

PROJECT MANAGEMENT PLAN  
JOHN H. KERR DAM AND RESERVOIR  
VIRGINIA AND NORTH CAROLINA  
(SECTION 216)  
FEASIBILITY STUDY



JOHN H. KERR DAM AND RESERVOIR

SEPTEMBER 2005



**US Army Corps  
of Engineers**  
Wilmington District

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Prepared by:

US Army Corps of Engineers  
Wilmington District

The State of North Carolina

The Commonwealth of Virginia



**US Army Corps  
of Engineers**  
Wilmington District



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**PROJECT MANAGEMENT PLAN  
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**Introduction**

The Feasibility Study, authorized under Section 216 of Public Law 91-611, the River and Harbor and Flood Control Act of 1970, as amended, will review the operation of the John H. Kerr Dam and Reservoir and report recommendations to Congress on the advisability of modifying the structures or the structures' operation and for improving the quality of the environment in the overall public interest. Information developed during the Feasibility Study may become the basis for actions specifically authorized by Congress or by the legislatures of the Sponsors, the State of North Carolina, and the Commonwealth of Virginia; addressed by the existing continuing authorities of the US Army Corps of Engineers; and for actions by non-government organizations (NGO). The Study provides interested parties an opportunity to integrate multiple perspectives and assets to achieve the common goal. The parties commit to effective and efficient management of their responsibilities for the Study, and to the sharing of information about the Study.

Prior to the initiation of this study, and Initial Appraisal was completed, with project funds, to determine in a preliminary way the subjects that needed addressed by a Section 216 Study. This lead to the reconnaissance study. In turn, approval of participation in this Feasibility Study by the US Army Corps of Engineers, Wilmington District, was based on the *Reconnaissance Phase Section 905(b) Analysis for John H. Kerr Dam and Reservoir, Virginia and North Carolina 216 and a Supplemental Sheet* prepared in response to comments on the 905(b) from the U.S. Army Corps of Engineers South Atlantic Division. These documents indicate that the Feasibility Study will address subjects determined in the Initial Appraisal Report for the Study, and identified by citizens during hearings held in the Study area. More than 40 topics were identified and categorized into 11 Study Subjects. These tasks have been modified by combining the Downstream Aquatic Habitat task with the Diadromous Fish task to form the Diadromous Fish and Downstream Riverine Aquatic Resources Task. The Applicable Laws and Regulations Task has been deferred until later in the Study process. There are 9 remaining study subjects to be addressed. Task implementation has been developed to consider each Study Subject. US Army Corps of Engineers Regulation 1105-2-100, Planning Guidance Notebook, provides full guidance regarding conduct of the study.

**Study Area Description**

The John H. Kerr Dam and Reservoir is located on the Roanoke River, about 178.7 river-miles above the mouth. It is in Mecklenburg County, Virginia, 20.3 miles downstream from Clarksville, Virginia, 18 miles upstream from the Virginia-North Carolina border, and 80 air-miles southwest of Richmond, Virginia. The area of inundation at the top of the gate elevation for the Reservoir extends upstream on the Roanoke River 56 miles and extends 34 miles on the Dan River. The project was completed in 1952. John H. Kerr Reservoir is a significant regional resource. It provides quality natural resource-based recreation for area residents and a desirable

outdoor experience for more than 2 million visitors a year. It provides municipal and industrial water supply, wastewater assimilation, and enhanced farming and forestry opportunities. The Roanoke River Basin below John H. Kerr Dam and Reservoir is one of the finest remaining river swamp forest ecosystems within the eastern United States. These bottomland hardwood forests, uplands, and streams provide a high quality habitat for fish, wildlife and waterfowl. The primary project purposes authorized by Congress were flood control and hydroelectric power generation.

The study area includes the John H. Kerr Dam and Reservoir and the Roanoke River Basin beginning at the Dam and proceeding downstream to the Albemarle Sound. For this study, the area will be referred to as the Lower Roanoke River Basin. The Study Area is located in Charlotte, Halifax, Mecklenburg, and Brunswick Counties of Virginia, and in Granville, Vance, Warren, Halifax, Northampton, Bertie, Martin and Washington Counties of North Carolina. A Reconnaissance Phase feasibility study (Section 905(B)) analysis is currently underway for the Philpott Lake to determine if there is an interest in undertaking a Section 216 study for Philpott. If a 216 Study is undertaken at Philpott, the study teams will work closely together to assure that any changes are implemented system wide. The Philpott Lake study area includes Patrick, Franklin, Henry, and Pittsylvania Counties in Virginia, and Rockingham and Caswell Counties in North Carolina. The study area is located in the following Virginia and North Carolina, and is located in the 4<sup>th</sup> and 5<sup>th</sup> Congressional District in North Carolina and the 1<sup>st</sup> and 3<sup>rd</sup>. Congressional Districts in Virginia.

### **The Phases of the Study**

This Project Management Plan (PMP) will be prepared in three phases. The first phase details the plan for the Feasibility Study to the first major decision point, the first In-Progress Review (IPR). In the first phase of the Study, existing data about the Study Subjects will be gathered, and recommendations for further study will be developed. As the Study progresses, the PMP will be modified to detail the plans for Phases 2 and 3. The Sponsors may request changes in the PMP, which will be changed by the USACE as plans for the Study change.

Upon completion of Tasks in Phase I, an IPR with more Sponsors, senior USACE representatives, and resource agency representatives will be conducted. The IPR will be a Feasibility Scoping Meeting, as described in USACE Planning Guidance Notebook, Appendix G. The Feasibility Scoping Meeting will ensure that the Study is correctly focused and that the essential Study objectives are addressed.

In Phase II of the Study, multiple technical studies addressing identified objectives, will be performed to develop specific, quantitative, and qualitative goals and to assess existing problems, needs, and opportunities. Addressing identified objectives in Phase II via data collection, modeling, and analysis will set the stage for development of alternatives in Phase III.

In Phase III of the Study, alternatives will be developed and evaluated to meet the goals and objectives identified in Phase II. Outputs and impacts of each alternative will be determined, trade-off analysis performed, and, if appropriate, actions selected for recommendation to Congress. A feasibility report and National Environmental Policy Act documentation will be prepared.

Within the first phase, the Project Management Plan requires the following tasks for each Study Subject.

- ❑ Gather and evaluate existing relevant data.
- ❑ Identify gaps in the existing relevant data.
- ❑ Develop recommendations to fill gaps in the existing relevant data.
- ❑ Identify and evaluate existing methods and tools for study of the subject.
- ❑ Develop a plan to keep models and data available to the public and in compatible formats.
- ❑ Develop an approach for combining individual models and investigations into an overall system evaluation.
- ❑ Develop a stepwise procedure to conceive and test alternatives to the existing condition.
- ❑ Complete a risk analysis evaluation associated with gaps in existing methods and tools necessary for study of the subject.
- ❑ Develop recommendations regarding further study of the subject.

