DEPARTMENT OF THE ARMY
MISSISSIPPI VALLEY DIVISION, CORPS OF ENGINEERS
P.O. BOX 80
VICKSBURG, MISSISSIPPI 39181-0080

REPLY TO
ATTENTION OF:

CEMVD-PD-KM

14 July 2008

MEMORANDUM FOR Commander, Vicksburg District

SUBJECT: Red River Navigation Study, Southwest Arkansas, Arkansas, Feasibility Report and Environmental Impact Statement, Planning Center of Expertise for Inland Navigation Recommendation for Approval of Peer Review Plan

1. References:

a. EC 1105-2-408, Peer Review of Decision Documents, 31 May 2005.

b. Multiple memorandum, CECW-CP, 30 March 2007, subject: Peer Review Process.

c. Supplement to memorandum, CEMVD-PD-N, 30 March 2007, subject: Peer Review Process.

d. E-mail, CELRD-PDS-P, 10 July 2008, subject: Red River Navigation, Southwest Arkansas Peer Review Plan(encl).

2. I hereby approve the subject Peer Review Plan (PRP) and concur in the recommendation that independent technical review and external peer review of this project are necessary due to the cost estimate and the significant interagency interests. The proposed PRP was coordinated with, and concurred in by, the Planning Center of Expertise for Inland Navigation (PCXIN). The PRP complies with all applicable policy and provides an adequate independent technical review of the plan formulation, engineering and environmental analyses, and other aspects of the plan development. Non-substantive changes to this PRP do not require further approval.

3. Post the PRP to your web page, provide the PCXIN a link for posting on its web page, and furnish a copy of the final approved PRP to the PCXIN. In accordance with reference 1.c. above, before posting to your web page, remove the names of Corps/Army employees.

CEMVD-PD-KM
SUBJECT: Red River Navigation Study, Southwest Arkansas, Arkansas, Feasibility Report and Environmental Impact Statement, Planning Center of Expertise for Inland Navigation Recommendation for Approval of Peer Review Plan

4. My point of contact for this PRP is Program Management, CEMVD-PD-KM, (601) 634-5065.

Encl

Brigadier General, USA
Commanding

CF (w/encl):
CECW-CP
ECO-PCX

PEER REVIEW PLAN
(7 JULY 2008)

RED RIVER NAVIGATION STUDY
SOUTHWEST ARKANSAS
FEASIBILITY REPORT AND
ENVIRONMENTAL IMPACT STATEMENT

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PEER REVIEW PLAN

RED RIVER NAVIGATION STUDY
SOUTHWEST ARKANSAS
FEASIBILITY REPORT AND
ENVIRONMENTAL IMPACT STATEMENT

1. Project Description.

a. Decision Document. This document outlines the Peer Review Plan for the Red River Navigation Study, Southwest Arkansas, General Investigation (GI) Feasibility Study and Environmental Impact Statement (EIS) and Appendixes. Engineer Circular (EC) 1105-2-408 dated 31 May 2005, "Peer Review of Decision Documents," (1) establishes procedures to ensure the quality and credibility of U.S. Army Corps of Engineers decision documents by adjusting and supplementing the review process and (2) requires that documents have a Peer Review Plan. The Circular applies to all feasibility studies and reports and any other reports that lead to decision documents that require authorization by Congress. The feasibility report could lead to congressional authorization and is therefore covered by the Circular. The purpose of this feasibility study is to investigate possible solutions for extending navigation on the Red River from the current head of navigation on the Red River at Shreveport, Louisiana, to the vicinity of Index, Arkansas. Locks and dams, bank stabilization, and other channel improvement measures would be required.

b. The Circular outlines the requirement of the two review approaches (independent technical review (ITR) and external peer review (EPR)) and provides guidance on Corps Planning Centers of Expertise (PCX) involvement in the approaches. This document addresses review of the decision document as it pertains to both approaches and planning coordination with the appropriate Center.

(1) ITR. Districts are responsible for reviewing the technical aspects of the decision documents and their supporting interim products through the ITR approach. The ITR is a critical examination by a qualified person or team that was not involved in the day-to-day technical work that supports the decision document. The ITR is intended to confirm that such work was done in accordance with clearly established professional principals, practices, codes, and criteria. In addition to technical review, documents should also be reviewed for their compliance with laws and policy. The Circular also requires that DrChecks be used to document all ITR comments, responses, and associated resolution accomplished.

