

**Review Plan**  
**John Redmond Dam and Reservoir, Kansas**  
**Interim Feasibility Study**  
**Project Number 142271**  
**U. S. Army Corps of Engineers, Tulsa District**  
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**1. Study Background.** This study is authorized by Public Law 89-298 and a resolution from the 110<sup>th</sup> Congress, 1<sup>st</sup> Session, United States Senate Committee on Environment and Public Works, adopted July 31, 2007, which states:

*"That the Secretary of the Army is requested to review the report of the Chief of Engineers on the Grand (Neosho) River, Oklahoma, Missouri and Kansas published as House Document 442, 80<sup>th</sup> Congress, and other pertinent reports, to determine whether modifications to the recommendations contained therein are advisable in the interest of comprehensive watershed and stream corridor management, including flood damage reduction, environmental restoration and protection, water conservation and supply, water quality improvement, aquifer recharge, and other related purposes in the Grand (Neosho) River Basin, Oklahoma, Missouri and Kansas."*

The John Redmond Dam, which impounds the Grand (Neosho) River to form John Redmond Reservoir, is located in east-central Kansas. The dam was constructed by the Corps of Engineers under the authority of Public Law 81-516a, Project Document HD 442 for purposes of flood control, water supply, water quality control, recreation, and wildlife. The project was completed for flood control operation in 1964. The study area starts at the John Redmond dam, includes the reservoir and continues upstream on the Neosho River to just downstream of Council Grove Lake Dam and upstream on the Cottonwood River to just downstream of the Marion Lake Dam. A map of the study area is attached. The study area covers approximately 2,500 square miles.

Concerns involving John Redmond Reservoir include aquatic ecosystem degradation, water quality, water supply storage, and increased sedimentation. Storage volumes in John Redmond Reservoir available for water supply, flood control, and other purposes are currently being reduced due to losses related to sedimentation. While sediment accumulation is expected in any reservoir, sediment is accumulating at a higher rate than anticipated. This has resulted in the need to evaluate reallocation of storage volumes among authorized project purposes.

In 1976, the Corps raised the conservation pool from 1036.0 feet, National Geodetic Vertical Datum (NGVD) to 1039.0 feet, NGVD. This increase in conservation pool was a part of the Corps ultimate operational plan for John Redmond Reservoir. Currently, the Corps has a Water Supply Storage Reallocation Project at the John Redmond Reservoir to increase the conservation pool by another 2 feet to elevation 1041.0 feet, NGVD. This reallocation study is driven by the fact that the reservoir is acquiring sediment at a higher rate than was estimated when the reservoir was impounded. The increased sedimentation rate has affected the water storage area available in the conservation pool.

The State of Kansas has made a significant investment in the acquisition of storage for public water supply within this reservoir. The state has contracted 37,450 acre-feet of water supply storage in John Redmond Reservoir. This storage is used to operate the State Water Marketing Program and the Neosho-Cottonwood Water Assurance District within the Neosho River Basin supplying water for municipal and industrial purposes. The Wolf Creek Nuclear Operating Corporation, located near Burlington, Kansas, is a

customer of the State of Kansas and receives water to operate its plant from John Redmond Reservoir.

**2. Project Title, Subject and Purpose of Decision Document.** The project title is "John Redmond Dam and Reservoir, Kansas, Interim Feasibility Study". The purpose of the study is to identify the best options for providing, aquatic ecosystem restoration, water quality improvements, water supply conservation and improvement, and other related water resources needs within the study area. The decision document will be an interim feasibility report. At this time, the National Environmental Policy Act (NEPA) process is expected to result in an Environmental Assessment, not an Environmental Impact Statement.

**3. Purpose of Review Plan.** This review plan outlines the level of review needed for the study, the timing of reviews, and the qualifications of the reviewers. The approved review plan will be included as a component of the Project Management Plan (PMP).

Appendix A is a roster of the Project Delivery Team (PDT) and includes the members of the review team. The review team members were chosen based on expertise needed for review of the study. Review team members were approved by the Planning Center of Expertise (PCX) for Water Management and Reallocation Studies located at Southwestern Division. The review team consists of eight reviewers from Fort Worth District. The team has extensive experience in plan formulation, water supply studies, water supply contracts, and the NEPA process. The review team includes economists (1), engineers (5), real estate specialists (1), and environmental specialists (1).