The level of accuracy within the descriptions and the associated cost estimates depends upon the extent of uncertainties and the depth of investigations made in preparing them.

The detailed focus and scope of the entire Feasibility Study is incomplete. All investigations performed for the Study will, at a minimum, comply with legal obligations and administration policy and will not compromise professional standards. This will allow all the results of the Study, even parts not receiving detailed analysis, to be of use and value to the Sponsors and USACE. Requirements exceeding these minimum standards are presumed and will be negotiated by the Sponsors and the USACE, based on complexity, available resources, and associated risks.

For each Study Subject, adequate information will be developed in Phase I to produce a product allowing the Sponsors and USACE decision-makers to decide what additional investigation may be needed. Documentation and evaluation of existing data and study methods will be produced for use by the Sponsors and USACE regardless of whether it becomes incorporated as a Study Subject in the Feasibility Study. Initial goals of the IPR are to provide information for determining areas in need of further study and to provide information and to provide information regarding authorized operation of John H. Kerr Dam and Reservoir for environmental restoration considerations and for the Sponsors in the performance of their authorized functions.

### **Communication and Decision-making Processes**

The Project Delivery Team (referred to as the Study Management Team in the Feasibility Cost Sharing Agreement) is committing to the detailed Task Outline described below, to ensure full communication and for identifying and resolving any concerns, problems, or disagreements. Resolutions shall be reached through discussion among employees in the study management level in which the issue arises and will be resolved at the earliest possible stage.

Examples of matters that may be discussed in these processes include coordination of USACE's requests for funds with the funding cycles of the Sponsors, a Sponsor's potential need to suspend the Study due to lack of funding, and identification of work which the Sponsors may propose for negotiation as work in-kind.

USACE and the Sponsors commit to appointing individuals with equivalent authority to act for them, to ensure constant representation is available during established time periods for these processes. Communication may include telephone and electronic communications and face-to-face discussions, as needed to keep each other timely informed on all matters related to the Study.

As the Feasibility Cost Sharing Agreement states, the John H. Kerr 216 Executive Committee is tasked with ensuring consistent and effective communication. The following individuals are designated to serve on the Executive Committee: David Paylor, Virginia Deputy Secretary of Natural Resources; John Morris, Director, North Carolina Division of Water Resources; and Ben Wood, the Deputy District Engineer for Programs and Project Management of the Wilmington District Corps of Engineers. The Executive Committee will generally oversee the Study, consistent with this PMP, and will make recommendations deemed warranted to the District Engineer, including suggestions to avoid potential sources of dispute. The Executive Committee will meet at least quarterly until the end of the Study Period. Location and specific times will be determined during conduct of the study.

The Project Delivery Team will inform the Executive Committee of significant pending issues and actions and will prepare monthly written reports to the Executive Committee documenting the progress of the Study. Task expenditures will be documented in these monitoring reports to provide adequate time for full discussion of Study Costs escalation.

To ensure timely completion of the John H. Kerr 216 Feasibility Study, any member of the Executive Committee, the Project Delivery Team, or subject matter specialist employed by USACE may request immediate discussion of any arising issues affecting the Study.

Upon the conclusion of Phase I, the PDT will prepare and present recommendations for Phase II, to the Executive Committee. Recommendations from the PDT will include a proposed scope of work which will define tasks, costs, responsible parties, and cost sharing requirements. The Executive Committee will present the final recommendation to the USACE, Wilmington District Commander.

Prior to issuance of any order under the Study, the party issuing the order shall allow other involved parties a minimum of ten working days to review the order. Access to proposals for contract award will be limited to the individuals appointed to serve on the contract evaluation Team by the Contracting Officer, the Contracting Staff, and Contracting Officer of the party issuing the contract. Membership on the contract evaluation team should include staff members of the Wilmington District, the State of North Carolina, and the Commonwealth of Virginia.

## **Public Involvement, Collaboration, and Coordination with Other Agencies**

As established by USACE Regulation 1105-2-100, Planning Guidance Notebook, Appendix B, the Feasibility Study will document substantial active involvement by interested government and non-governmental agencies and organizations. The goal of public involvement is to obtain information and views of those with an interest in the Study, so that their comments and concerns receive full consideration in the planning process. Significant public involvement has occurred and been acknowledged for a substantial period of time regarding Dominion Inc's application for a renewal of their license for the hydropower facilities downstream of the John H. Kerr Dam by the Federal Energy Regulatory Commission (FERC).

A Sponsors' Advisory Committee has been established by the sponsors, the states of Virginia and North Carolina, which includes many of those who participated in the FERC process. The Sponsors' Advisory Committee will provide input to the Sponsors for consideration during decision-making activities affecting the Study. The Sponsors' Advisory Committee includes representatives of federal, state, and local governments, and representatives of businesses and environmental organizations. Primary responsibility of the Sponsors' Advisory Committee, under the John H. Kerr Feasibility Study, is to avoid conflicting interests amongst involved parties, especially potential contractors.

Formal collaboration or coordination between USACE and other agencies is not anticipated during Phase I. However, during Phase I, subject matter specialists, many of whom participated in the FERC process and are members of the Sponsors' Advisory Committee, will be consulted regarding the Study Subjects. Other steps facilitating public involvement will be developed for Phases Two and Three.

Costs for attendance at the Sponsors' Advisory Committee Meetings by members of the Executive Committee, the Project Delivery Team, and individuals responsible for performing work for USACE or for performing in-kind work for the Sponsors shall be included in total project costs and cost shared. Other expenses of the Sponsors' Advisory Committee shall not be included in total project costs or cost shared.

For each of the 10 Study Subjects Tasks identified in the PMP for Phase I, subject matter experts are identified, including USACE employees, the Sponsors, and employees or representatives of other government and non-government organizations, and businesses. Many of these subject matter experts have participated in the Dominion's Inc. FERC license renewal process. The subject matter experts will be consulted for information and advice during the performance of each task. For the purpose of completing Phase I actions, the sponsors will contribute 50% of the total project cost in cash or a combination of cash and in-kind services. In-kind services will be limited to 50% of the sponsors portion of the cost share.

## **Results of Phase I**

Phase I efforts resulted in identification of the data needed to accomplish the analysis for this study. It also resulted in the development of Scopes of Work for collection of data for the following Resource Teams:

- ❑ Downstream Flow Regime and Effects on Riparian Ecosystem
- ❑ Water Quality
- ❑ Sedimentation and Channel Morphology
- ❑ Reservoir Resources
- ❑ Downstream Flow Based Recreation
- ❑ Salt Wedge
- ❑ Diadromous Fish and Downstream Riverine Aquatic Resources
- ❑ Operating Policies and Administrative Procedures
- ❑ Modeling Oversight

Work was deferred for the Water Supply Team prior to completion of the Scope of Work.

## **Cost of Phase I**

Expenditures through July 2005 for Phase I tasks were \$560,000, not including the sponsors' estimated work in-kind. An additional \$42,000 in Phase I costs has been identified for the development of the Water Supply Scope of Work for Phase II. No additional Phase I costs are anticipated.