(2) EPR. The Circular added EPR to the existing Corps review process. This approach does not replace the standard ITR process. The peer review approach applies in special cases where the magnitude and risk of the project are such that a critical examination by a qualified person outside the Corps is necessary. The EPR can also be used where the information is based on novel methods, presents complex interpretation challenges, contains precedent-setting methods or models, or is likely to affect policy decisions that have a significant impact. The degree of independence required for technical review increases as the project magnitude and project risk increase. The Water Resources Development Act (WRDA) of 2007 also established a cost threshold of $45 million for an EPR. Any project with costs exceeding this amount will require an EPR.

(a) Projects with low magnitude and low risk may use a routine ITR.

(b) Projects with either high magnitude/low risk or low magnitude/high risk would require both Corps and outside reviewers on the ITR team to address the portions of the project that cause the project to rate high on the magnitude or risk scale.

(c) Projects with high magnitude and high risk require a routine ITR as well as an EPR.

(3) PCX Coordination. The Circular outlines PCX coordination in conjunction with preparation of the review plan. Districts should prepare the plans in coordination with the appropriate PCX. The Corps PCX are responsible for the accomplishment and quality of ITR and EPR for decision documents covered by the Circular. Centers may conduct the review or manage the review to be conducted by others. Reviews will be assigned to the appropriate Center based on business programs. The Circular outlines alternative procedures to apply to decision documents. Each Center is required to post review plans to its website every 3 months, as well as links to any reports that have been made public. The Office of Water Policy Review (OWPR) will consolidate the lists of all review plans and establish a mechanism for soliciting public feedback on the review plans.

(4) The study will evaluate alternatives to determine if a recommendation for Federal action will be presented to Congress. The feasibility study will include a complete presentation of study analyses and results. It will document compliance of the recommended plan with all applicable statutes, executive orders, and policies.

2. General Site Description. The study area is located in southwest Arkansas and northwest Louisiana and includes 134 miles of the Red River from Shreveport to Index. This 134-mile reach extends from the authorized head of navigation on the Red River at the I-220 bridge (River Mile (RM) 234.5) in north Shreveport to Index. The study area also includes the upper reach of Pool 5 of the existing Red River navigation project from RM 211.4, the uppermost point where the project is maintained for navigation, to the I-220 bridge. Some improvements would also be needed within this reach to provide for upstream navigation.

a. Project Scope. This reach of the Red River flows through two parishes in northwest Louisiana (Caddo and Bossier) and four counties in southwest Arkansas (Hempstead, Lafayette, Little River, and Miller). The study generally follows the U.S. Army Corps of Engineers six-step planning process that identifies the problems and opportunities, develops an inventory and forecast of critical resources (physical, demographic, economic, social, etc.), formulates alternatives, evaluates alternatives, compares alternatives, and selects a recommended plan. Feasibility studies are focusing on alternatives that would provide for extending commercial inland shallow draft (9-foot draft) navigation on the Red River. Project costs for structural improvements are estimated to exceed the $45 million threshold established by WRDA 2007.

b. Problems and Opportunities.

(1) Commercial Navigation.

(a) Interest has been expressed in extending commercial navigation on the Red River from the current head of navigation at Shreveport, Louisiana, into southwest Arkansas (Shreveport to Index reach). However, natural depths in the Shreveport to Index reach of the Red River are not sufficient to sustain year-round commercial navigation. Under the present open river conditions, controlling depths from January to July are approximately 4 feet. During the remainder of the year, controlling depths are generally less than 1 foot. Unpredictable shoaling and sharp bendways also make commercial navigation impractical. Commercial navigation on the inland navigation system typically includes 9 feet of dependable depth as the industry standard. Locks and dams would have to be constructed to provide dependable navigable depths; channel realignments made to provide an acceptable navigation channel alignment; and revetments constructed to maintain the navigation channel in the correct alignment.

(b) A survey of potential waterway users within the area which would be served by the Shreveport to Index reach identified over 22 million tons of commodities currently moving by other transportation modes that could potentially move on the waterway extension with transportation savings and other benefits accruing to the nation.

