SITE SPECIFIC
- CUMULATIVE IMPACTS
- MATH MODELING
- PHYSICAL MODEL
- BANK EROSION
- SPATIAL DATABASE



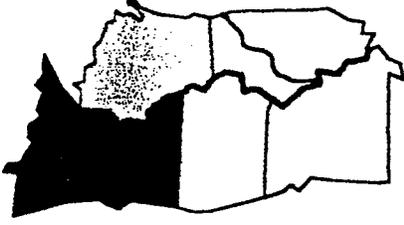
Study Update
ENVIRONMENTAL
(cont.)



- FISH
- PLANTS
- RECREATION
- MUSSELS



ENVIRONMENTAL COSTS



- **Current** **\$20,800,000**
- **Bank Erosion** **100,000**
- **PSP Revisions** **460,000**
- **Expanded Alt Modes** **40,000**
- **Fish Spawning** **310,000**
- **TOTAL** **\$21,710,000**