*Tasks and Costs for Phase II*

Phase II - Task 1: Downstream Flow Regime and Effects on Riparian Ecosystem

Phase II - Task 1: Subject Matter Specialists (PDT & ITR Members)

- ❑ Dominion Inc.
- ❑ The Nature Conservancy (TNC)
- ❑ NC Department of Environment and Natural Resources (NCDENR)
- ❑ Division of Water Resources (NCDWR)
- ❑ Division of Water Quality (NCDWQ)
- ❑ Natural Heritage Program (NCNHP)
- ❑ Roanoke River National Wildlife Refuge (RRNWR)
- ❑ US Fish and Wildlife Service (USFWS)
- ❑ US Army Corps of Engineers (USACE)
- ❑ International Paper (IP)
- ❑ US Geological Survey (USGS)

METHOD OF ACCOMPLISHMENT: This task should be undertaken by a private consultant.

TIME:

Downstream Flow Regime and Effects on Riparian Ecosystem Sub Tasks	
Flood Model Evaluation	\$26,690
Baseline Information to Evaluate Impact of Downstream Flooding on Agriculture, Timber Operations, and Road Access	\$150,000
Update of Comprehensive Vegetation Map	\$50,000
Bottomland Hardwood Productivity and Recruitment Study	\$30,000
Administer Contract/Work Order	\$4,307
<b>Federal</b>	<b>\$130,500</b>
<b>Non-Federal</b>	<b>\$130,500</b>
<b>Non-Federal (Cash)</b>	<b>TBD</b>
<b>Non-Federal (In-Kind)</b>	<b>TBD</b>
<b>Total Cost Downstream Flow Regime and Effects on Downstream Riparian Ecosystem</b>	<b>\$261,000</b>
<a href="#">Link to Downstream Flow Regime and Effects on Downstream Riparian Ecosystem Scope of Work</a>  <a href="#">Link to Flood Mapping Model Scope of Work</a>	

Phase II - Task 2: Water Quality

Phase II - Task 2: Subject Matter Specialists (PDT & ITR Members)

- ❑ Dominion Inc.
- ❑ NC Division of Water Quality (NCDWQ)
- ❑ NC Wildlife Resources Commission (NCWRC)
- ❑ Roanoke River National Wildlife Refuge (RRNWF)
- ❑ US Army Corps of Engineers Wilmington District (USACE)
- ❑ US Fish and Wildlife Service (USFWS)
- ❑ US Geological Survey (USGS)
- ❑ VA Department of Game and Inland Fisheries (VADGIF)
- ❑ VA Department of Environmental Quality (VADEQ)
- ❑ The Nature Conservancy (TNC)
- ❑ Weyerhaeuser
- ❑ Other agencies as appropriate

METHOD OF ACCOMPLISHMENT: Transfer Funding to USGS

TIME: (How much time in person days will task take.)

<b>Water Quality Sub Tasks</b>	
Modeling Strategy Development	\$45,000
Interim Modeling Letter Report	\$20,000
Field Monitoring	\$888,000
Hydrodynamic Modeling	\$165,000
Water Quality Monitoring	\$110,000
Management Scenario Analysis	\$118,000
Administer Contract/Work Order	\$81,000
<b>Federal</b>	<b>\$713,500</b>
<b>Non-Federal</b>	<b>\$713,500</b>
<b>Non-Federal (Cash)</b>	<b>TBD</b>
<b>Non-Federal (In-Kind)</b>	<b>TBD</b>
<b>Total Cost Downstream Flow Regime and Effects on Downstream Riparian Ecosystem</b>	<b>\$1,427,000</b>
<a href="#"><u>Link to Water Quality Scope of Work</u></a>	

Phase II - Task 3: Sedimentation and Channel Morphology

Phase II - Task 3: Subject Matter Specialists (PDT & ITR Members)

- ❑ US Geological Survey (USGS)
  - Reston, Virginia
  - Raleigh, North Carolina
  - Baltimore, Maryland
- ❑ Roanoke River National Wildlife Refuge (RRNWR)
- ❑ US Army Corps of Engineers, Wilmington District (USACE)
- ❑ NC Division of Water Quality (NCDWQ)
- ❑ Dominion Inc.
- ❑ Riverine Geomorphologists, Sedimentation Expert (as needed)

METHOD OF ACCOMPLISHMENT: Transfer Funding to USGS

TIME: (How much time in person days will task take.)

<b>Sedimentation and Channel Morphology Sub Tasks</b>	
Establishment of Channel and Floodplain Cross-Section	\$17,012
Monitoring Transects	\$37,990
Channel Dynamics (bathymetry)	\$15,860
Suspended Sediment Sampling	\$8,500
Floodplain Trapping	\$60,225
Modeling Task (Deferred)	\$129,120
Analysis and Report Writing	\$128,675
Administer Contract/Work Order	\$23,618
<b>Federal</b>	<b>\$210,500</b>
<b>Non-Federal</b>	<b>\$210,500</b>
<b>Non-Federal (Cash)</b>	<b>TBD</b>
<b>Non-Federal (In-Kind)</b>	<b>TBD</b>
<b>Total Cost Downstream Flow Regime and Effects on Downstream Riparian Ecosystem</b>	<b>\$421,000</b>
<a href="#"><u>Link to Sedimentation and Channel Morphology Scope of Work</u></a>	

Phase II - Task 4: Reservoir Resources

Phase II - Task 4: Subject Matter Specialists (PDT & ITR Members)

- ❑ NC Department of Parks and Recreation (NCDPR)
- ❑ NC Wildlife Resources Commission (NCWRC)
- ❑ Regional Partnership of Local Government
- ❑ Roanoke River Basin Association (RRBA)
- ❑ Southeastern Power Administration (SEPA)
- ❑ US Army Corps of Engineers, Wilmington District (USACE)
- ❑ VA Department of Conservation & Recreation (VADCR)
- ❑ VA Department of Game and Inland Fisheries (VADGIF)

METHOD OF ACCOMPLISHMENT: This task should be undertaken by a private consultant.

TIME:

Reservoir Resources Sub Tasks	
Establish Relationship Between Recreation Use and Water Management	\$100,000
Fish Entrainment and Impingement Study	\$50,000
Downstream Fish Passage	\$75,000
Fish Spawning and Recruitment Study	\$35,000
Recruitment of Ground Nesting Birds	\$20,000
Spawning and Habitat Degradation and Shoreline Erosion Study	\$20,000
Waterfowl Recruitment and Abundance Study	\$20,000
Riparian Habitat Loss and Neotropical Birds	\$20,000
Vernal Pond Study	\$20,000
<b>Federal</b>	<b>\$180,000</b>
<b>Non-Federal</b>	<b>\$180,000</b>
<b>Non-Federal (Cash)</b>	<b>TBD</b>
<b>Non-Federal (In-Kind)</b>	<b>TBD</b>
<b>Total Cost Reservoir Resources</b>	<b>\$360,000</b>
<a href="#"><u>Link to Reservoir Resources Scope of Work</u></a>	

Phase II - Task 5: Downstream Flow Based Recreation

Phase II - Task 5: Subject Matter Specialists (PDT & ITR Members)

- ❑ NC Division of Water Resources (NCDWR)
- ❑ NC Wildlife Resources Commission (NCWRC)
- ❑ The Nature Conservancy (TNC)
- ❑ US Army Corps of Engineers, Wilmington District (USACE)
- ❑ VA Department of Conservation & Recreation (VADCR)
- ❑ Roanoke River Partners (RRP)
- ❑ Roanoke River National Wildlife Refuge (RRNWR)

METHOD OF ACCOMPLISHMENT: This Task should be undertaken by a private consultant.