(c) Maintaining highway safety will become an increasing problem with the projected increase in truck traffic. Highway maintenance and repair costs will continue to escalate with the increase in truck and other traffic. Air pollution will also increase with the increased truck emissions from burning of fossil fuels.

(d) The opportunity exists to provide an efficient transportation mode to complement the existing transportation system in the region. In addition to providing transportation savings, highway safety would be improved by moving commodities by barge as opposed to truck; highway maintenance costs would be reduced; and fewer fossil fuels would be burned, thereby reducing air pollution and conserving these fuels for future usage.

(2) Economic Development. A commercial navigation project would induce new industrial development and expand the existing industrial base in the region, thereby enhancing the area's economy and residents' standard of living. Navigation above Shreveport is expected to aid economic development of the study area. Construction and operation expenditures, along with inland shipping activities, are expected to stimulate economic activity in the region.

(3) Bank Stabilization. This reach of the Red River is also characterized by bank caving resulting in rapid migration of the river channel. Approximately 1,100 acres of land are lost each year, on the average due to bank caving. The need exists for additional bank stabilization measures to prevent land loss from bank caving.

(4) Recreation.

(a) There is a need to provide local citizens of the study area opportunities to participate in both consumptive and nonconsumptive uses of the area's natural resources such as boating, fishing, picnicking, birdwatching, etc. Such recreational areas could be developed in conjunction with a plan recommended for providing commercial navigation. The existing J. Bennett Johnston Waterway (JBJWW) on the Red River is heavily used by recreationists with over 2.4 million visitors in 2003. The waterway also hosts numerous bass fishing tournaments annually. Similar recreation visitation would be expected from the navigation pools created upstream of Shreveport.

(b) Under existing conditions, the Shreveport to Index reach offers minimal recreation potential supporting few game species of fish. This reach of the river offers few opportunities for general water oriented recreation such as boating, water skiing, and swimming. The navigation pools created by a commercial navigation project would offer area residents the opportunity to enjoy water-related sports activities.

(5) Fish and Wildlife. The need exists to protect and enhance fish and wildlife habitat along the Red River. Due to the demand for agricultural products, suitable habitat for fish and wildlife has been reduced. Fish and wildlife habitat areas may be further reduced unless preservation measures are undertaken by local interests. The Red River supports approximately 24 species of riverine fishes. The river supports a small commercial and recreational fishery.

The Shreveport-Index reach includes numerous sandbar areas that are used by the endangered interior least tern as nesting habitat. The interior least tern was first reported on the Red River in 1995 found in Pools 4 and 5 of the JBJWW. Evidence suggests that the interior least tern has expanded its range upstream along the Red River into southwest Arkansas.

(6) Water Supply and Water Quality. Additional sources of fresh water are needed to meet the needs resulting from population and economic growth. As ground-water sources dwindle, surface waters such as the Red River are being viewed as potential sources of clean potable water. Water supply in east Texas continues to be a growing concern. East Texas is investigating obtaining water from adjoining states including Louisiana, Arkansas, and Oklahoma. The rapidly growing Shreveport-Bossier City area has also expressed interest in an additional source of fresh water, particularly for north Caddo Parish. Cross Lake, which currently provides much of Shreveport's water supply, is experiencing decreased storage capacity due to sedimentation. The navigation pools created from a commercial navigation project would provide a reliable navigation pool from which water could be drawn for water supply and other ancillary purposes. Water use for irrigation is increasing at a very high rate in all areas of the Vicksburg District where water is available. In many areas of the District, water use is increasing at a rate that is higher than the rate of recharge.

c. Product Delivery Team (PDT). The PDT is comprised of those individuals directly involved in the development of the decision document. Contact information and disciplines are listed below.