**4. Review Requirements.** In accordance with Engineering Circular (EC) 1105-2-410, Review of Decision Documents, dated 22 August 2008, all decision documents and their supporting analyses will undergo District Quality Control (DQC) and Agency Technical Review (ATR) and may also require Independent External Peer Review (IEPR), to "ensure the quality and credibility of the government's scientific information." The Circular addresses review of the decision document as it pertains to both approaches and planning coordination with the appropriate Planning Center of Expertise. The Circular also requires that DrChecks be used to document the ATR and IEPR comments, responses, and associated resolution accomplished by the review process. For documents which require Congressional authorization, the Circular requires that the cost estimates, construction schedule, and contingencies be coordinated with the Cost Engineering Directory of Expertise in Walla Walla District. In addition to technical review, all decision documents are reviewed for policy and legal compliance during the study process. Final policy and legal compliance reviews at the Washington level are completed prior to recommendations by the Chief of Engineers being forwarded to higher authority.

a. District Quality Control (DQC) is the review of basic science and engineering work products focused on fulfilling the project quality requirements defined in the PMP. It is managed in the home district in accordance with the (Major Subordinate Command) MSC and District Quality Management Plan. DQC may be conducted by staff in the home district as long as they are not doing the work involved in the study, including contracted work that is being reviewed. Basic quality control tools include a Quality Management Plan providing for reviews such as quality checks and reviews, supervisory reviews, and PDT reviews. Additionally, the PDT is responsible for a complete reading of the report and supporting documentation to assure the overall integrity of the report, the technical appendices and the recommendations before approval by the District Commander.

b. Agency Technical Review (ATR) is an in-depth review, managed within USACE, and conducted by a qualified team outside of the home district that is not involved in the day-to-day production of a project or its product. The purpose of the ATR is to ensure the proper application of clearly established criteria, regulations, laws, codes, principles and professional practices. The ATR team reviews the various work products and assures that all the parts fit together in a coherent whole. ATR teams are comprised of senior USACE personnel (e.g., Regional Technical Specialists), and may be supplemented by outside experts as appropriate.

c. Independent External Peer Review (IEPR) is the most independent level of review, and is applied in cases that meet certain criteria where the risk and magnitude of the proposed project are such that a critical examination by a qualified team outside of USACE is warranted. The requirements for IEPR are discussed below.

**5. Influential Scientific Information and Level of Review.** The report does not contain novel or precedent-setting approaches or influential scientific information. The study analyses, while complex, are well within the scope that is typical of similar feasibility studies. Consequently, the recommendation of the District, with MSC concurrence, is that the level of review be ATR only. The Vertical Team has concluded that the subject study does not require an IEPR, as defined in the Water Resources Development Act (WRDA) of 2007 (Public Law 110-114), and EC 1105-2-410 for the following reasons:

a. IEPR is mandatory if a project has an estimated total project cost of more than \$45 million and is not determined by the Chief of Engineers to be exempt. The project benefits are expected to be much less than \$45 million. Therefore the cost of recommended plan is not expected to exceed \$45 million.

b. IEPR is required if the project poses a significant threat to human life. The alternatives being considered for the subject study do not involve a significant risk to human life.

c. IEPR is required if the project is likely to have significant economic, environmental, or social affects to the nation. These include but are not limited to:

- More than negligible adverse impacts to scarce or unique cultural, historic, or tribal resources.
- Substantial adverse impacts on fish and wildlife species or their habitat, prior to implementation of mitigation
- More than negligible adverse impact on species listed as endangered or threatened, or to the designated critical habitat of such species, under the Endangered Species Act, prior to implementation of mitigation

The recommended plan is not expected to have significant economic, environmental, or social affects to the nation.

d. IEPR will be performed if the Governor of the affected state requests an IEPR. The Governor of Kansas is not expected to request an IEPR for the subject study.

e. IEPR will be performed if the head of a Federal or state agency charged with review of the study has requested a review due to significant adverse impacts of resources under the agency's jurisdiction. The study recommendation is not expected to result in significant adverse impacts.

f. IEPR is required if there is public dispute of size\nature\effects of the project. Throughout the study, the District and sponsor will engage in one-on-one meetings with various stakeholder groups and agencies. Public dispute of study findings is not expected.

g. IEPR is required if there is public dispute of economic\environmental benefits\costs of the project. Public dispute of recommended benefits and costs is not expected.

h. IEPR is required if the project employs novel methods, is extraordinarily complex, or the method used or conclusions reached would be precedent setting and likely to influence prevailing practices. The subject study is using accepted methods with a level of complexity normally found in such studies.

i. The Chief of Engineers may determine that IEPR is warranted. The subject study is not expected to be deemed in need of IEPR.