TIME: (How much time in person days will task take.)

Downstream Flow Based Recreation Sub Tasks	
Geographic-based Evaluation of Flooding Impacts on Recreation Access and Immersion of Recreation Lands	\$30,000
Downstream Recreation Carrying Capacity	\$35,000
Determination of How Recreation User Days are Influenced by John H, Kerr Operations	\$90,000
Administer Contract/Work Order	\$9,000
<b>Federal</b>	<b>\$82,000</b>
<b>Non-Federal</b>	<b>\$82,000</b>
<b>Non-Federal (Cash)</b>	<b>TBD</b>
<b>Non-Federal (In-Kind)</b>	<b>TBD</b>
<b>Total Cost Reservoir Resources</b>	<b>\$164,000</b>
<a href="#"><u>Link to Downstream Flow Based Recreation Scope of Work</u></a>	

Phase II - Task 6: Salt Wedge

Phase II - Task 6: Subject Matter Specialists (PDT & ITR Members)

- ❑ NC Division of Water Quality (NCDWQ)
- ❑ US Army Corps of Engineers, Wilmington District, (USACE)
- ❑ US Fish and Wildlife Service (USFWS)
- ❑ Weyerhaeuser Corporation

METHOD OF ACCOMPLISHMENT: This Task should be undertaken by a private consultant.

TIME: (How much time in person days will task take.)

Salt Wedge Sub Tasks	
Existing Salinity Data Collection and Organization	\$25,000
Drought Data Collection	\$75,000
Evaluate and Modify Hydrodynamic Water Quality Model	\$75,000
Run and Evaluate Scenarios	\$60,000
Administer Contract/Work Order	14,000
<b>Federal</b>	<b>\$124,500</b>
<b>Non-Federal</b>	<b>\$124,500</b>
<b>Non-Federal (Cash)</b>	<b>TBD</b>
<b>Non-Federal (In-Kind)</b>	<b>TBD</b>
<b>Total Cost Reservoir Resources</b>	<b>\$249,000</b>
<a href="#">Link to Salt Wedge Scope of Work</a>	

Phase II - Task 7 Diadromous Fish and Downstream Riverine Aquatic Resources

Phase II - Task 7: Subject Matter Specialists (PDT & ITR Members)

- ❑ Dominion Inc.
- ❑ National Marine Fisheries Service (NMFS)
- ❑ NC Division of Marine Fisheries (NCDMF)
- ❑ NC Division of Water Resources NCDWR)
- ❑ NC Wildlife Resources Commission (NCWRC)
- ❑ US Army Corps of Engineers, Wilmington District, (USACE)
- ❑ US Fish and Wildlife Service – South Atlantic Fisheries (USFWS-SAF)
- ❑ Virginia Department of Game and Inland Fisheries (VADGIF)

METHOD OF ACCOMPLISHMENT: This Task should be undertaken by a private consultant.

TIME:

Diadromous Fish and Riverine Aquatic Resources Sub Tasks	
Aerial Videography of Bankside Woody Debris	\$110,000
Review Roanoke River Diadromous Fish Plan	\$10,000
Finalize Roanoke River Diadromous Fish Plan	\$28,000
Conceptual Design of Fish Passage Facilities at John H. Kerr Dam	\$24,000
Scoping For Additional Studies	\$12,000
Administer Contract/Work Order	\$11,000
<b>Federal</b>	<b>\$97,500</b>
<b>Non-Federal</b>	<b>\$97,500</b>
<b>Non-Federal (Cash)</b>	<b>TBD</b>
<b>Non-Federal (In-Kind)</b>	<b>TBD</b>
<b>Total Cost Reservoir Resources</b>	<b>\$195,000</b>
<a href="#"><u>Link to Diadromous Fish and Riverine Aquatic Resources Scope of Work</u></a>	

Phase II - Task 8: Water Supply

Phase II - Task 8: Subject Matter Specialists (PDT & ITR Members)

- ❑ City of Virginia Beach (CVB)
- ❑ Dominion Inc.
- ❑ NC Division of Water Resources (NCDWR)
- ❑ Roanoke River Basin Association (RRBA)
- ❑ Southeastern Power Administration (SEPA)
- ❑ US Army Corps of Engineers, Wilmington District (USACE)
- ❑ VA Department of Environmental Quality (VADEQ)

METHOD OF ACCOMPLISHMENT:

TIME: (How much time in person days will task take.)

Developments of the Scope of Work and Cost Estimates for Phase II studies have not been completed for this Task pending decisions of the Executive Committee.

Phase II - Task 9. Operating Policies and Administrative Procedure

Phase II - Task 9: Subject Matter Specialists (PDT & ITR Members)

- ❑ City of Virginia Beach (CVB)
- ❑ Dominion Inc.
- ❑ Hydro Logics, Inc. (HLI)
- ❑ NC Division of Water Resources (NCDWR)
- ❑ Southeastern Power Administration (SEPA)
- ❑ US Army Corps of Engineers , Wilmington District (USACE)
- ❑ VA Department of Environmental Quality (VADEQ)

METHOD OF ACCOMPLISHMENT: This Task should be undertaken by a private consultant.

TIME:

Operating Policies and Administrative Procedure Sub Tasks	
Review Operating Policies and Administrative Procedures	\$45,000
<b>Federal</b>	<b>\$22,500</b>
<b>Non-Federal</b>	<b>\$22,500</b>
<b>Non-Federal (Cash)</b>	<b>TBD</b>
<b>Non-Federal (In-Kind)</b>	<b>TBD</b>
<b>Total Cost Reservoir Resources</b>	<b>\$45,00</b>
<a href="#"><u>Link to Operating Policies and Administrative Procedure Scope of Work</u></a>	

Phase II - Task 10: Modeling Oversight

Subject Matter Specialist *Taken from Phase I. Change as required.*

- ❑ NC Division of Water Quality (NCDWQ)
- ❑ NC Division of Water Resources (NCDWR)
- ❑ The Nature Conservancy (TNC)
- ❑ Unidentified Stakeholder (To be Determined)
- ❑ US Army Corps of Engineers, Wilmington District (USACE)
- ❑ Virginia Department of Environmental Quality (VADEQ)

METHOD OF ACCOMPLISHMENT: This Task is being undertaken by HDR, Inc.