Name	Discipline	Telephone No.	E-Mail
[redacted]	Project Manager	[redacted]	[redacted]
[redacted]	Economist	[redacted]	[redacted]
[redacted]	Biologist	[redacted]	[redacted]
[redacted]	Cultural	[redacted]	[redacted]
[redacted]	Structure Design	[redacted]	[redacted]
[redacted]	Cost Engineering	[redacted]	[redacted]
[redacted]	Geotechnical	[redacted]	[redacted]
[redacted]	Hydraulics	[redacted]	[redacted]
[redacted]	Water Quality	[redacted]	[redacted]
[redacted]	Real Estate	[redacted]	[redacted]
[redacted]	Channel Design	[redacted]	[redacted]
[redacted]	Relocations	[redacted]	[redacted]

d. Vertical Team. The Vertical Team includes District management, District Support Team (DST), and Review Integration Team (RIT) staff, as well as members of the Planning of Community of Practice (PCoP). The DST manager for this project is [redacted], CEMVD-PD-KM ([redacted]). The RIT manager is [redacted] ([redacted]). The PCoP contact is [redacted], CEMVD-PD-N ([redacted]). The PCX point of contact is [redacted], CELRH-NC (telephone [redacted]).

3. Quality Control.

a. This plan was developed to ensure that high quality products are produced within the Vicksburg District (CEMVK). This plan establishes the policies, procedures, and organizational responsibilities for providing quality control of planning products for this project.

b. The Peer Review Plan (PRP) for the Red River Navigation Study, Southwest Arkansas, provides a technical review mechanism ensuring that quality products are developed during the course of the study by CEMVK. The technical review of the feasibility study will consist of an ITR by a Corps District outside CEMVK and an EPR by independent subject matter experts outside the Corps. An additional level of policy review for the study will be performed at the Headquarters, Chief of Engineers (HQUSACE), and will ensure that all applicable statutes have been applied with respect to cost sharing, project purpose, and budget criteria. All processes, quality control, quality assurance, and policy review will complement each other producing a seamless review process that identifies and resolves technical and policy issues during the course of the study.

c. The study is seeking the best value to the Government that may also address sponsor requirements. Technical review will assure accountability for the technical quality of the product. Each technical review objective will be satisfied through a seamless review process performed outside CEMVK (ITR), EPR by independent subject matter experts outside the Corps, Mississippi Valley Division (CEMVD) (quality assurance of technical products), and HQUSACE (policy review). The PRP is based upon applicable guidance from higher authority, including EC 1105-2-408, "Peer Review of Decision Documents," 31 May 2005, and CECW-CP memorandum, 30 March 2007, subject: Peer Review Process.

4. ITR Plan. As outlined in paragraph 1.b(1), the District is responsible for ensuring adequate technical review of decision documents and their supporting interim work products described below. The responsible PDT District of this decision document is Vicksburg (CEMVK).

a. Independent Technical Review.

(1) The designated PCX for inland navigation is the Great Lakes and Ohio River Division. The ITR was performed by the Pittsburgh District with assistance from the Inland Navigation Analysis Center located at the Huntington District commencing in January 2005. The Pittsburgh District was selected for the task due to their experience in inland navigation. The ITR was underway during approximately the same timeframe that EC 1105-2-408, "Peer Review of Decision Documents," 31 May 2005, was being finalized and the resulting ITR process was evolving. The Alternative Formulation Briefing (AFB) for the study was conducted in Shreveport on 13 December 2005. The HQUSACE AFB Project Guidance Memorandum (PGM) was completed 31 January 2006. Several significant unresolved issues were identified in

the PGM requiring the draft feasibility report and EIS to be resubmitted to HQUSACE for review prior to release of the draft report for public review. The primary HQUSACE concern was the project benefit-cost ratio being 0.95 to 1 based on traditional National Economic Development (NED) benefits. The economic analysis included in the draft report submitted to HQUSACE for policy review included nontraditional "externality" benefits. The project benefit-cost ratio, which included this benefit category, was 1.6.

(2) In addition, the PGM directed the Vicksburg District to complete the ITR process with the Pittsburgh District and submit ITR documentation to HQUSACE. Subsequent to receiving the PGM, remaining ITR comments were resolved. However, during comment resolution, traditional NED benefits decreased to the extent project economic feasibility became questionable. Further, HQUSACE guidance provided in a white paper, "Externalities in Navigation Projects," 9 December 2005, indicated that externality benefits could not be used in project economic justification. These benefits could be displayed for information purposes only.