**6. Timing and Sequencing of Reviews.** Initial National Environmental Policy Act scoping process related to the study was initiated April, 2007. DQC is performed within the district as the study progresses and is not listed in the review schedule below. The report and NEPA documentation review timing is listed below:

FSM Documents Submitted for ATR	April 2008
Submitted to Headquarters	June 20, 2008
HQ Comments	Received November 19, 2008
FSM	To be Determined

AFB Documents Submitted for ATR  
NEPA Document Public Review Start  
Draft Report Submitted for ATR

December 16, 2008 (tentative)  
June 2, 2009 (tentative)  
September 24, 2009 (tentative)

The original schedule for the FSM was August 4, 2008. Draft HQ comments were received in October 2008. The FSM will be scheduled based on the schedule availability of the required team members. The scheduled dates for the AFB and public review will likely need revision based on the FSM date.

A preliminary assessment of the risks to the study completion identified several factors that may have an impact: development of an overly aggressive schedule or missing required activities that would result in schedule changes or slippages; the availability of required resources when needed; expectations of the local sponsor or stakeholders regarding the estimated implementation cost of the project or the scheduled study completion; and lastly, the participation of the study sponsor and outside agencies to develop necessary data in a timely manner. There is less control of the schedule for activities outside of the organization. Any of these factors could affect the study cost or schedule leading to a more costly overall effort than originally estimated. The project manager and the project delivery team work diligently as a team to avoid or lessen any such impacts to the study completion.

**7. Opportunities for Public Comment.** The approved review plan and the MSC approval memorandum will be posted on the District webpage. As part of the National Environmental Policy Act public involvement process, a draft environmental assessment will be made available for public comment. The draft report and draft environmental assessment will be posted on the District website, with a point of contact for comments and questions. The District held numerous meetings with individual stakeholder groups throughout the course of the study.

**8. Significant Comments Provided to Reviewers.** Comments are documented in the Environmental Assessment and will be provided to ATR reviewers and headquarters.

**9. Number and Expertise of Reviewers.** The review team is in place and consists of eight reviewers from Fort Worth District. The team has extensive experience in plan formulation, water supply economics, water supply contracts, reservoir operation, real estate, and the NEPA process. The review team includes economists (1), engineers (5), real estate specialists (1), and environmental specialist (1). The members of the review will be changed if the Planning Center of Expertise (PCX) requires other reviewers be used.

**10. Nomination of Professional Reviewers.** Not Applicable to ATR process

**11. Models Used.** The Soil and Water Assessment Tool (SWAT) is being used to model the watershed upstream of the reservoir. The SWAT model is undergoing certification in Tulsa District for another study and is expected to be certified before this study is completed. The CE-QUAL-W2 model will be used to assess the affect of how changes in upstream morphology would affect the reservoir and water supply yield analysis. CE-QUAL-W2 is an engineering model and is subject to the engineering model certification process. IWR-PLAN could be used to analyze ecological restoration alternatives. IWR-PLAN is certified.

**12. In-Kind Contributions.** The Kansas Water Office is providing the following study contributions as in-kind services: A bathymetric survey of the reservoir; a riparian and stream corridor assessment of the Neosho River and the Cottonwood River and their tributaries within the study area; SWAT modeling of the study area above the reservoir; and an assessment and recommendations regarding the logjam on the Neosho River. These pieces of the study effort will undergo DQC and ATR along with work products produced by the Tulsa District.