TIME: (How much time in person days will task take.)

Modeling Oversight Sub Tasks	
Roanoke River Basin Reservoir Operation Model (RRBROM) Update	\$90,961
Administer Contract	\$3,039
Model Oversight (Funded by Workgroup Requesting Review)	TBD
<b>Federal</b>	<b>\$47,000</b>
<b>Non-Federal</b>	<b>\$47,000</b>
<b>Non-Federal (Cash)</b>	<b>\$47,000</b>
<b>Non-Federal (In-Kind)</b>	<b>\$0</b>
<b>Total Cost Reservoir Resources</b>	<b>\$94,000</b>
<a href="#">Link to RRBROM Update Scope of Work</a>	

John H. Kerr 216 Dam and Reservoir (Section 216) Study  
Cost Estimate for Phase II Study Tasks

Tasks	Costs	Method of Accomplishment	Approval Date/ Status of EC Review	FY 05 Recommended Expenditures	FY 06 Recommended Expenditures	FY 07 Recommended Expenditures	FY 08 Recommended Expenditures	EC Comment 22 Feb 2005
<b>Work Group 1 - Downstream Flow Regime and Effects on Riparian Ecosystem</b>								
Flood Model Evaluation	\$26,693	State Awarded Contract Department of Water Resources will Administer as In-kind Service	13-Dec-2004		\$26,693			Approved
Baseline Information to Evaluate Impacts of Downstream Flooding on Agriculture, Timber Operations and Road Access	\$150,000	State Awarded Contract Department of Water Resources will Administer as In-kind Service	13-Dec-2004		\$150,000			FY 06 Cost
Update Comprehensive Vegetation Map	\$50,000	State Awarded Contract Department of Water Resources will Administer as In-kind Service	27-Sep-2004		\$50,000			Deferred
Bottomland Hardwood Productivity and Recruitment Study	\$30,000	State Awarded Contract Department of Water Resources will Administer as In-kind Service	27-Sep-2004		\$30,000			FY 06 Cost
Administer Contract/Work Order	\$4,307	USACE		\$400	\$3,907			
<b>Work Group 1 - Downstream Flow Regime and Effects on Riparian Ecosystem</b>	<b>\$261,000</b>			<b>\$400</b>	<b>\$260,600</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<b>Work Group 2 - Water Quality</b>								
Monitoring Strategy Development	\$45,000	Private Contractor or Transfer Funding to USGS	Look at ways to accelerate schedule	\$20,000	\$25,000			Approved
Interim Modeling Letter Report	\$20,000	Private Contractor			\$20,000			Approved
Field Monitoring	\$888,000	Private Contractor or Transfer Funding to USGS	Look at ways to accelerate schedule		\$444,000	\$444,000		FY 07 Cost
Hydrodynamic Modeling	\$165,000	Private Contractor or Transfer Funding to USGS	Look at ways to accelerate schedule				\$165,000	FY 08 Cost
Water Quality Modeling	\$110,000	Private Contractor or Transfer Funding to USGS	Look at ways to accelerate schedule				\$110,000	FY 08 Cost
Management Scenario Analysis	\$118,000	Private Contractor or Transfer Funding to USGS	Look at ways to accelerate schedule				\$118,000	FY 08 Cost
Administer Contract/Work Order	\$81,000			\$1,200	\$30,000	\$26,000	\$23,800	FY-05 - FY 08 Cost
<b>Work Group 2 - Water Quality</b>	<b>\$1,427,000</b>			<b>\$21,200</b>	<b>\$519,000</b>	<b>\$470,000</b>	<b>\$416,800</b>	
<b>Work Group 3 - Sedimentation and Channel Morphology</b>								
Establishment of Channel and Floodplain Cross-Sections	\$17,012	Transfer Funding to USGS	13-Dec-2004	\$17,012				
Monitoring Transects	\$37,990	Transfer Funding to USGS	13-Dec-2004				\$37,990	FY 08 Cost
Channel Dynamics (bathymetry)	\$15,860	Transfer Funding to USGS	13-Dec-2004			\$15,860		FY 07 Cost
Suspended Sediment Samplings	\$8,500	Transfer Funding to USGS	13-Dec-2004	\$8,500				Deferred
Floodplain Trapping	\$60,225	Transfer Funding to USGS				\$60,225		FY 07 Cost
Modeling Task (estimated at \$129,120 deferred)	\$129,120		Deferred				\$129,120	
Analysis and Report Writing	\$128,675	Transfer Funding to USGS					\$128,675	
Administer Contract/Work Order	\$23,618			\$5,000		\$1,000	\$17,618	
<b>Work Group 3 - Sedimentation and Channel Morphology</b>	<b>\$421,000</b>			<b>\$30,512</b>	<b>\$0</b>	<b>\$77,085</b>	<b>\$313,403</b>	

John H. Kerr 216 Dam and Reservoir (Section 216) Study  
 Cost Estimate for Phase II Study Tasks

Tasks	Costs	Method of Accomplishment	Approval Date/ Status of EC Review	FY 05 Recommended Expenditures	FY 06 Recommended Expenditures	FY 07 Recommended Expenditures	FY 08 Recommended Expenditures	EC Comment 22 Feb 2005
<b>Work Group 4 - Reservoir Resources</b>								
<i>Establish Relationship Between Recreation Use and Water Management</i>	\$100,000	USACE/North Carolina/Virginia	Not Yet Reviewed By Executive Committee				\$100,000	
<i>Fish Entrainment and Impingement Study</i>	\$50,000	USACE/North Carolina/Virginia	Not Yet Reviewed By Executive Committee				\$50,000	
<i>Downstream Fish Passage</i>	\$75,000	USACE/North Carolina/Virginia	Not Yet Reviewed By Executive Committee				\$75,000	
<i>Fish Spawning and Recruitment Study</i>	\$35,000	USACE/North Carolina/Virginia	Not Yet Reviewed By Executive Committee				\$35,000	
<i>Recruitment of Ground Nesting Birds</i>	\$20,000	USACE/North Carolina/Virginia	Not Yet Reviewed By Executive Committee				\$20,000	
<i>Spawning and Habitat Degradation and Shoreline Erosion Study</i>	\$20,000	USACE/North Carolina/Virginia	Not Yet Reviewed By Executive Committee				\$20,000	
<i>Waterfowl Recruitment and Abundance Study</i>	\$20,000	USACE/North Carolina/Virginia	Not Yet Reviewed By Executive Committee				\$20,000	
<i>Riparian Habitat Loss and Neotropical Birds</i>	\$20,000	USACE/North Carolina/Virginia	Not Yet Reviewed By Executive Committee				\$20,000	
<i>Vernal Pond Study</i>	\$20,000	USACE/North Carolina/Virginia	Not Yet Reviewed By Executive Committee				\$20,000	
<b>Work Group 4 - Reservoir Resources</b>	<b>\$360,000</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$360,000</b>	
<b>Work Group 5 - Downstream Flow Based Recreation</b>								
Geographic-based Evaluation of Flooding Impacts on Recreation Access and Immersion of Recreation Lands	\$30,000	Private Contractor	Deferred		\$15,000		\$15,000	Deferred
Downstream Recreation Carrying Capacity	\$35,000	Private Contractor	13-Dec-2004		\$35,000			FY 06 Cost
Determination of How Recreation User Days are Influenced by John H. Kerr Operations	\$90,000	Private Contractor	Deferred		\$45,000		\$45,000	Deferred
Administer Contract/Work Order	\$9,000	USACE	Deferred		\$6,000		\$3,000	Deferred
<b>Work Group 5 - Downstream Flow Based Recreation</b>	<b>\$164,000</b>			<b>\$0</b>	<b>\$101,000</b>	<b>\$0</b>	<b>\$63,000</b>	
<b>Work Group 6 - Salt Wedge</b>								
<i>Existing Salinity Data Collection and Organization</i>	\$25,000	Private Contractor	Not Yet Reviewed By Executive Committee				\$25,000	
<i>Drought Data Collection</i>	\$75,000	Private Contractor	Not Yet Reviewed By Executive Committee				\$75,000	
<i>Evaluate and Modify Hydrodynamic and Water Quality Model</i>	\$75,000	Private Contractor	Not Yet Reviewed By Executive Committee				\$75,000	
<i>Run and Evaluate Scenarios</i>	\$60,000	Private Contractor	Not Yet Reviewed By Executive Committee				\$60,000	
<i>Administer Contract/Work Order</i>	\$14,000	USACE	Not Yet Reviewed By Executive Committee				\$14,000	
<b>Work Group 6 - Salt Wedge</b>	<b>\$249,000</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$249,000</b>	