(3) Since ITR was accomplished by a District office with support from the Inland Navigation Analysis Center, both located within the designated PCX for inland navigation, the remaining ITR requirements will be performed by the original Independent Technical Review Team (ITRT). Remaining ITRT requirements include a final review of the draft report to ensure their comments have been addressed and ITR certification. A separate process and coordination are also required through the Walla Walla District for cost engineering. This process was added subsequent to initiation of ITR by the Pittsburgh District. The ITRT team presented below will be updated as appropriate with this individual(s).

b. Team. The ITRT was comprised of individuals who were not involved in the development of the decision document or interim work products and were chosen by the Pittsburgh District based on expertise, experience, and/or skills. The members roughly mirror the composition of the PDT. The ITRT members, their disciplines, and other relevant information are shown below. The recreation benefit analysis and agricultural water supply benefit analysis were reviewed by team members from the Mobile and Memphis Districts, respectively. This ITR component was accomplished as directed by the 31 January 2006 PGM.

Name	Discipline	Telephone No.	E-Mail
[redacted]	Hydraulic Engineering	[redacted]	[redacted]
[redacted]	Structural Engineering	[redacted]	[redacted]
[redacted]	Design	[redacted]	[redacted]
[redacted]	Cost Engineering	[redacted]	[redacted]
[redacted]	Economics	[redacted]	[redacted]
[redacted]	Environmental	[redacted]	[redacted]
[redacted]	Plan Formulation	[redacted]	[redacted]
[redacted]	Real Estate	[redacted]	[redacted]
[redacted]	Agricultural Water Supply	[redacted]	[redacted]
[redacted]	Recreation Analysis		

* No longer employed by the Corps. Formerly with the Mobile District.

(1) The team used DrChecks to document the ITR process. All recorded ITR comments have been responded to and all comments are closed.

(2) Model Certification. Hydraulic and hydrologic models used include HEC-RAS. These models were developed by the Hydrologic Engineering Center for use in water resource investigations. Environmental models used include (1) Hydro-Geomorphic Classification of Wetlands Model, (2) Aquatic Habitat Evaluation Procedures (HEP), and (3) Terrestrial HEP. These environmental analysis models are widely used throughout the Corps and widely accepted by natural resource agencies. Any models used in the study will be evaluated for certification.

5. EPR Plan. This decision document will present the details of a feasibility study undertaken to extend navigation on the Red River from the current head of navigation on the Red River at Shreveport into southwest Arkansas. Approximately two to three additional locks and dams will be required. The project is not particularly complex; however, WRDA 07 includes provisions that require an EPR for projects that exceed $45 million. Estimated project costs will exceed $45 million, thus an EPR is required.

a. It is unlikely that the Corps report to be disseminated will contain influential scientific information. The efforts envisioned to date will not result in a highly influential scientific assessment. It is anticipated that while this study will be challenging and beneficial, it will not be novel or precedent setting, nor have significant national importance. Externality benefits included as an NED benefit in the original analysis have since been removed. A recently funded interstate highway system for the area is projected to eliminate most of these benefits.

b. Project Magnitude. The magnitude of this project is determined medium to high based upon estimated project costs. While the hydrology of the study area is considered complex, the project is not particularly complex. The Red River below Shreveport currently has five locks and dams. The proposed locks and dams above Shreveport would be similar and provide similar benefits. The project will likely have positive long-term cumulative effects.

(1) The EPR will be added to the Red River Navigation, Southwest Arkansas, feasibility study because the risks and magnitude of the proposed project are such that a critical examination by a qualified person or team outside the Corps and not involved in the day-to-day production of the technical product is necessary. Costs of the project will surpass $45 million which also facilitates the use of EPR. The EPR will be performed outside USACE in accordance with Section 2034 of WRDA 2007 and managed by the PCX.

(2) The PCX will contract with the National Academy of Sciences or a similar independent scientific and technical advisory organization to establish a panel of experts to conduct a peer review. A panel of experts established for the study shall be composed of independent experts who represent a balance of areas of expertise suitable for the review.

(3) The use of DrChecks for EPR will remain optional, at the discretion of the respective review team.

(4) The PCX shall send the External Peer Review Team (EPRT) leader one hard copy (with color pages, as applicable) of the draft report and appendixes and NEPA document for each EPRT member such that the copies are received at least 1 business day prior to the start of the comment period.

(5) The PDT shall host an ITR kickoff meeting virtually to orient the EPRT during the first week of the comment period for the draft report and NEPA document. If funds are not available for an onsite meeting, the PDT shall provide a presentation about the project, including photographs of the site, for the team.