**13. Execution Plan.** The execution plan is described in the following paragraphs:

a. **Expertise.** Southwestern Division, as the PCX for Water Management and Reallocation Studies, has responsibility for certifying the review plan, the level of review, and the review team for approval by the Division Commander. The reviewers were selected from Fort Worth District based on their extensive and specialized experience with water supply studies.

b. **Rotation.** Fort Worth District has been a part of the technical review of the study beginning early in the study process. Fort Worth District's status as Agency Reviewer has been maintained based on their familiarity with the complexities of the study and their possession of specialized expertise.

c. **Conflicts of Interest.** There are no conflicts of interest, as the reviewers are all Federal employees. All reviewers have complied with Federal and Department of Army Ethics requirements.

d. **Independence.** Fort Worth District staff has not participated in the development of the report, appendix or other work products reviewed.

e. **Reviewers' Privacy.** Fort Worth District has been informed that the names and other personal information of the reviewers will not be disclosed.

f. **Reviewers' Compensation.** The Tulsa District provides all labor funds for the review. The PMP budget includes \$5,000 for each review cycle (FSM, AFB, draft report)

**g. Reviewers Charge.** The PCX charges the review team to review all scientific and technical matters to include review of methods, analysis and formulation of the alternatives and recommended plan; compliance with the NEPA process and completeness of supporting technical documentation. The ATR team will review the document and make clear, concise comments, with notation of the section and paragraph to which the comment is directed. The reviewer will state why the comment is important and the consequences of failure to address the comment. The review will also suggest how to address the comment. In a similar fashion the reviewer may offer broad evaluation of the overall document on the basis of scientific and technical merit. All policy determination is the responsibility of Headquarters and the Assistant Secretary of Army.

**h. Confidentiality.** Review will be conducted in a manner that respects business information and intellectual property.

**i. Review Mechanism.** For reasons stated earlier, Agency Technical Review (ATR) is recommended using a team of reviewers with specialized expertise in water supply studies. The purpose of the ATR is to provide in-depth review of the technical, engineering and scientific work, managed within the USACE through the appropriate PCX and using a qualified review team outside the home district. The review team has been selected from Fort Worth District staff. The review mechanism is based on the complexity of the information to be reviewed, the importance of the information to decision making, the extent of prior review, and the expected costs and benefits of review, as well as factors regarding transparency. The review mechanism shall be ATR using a team with the required expertise and with support from the PCX.

**j. Access to Information.** Reviewers will have access to all information used in the analysis and documentation of the report. Any other information maintained by the District will be made available to reviewer. The project manager of the study is Cynthia Kitchens, who will serve as a POC for all requests for information.

**k. Disclaimer.** Information distributed for review includes the following statement: "This information is distributed solely for the purpose of pre-dissemination review under applicable information quality guidelines. It has not been formally disseminated by USACE. It does not represent and should not be construed to represent any agency determination or policy."

**l. Public Participation.** The Tulsa District has and will continue to make draft documents available for public review. Draft documents would be mailed to interested stakeholders and posted on the District website. All the public involvement requirements for NEPA have been and will continue to be met.