John H. Kerr 216 Dam and Reservoir (Section 216) Study  
 Cost Estimate for Phase II Study Tasks

Tasks	Costs	Method of Accomplishment	Approval Date/ Status of EC Review	FY 05 Recommended Expenditures	FY 06 Recommended Expenditures	FY 07 Recommended Expenditures	FY 08 Recommended Expenditures	EC Comment 22 Feb 2005
<b>Work Group 7 - Diadromous Fish and Riverine Aquatic Resources</b>								
<i>Aerial Videography of Bankside Woody Debris</i>	\$110,000	<i>Private Contractor</i>	<i>Not Yet Reviewed By Executive Committee</i>		\$110,000			
<i>Review Roanoke River Diadromous Fish Plan</i>	\$10,000	<i>USACE/North Carolina/Virginia</i>	<i>Not Yet Reviewed By Executive Committee</i>		\$10,000			
<i>Finalize River Diadromous Fish Plan</i>	\$28,000	<i>USACE/North Carolina/Virginia</i>	<i>Not Yet Reviewed By Executive Committee</i>		\$28,000			
<i>Conceptual Design of Fish Passage Facilities at John H. Kerr Dam</i>	\$24,000	<i>USACE/North Carolina/Virginia</i>	<i>Not Yet Reviewed By Executive Committee</i>		\$24,000			
<i>Scoping for Additional Studies</i>	\$12,000	<i>USACE In-House</i>	<i>Not Yet Reviewed By Executive Committee</i>		\$12,000			
<i>Administer Contract/Work Order</i>	\$11,000		<i>Not Yet Reviewed By Executive Committee</i>		\$11,000			
<b>Work Group 7 - Diadromous Fish and Riverine Aquatic Resources</b>	<b>\$195,000</b>			<b>\$0</b>	<b>\$195,000</b>	<b>\$0</b>	<b>\$0</b>	
<b>Work Group 8 - Water Supply</b>								
<i>Deferred</i>		<i>Executive Committee Direction Needed</i>	<i>Not Yet Reviewed By Executive Committee</i>					<i>Deferred</i>
<b>Work Group 8 - Water Supply</b>	<b>\$0</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	
<b>Work Group 9 - Operating Policies and Administrative Procedures</b>								
<i>Review Operating Policies and Administrative Procedures</i>	\$45,000			\$0			\$45,000	<i>Deferred</i>
<b>Work Group 9 - Operating Policies and Administrative Procedures</b>	<b>\$45,000</b>			<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$45,000</b>	
<b>Work Group 10 - Modeling Oversight</b>								
<i>Roanoke River Basin Reservoir Operation Model (RRBROM) Update</i>	\$90,961	<i>Private Contractor</i>	<i>1-Jun-2005</i>		\$80,583	\$10,378		
<i>Administer Contract/Work Order</i>	\$3,039	<i>USACE</i>	<i>1-Jun-2005</i>		\$2,600	\$439		
<i>Modeling Oversight</i>		<i>Funded by Workgroup Requesting Review.</i>						
<b>Work Group 10 - Modeling Oversight</b>	<b>\$94,000</b>				<b>\$83,183</b>	<b>\$10,817</b>	<b>\$0</b>	
<b>Subtotal Phase 2 Data Collection Costs</b>	<b>\$3,216,000</b>			<b>\$52,112</b>	<b>\$1,158,783</b>	<b>\$557,902</b>	<b>\$1,447,203</b>	
<b>Supervision, Administration , and Coordination</b>	<b>\$322,000</b>			<b>\$5,611</b>	<b>\$115,878</b>	<b>\$55,790</b>	<b>\$144,720</b>	
<b>Total Phase II Costs</b>	<b>\$3,538,000</b>			<b>\$57,723</b>	<b>\$1,274,661</b>	<b>\$613,692</b>	<b>\$1,591,923</b>	

### **TASKS AND COSTS FOR PHASE III**

The task for Phase III is completion of the feasibility report and NEPA documentation. Output of this phase includes: development of alternatives to meet objectives; determination of outputs and impacts of each alternative; a trade-off analysis; and recommendations for a selected plan(s).