(6) A revised electronic version of the report and appendixes and interim technical work products with comments incorporated shall be posted at ftp://ftp.usace.army.mil/pub/ for use during back checking of the comments.

(7) The PCX shall contact EPRT leader to seek clarification of a comment's intent or provide clarification of information in the report.

c. Duties of Panel. A panel of experts established for peer review shall:

(1) Conduct the peer review.

(2) Assess the adequacy and acceptability of the economic, engineering, and environmental methods, models, and analyses used by the Chief of Engineers.

(3) Receive from the Chief of Engineers the public written and oral comments provided to the Chief of Engineers.

(4) Provide timely written and oral comments to the Chief of Engineers throughout the development of the project study, as requested.

(5) Submit to the Chief of Engineers a final report containing the panel's economic, engineering, and environmental analysis of the project study, including the panel's assessment of the adequacy and acceptability of the economic, engineering, and environmental methods, models, and analyses used by the Chief of Engineers, to accompany the publication of the report of the Chief of Engineers for the project.

d. Funding. The PDT district shall provide funding for the EPR.

e. Timing and Schedule. Completion of the ITR and EPR process for the feasibility report and NEPA document will follow the timeline below. As noted above, ITR has been completed with the exception of ITR certification. To meet this requirement, the revised feasibility report and NEPA document will be submitted to the ITRT for final review and subsequent certification. The feasibility report and NEPA document will be provided to the EPRT for their review after ITR is certified. Actual dates will be scheduled once the period draws closer. It is estimated that EPR of the feasibility report and NEPA document will begin in the third quarter of FY 2009. The amount of time required to complete the ITR and conduct the EPR will depend on the PCX current workload and schedule.

Task	Date (Week)
Feasibility Report and NEPA Document	15 Jan 05
ITR Initiation	15 Jan 05
Alternative formulation briefing (AFB)	13 Dec 05
AFB policy memorandum issued	31 Jan 06
Revised Draft Report	Jan 09
Final ITR	Jan 09
ITR Certification	Mar 09
EPR Initiation	Apr 09
Revised Draft to HQUSACE	Jun 09
NEPA Public Review	Aug 09
Final Draft to HQUSACE	Nov 09
Civil Works Review Board	Jan 10

f. Review.

(1) The ITRT and EPRT responsibilities are as follows:

(a) Reviewers shall review the draft report and NEPA documents to confirm that work was done in accordance with established professional principals, practices, codes, and criteria and for compliance with laws and policy. The ITR comments on the report have been submitted into DrChecks and resolved. Any additional ITR comments will also be submitted into DrChecks. Grammatical and editorial comments shall not be submitted into DrChecks.

(b) Reviewers shall pay particular attention to one's discipline, but may also comment on other aspects as appropriate. Reviewers who do not have any significant comments pertaining to their assigned discipline shall provide a comment stating this.

g. Certification. To fully document the ITR and EPR process, a statement of technical review will be prepared. Certification by the ITR leader and PM will occur once issues raised by the reviewers have been addressed to the review team's satisfaction. Indication of this concurrence will be documented by the signing of a certification statement. A summary report of all comments and responses will follow the statement and accompany the report throughout the report approval process.

6. Public Involvement.

a. Public review of the document will occur after completion of the ITR and EPR of the draft feasibility report and NEPA document, and concurrence by HQUSACE that the document is ready for public release. The 31 January 2006 PGM specifically directed that the draft report be resubmitted to HQUSACE prior to release to the public. The PGM also directed completion of the ITR process prior to submittal. The EPR has been added due to the projected project costs exceeding the $45 million threshold established by WRDA 2007. The public review period will last 30 days as required by law. As such, public comments other than those provided at any public meetings or workshops held during the planning process will not be available to the ITR review team. Public written and oral comments will be provided to the EPR team. Significant public comments that result in changes to the formulation will require a new ITR and EPR.

b. The public review of necessary state or Federal permits will also take place during this period.

c. A formal state and agency review will occur concurrently with the public review. Intensive coordination with these agencies has occurred concurrent with the planning process. There are no known state and agency issues at this time.

d. Upon completion of the review period, comments will be consolidated and addressed, if needed. A comment resolution meeting will take place, if needed, to decide upon the best resolution of comments. A summary of the comments and resolutions will be included in the document.