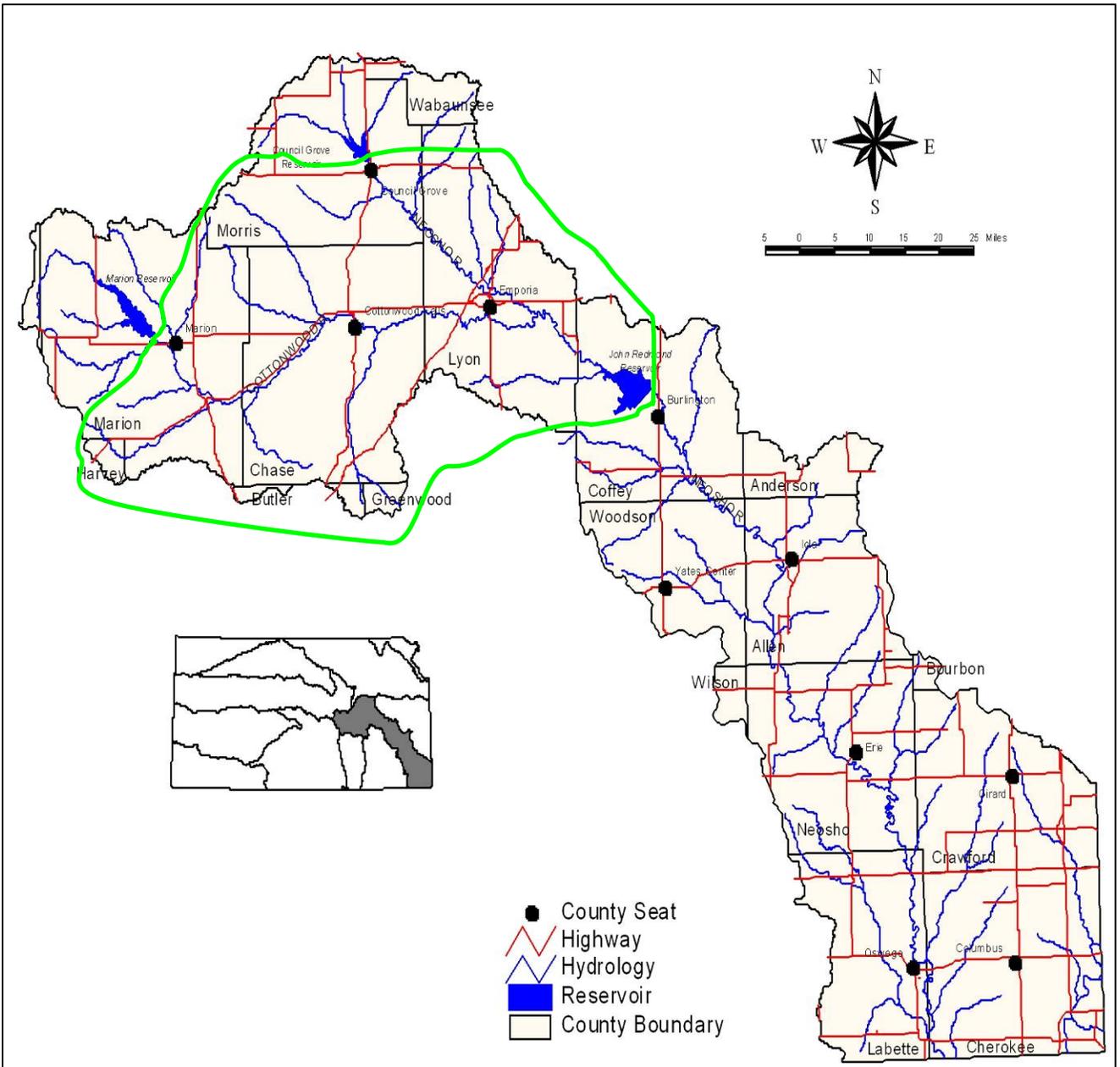
**m. Transparency.** The PCX instructs the review team to prepare a review report. The report will disclose the names, background and affiliation of all reviewers. The nature of the review and the ATR team's charge will be presented in the report. A copy

of the comments and the associated reviewer will be included. DrChecks will be used to document the ATR process and will aid in production of the review report.

n. **Responses to the Review Report.** Written responses to the review report will be prepared using DrChecks. Responses will include an explanation of how the responses/actions are expected to satisfy the comments/concern documented in the review report. The back check by the ATR team of reviewers will be documented in DrChecks. The review report and comment resolution will be included as an appendix in the final report. The reviewers' names will be removed from the review report prior to the inclusion in the final report appendix, as per paragraph K.5 above.

**14. Approval of the Review Plan.** Southwestern Division, the MSC for the Tulsa District, will approve the review plan in accordance to EC 1105-2-410, dated August 22, 2008, Appendix B (page B-5). The MSC will provide the approval memorandum to the Headquarters Southwestern Division Regional Integration Team. The Review Plan is a living document and may be modified as the study continues. Approval of any revisions will follow the process of the original approval. The approved review plan and the MSC approval memorandum will be posted on the District webpage with links to the MSC, PCX, and HQUSACE.

### Study Area



DATA SOURCES:  
 Hydrology: EPA RF 1  
 Political Boundaries: KCD  
 Towns: GNIS/USGS  
 Roads: 100K DLG/USGS/DASC

This map intended for planning purposes only.  
 Kansas Water Office, May 1999

**Neosho River Basin in Kansas**

**John Redmond Feasibility Study Area** 