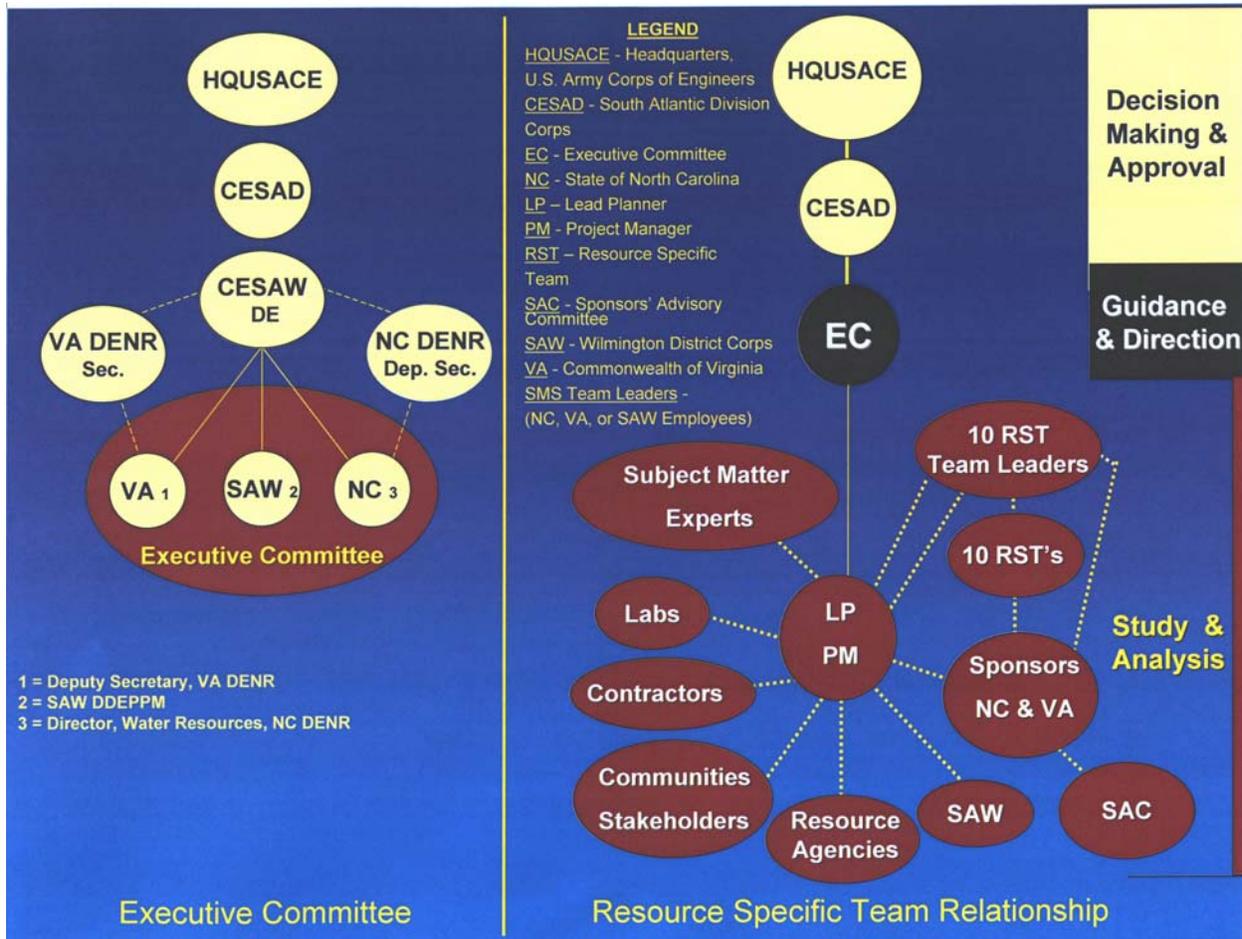
The estimated cost for Phase III of the study is: \$800,000.

During Phase III it will be necessary to integrate study elements and consider overall alternatives. The PDT in consultation with appropriate subject matter specialists will develop a process to formulate alternatives. The suggested approach is to make use of all of the interrelationships and feedback loops between the various components of the Roanoke River system. A diagram illustrating the linkages between the different study elements are shown on the following page.

### **TOTAL STUDY COSTS**

The total study costs were previously estimated to be \$3,000,000. Based on the Phase II Scopes of Work, included here, this estimate may significantly increase, perhaps to over \$5,000,000, depending upon upcoming decisions by the Executive Committee. For the Federal budgeting purposes the government cost estimate of \$4,200,000 is being used to potentially reflect this possible cost increase for future Federal budgeting needs.

John H. Kerr Dam and Reservoir  
Virginia and North Carolina  
(Section 216) Feasibility Study  
Relationship Between Study Teams



## **REFERENCES CITED**

## REFERENCES CITED

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**ATTACHMENT 1**  
**JOHN H. KERR DAM AND RESERVOIR SECTION 216 STUDY SCHEDULE**

## John H. Kerr Dam and Reservoir Section 216 Study Schedule

905(b) Report approved	May 2001
Sponsors' Advisory Committee formed	November 2001
PMP completed	January 2002
FCSA executed	June 2003
Technical work groups formed/Team leaders assigned	May 2004
Work groups complete Phase I scope of work (SOW)	March 2004
Begin Phase I feasibility	April 2004
Work groups complete SOW for Phase II	July 2005
Work groups begin Phase II	August 2005
Workgroups complete Phase II	September 2008
Work groups begin Phase III	October 2008
Work groups complete Phase III	April 2010
Feasibility report and NEPA documents complete	July 2010
Feasibility report approved by Division	August 2010

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**ATTACHMENT 2  
EXECUTIVE COMMITTEE  
AND PROJECT DELIVERY TEAM MEMBERS**

JOHN H. KERR DAM AND RESERVOIR, VIRGINIA AND NORTH CAROLINA (SECTION 216) FEASIBILITY STUDY

**EXECUTIVE COMMITTEE MEMBERS:**

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Updated 1 September 2005

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Scott Van Horn	NC Wildlife Resources Commission	<a href="mailto:scott.vanhorn@ncwildlife.org">scott.vanhorn@ncwildlife.org</a>	919-528-9886
Sara Winslow	NC Division of Marine Fisheries	<a href="mailto:sara.winslow@ncmail.net">sara.winslow@ncmail.net</a>	252-264-3911

**COMMONWEALTH OF VIRGINIA PROJECT DELIVERY TEAM MEMBERS:**

<b><u>NAME</u></b>	<b><u>ORGANIZATION</u></b>	<b><u>E-MAIL ADDRESS</u></b>	<b><u>PHONE</u></b>
Leon App	VA Dept. of Conservation & Recreation	<a href="mailto:leonapp@dcr.state.va.us">leonapp@dcr.state.va.us</a>	804-786-2093
John Davy	VA Dept. of Conservation & Recreation	<a href="mailto:jdavy@dcr.state.va.us">jdavy@dcr.state.va.us</a>	804-786-1119
Joe Hassell	VA Dept. of Environmental Quality	<a href="mailto:jphassell@deq.state.va.us">jphassell@deq.state.va.us</a>	804-698-4072
Bud LaRoche	VA Dept of Game & Inland Fisheries	<a href="mailto:blaroche@dgif.state.va.us">blaroche@dgif.state.va.us</a>	434-525-7522
Robert Munson	VA Dept of Conservation & Recreation	<a href="mailto:rsmunson@dcr.state.va.us">rsmunson@dcr.state.va.us</a>	804-786-6140
Tom Wilcox	VA Dept of Game & Inland Fisheries	<a href="mailto:twilcox@dgif.state.va.us">twilcox@dgif.state.va.us</a>	804-367-8998
Terry Wagner	VA Dept. of Environmental Quality	<a href="mailto:tdwagner@deq.state.va.us">tdwagner@deq.state.va.us</a>	804-698-4043

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**OTHER FEDERAL AGENCY PROJECT DELIVERY TEAM MEMBERS:**

<b><u>NAME</u></b>	<b><u>ORGANIZATION</u></b>	<b><u>E-MAIL ADDRESS</u></b>	<b><u>PHONE</u></b>
Tom Augspurger	US Fish & Wildlife Service	<a href="mailto:tom_augspurger@fws.gov">tom_augspurger@fws.gov</a>	919-856-4520 ext. 21
Jerad Bales	US Geological Survey	<a href="mailto:jdbales@usgs.gov">jdbales@usgs.gov</a>	919-571-4048
Prescott Brownell	National Marine Fisheries Service	<a href="mailto:Prescott.Brownell@noaa.gov">Prescott.Brownell@noaa.gov</a>	843-762-8591
Mike Canada	USFWS/Roanoke River Natl. Wildlife Refuge	<a href="mailto:mike_Canada@fws.gov">mike_Canada@fws.gov</a>	252-794-3808
Carter Edge	Southeastern Power Administration	<a href="mailto:cartere@sepa.doe.gov">cartere@sepa.doe.gov</a>	06-213-3855
John Ellis	USFWS	<a href="mailto:john_ellis@fws.gov">john_ellis@fws.gov</a>	919-856-4520 ext. 26
Bob Goss	Southeastern Power Administration	<a href="mailto:bobg@sepa.doe.gov">bobg@sepa.doe.gov</a>	706-213-3860
Joe Hightower	US Geological Survey	<a href="mailto:jhightower@ncsu.edu">jhightower@ncsu.edu</a>	919-515-8836
Harvey Hill	USFWS/Roanoke River Natl. Wildlife Refuge	<a href="mailto:harvey_hill@fws.gov">harvey_hill@fws.gov</a>	252-794-3808
Cliff Hupp	USGS	<a href="mailto:crhupp@usgs.gov">crhupp@usgs.gov</a>	703-648-5207
Wilson Laney	USFWS	<a href="mailto:Wilson_laney@fws.gov">Wilson_laney@fws.gov</a>	919-515-5019
Jean Richter	USFWS/Roanoke River National Wildlife Refuge	<a href="mailto:jean_richter@fws.gov">jean_richter@fws.gov</a>	252-794-3808 ext. 22
Jeanne Robbins	US Geological Survey	<a href="mailto:jrobbins@usgs.gov">jrobbins@usgs.gov</a>	919-571-4017
Ron Sechler	National Marine Fisheries Service	<a href="mailto:ron.sechler@noaa.gov">ron.sechler@noaa.gov</a>	252-728-5090
Wayne Short	Natural Resource Conservation Service	<a href="mailto:wayne.short@nc.usda.gov">wayne.short@nc.usda.gov</a>	252-583-3481 ext. 3

**LOCAL GOVERNMENT PROJECT DELIVERY TEAM MEMBERS:**

<b><u>NAME</u></b>	<b><u>ORGANIZATION</u></b>	<b><u>E-MAIL ADDRESS</u></b>	<b><u>PHONE</u></b>
Wayne Carter	Mecklenburg County	<a href="mailto:hwcarter@meckcom.net">hwcarter@meckcom.net</a>	804-476-3310
Thomas Leahy	City of Virginia Beach	<a href="mailto:tleahy@vb.gov">tleahy@vb.gov</a>	757-427-8654
Gerry Lovelace	Halifax Co., VA	<a href="mailto:gvl@co.halifax.va.us">gvl@co.halifax.va.us</a>	434-476-3310
Russell Slayton	Regional Partnership of Local Governments	<a href="mailto:sbclaw@telpage.net">sbclaw@telpage.net</a>	434-848-3632
Nancy Wilson	Vance County Dept of Tourism	<a href="mailto:vctourism@gloryroad.net">vctourism@gloryroad.net</a>	252-438-2222

**PRIVATE INDUSTRY PROJECT DELIVERY TEAM MEMBERS**

<b><u>NAME</u></b>	<b><u>ORGANIZATION</u></b>	<b><u>E-MAIL ADDRESS</u></b>	<b><u>PHONE</u></b>
Bill Bolin	Dominion Resources	<a href="mailto:Bill_Bolin@dom.com">Bill_Bolin@dom.com</a>	804-271-5304
Wayne Dyok	Montgomery Watson & Harza Engineering	<a href="mailto:wayne.m.dyok@mwhglobal.com">wayne.m.dyok@mwhglobal.com</a>	916-921-1910 ext. 19
Bob Graham	Dominion Resources	<a href="mailto:bob_graham@dom.com">bob_graham@dom.com</a>	804-271-5375
Will Hardison	Weyerhaeuser Company	<a href="mailto:will.hardison@weyerhaeuser.com">will.hardison@weyerhaeuser.com</a>	252-793-8269
Jack Hearne	Steele Creek Marina	<a href="mailto:marinajack@mindspring.com">marinajack@mindspring.com</a>	252-213-1913
Martin Lebo	Weyerhaeuser Company	<a href="mailto:martin.lebo@weyerhaeuser.com">martin.lebo@weyerhaeuser.com</a>	252-633-7511
Brian McCrodden	Hydro Logics, Inc.	<a href="mailto:bmccrodden@hydrologics.net">bmccrodden@hydrologics.net</a>	919-856-1288
Masato Miwa	International Paper Company	<a href="mailto:Masato.Miwa@ipaper.com">Masato.Miwa@ipaper.com</a>	229-246-3642
Jim Thornton	Dominion Resources Services, Inc.	<a href="mailto:james_thornton@dom.com">james_thornton@dom.com</a>	804-273-3257

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**INTERESTED PARTY PROJECT DELIVERY TEAM MEMBERS**

<b><u>NAME</u></b>	<b><u>ORGANIZATION</u></b>	<b><u>E-MAIL ADDRESS</u></b>	<b><u>PHONE</u></b>
Gene Adesso	Roanoke River Basin Association	<a href="mailto:gene@gaddesso.net">gene@gaddesso.net</a>	919-870-0833
Richard Roos-Collins	Natural Heritage Institute	<a href="mailto:rrcollins@n-h-i.org">rrcollins@n-h-i.org</a>	510-644-2900 ext 103
Jeff Horton	The Nature Conservancy	<a href="mailto:jhorton@tnc.org">jhorton@tnc.org</a>	252-794-1818
Bob Lindsay	Roanoke River Basin Association	<a href="mailto:blindsay@rrba.org">blindsay@rrba.org</a>	919-818-7634
Sam Pearsall	The Nature Conservancy	<a href="mailto:spearsall@tnc.org">spearsall@tnc.org</a>	919-403-8558
Boyd Strain	Lake Gaston Association	<a href="mailto:bstrain@duke.edu">bstrain@duke.edu</a>	252-257-2881
Cindy Tripp	Roanoke River Partners	<a href="mailto:director@roanokeriverpartners.org">director@roanokeriverpartners.org</a>	252-794-2793
Phil Townsend	U. of Md. Center for Env. Science	<a href="mailto:townsend@al.umces.edu">townsend@al.umces.edu</a>	301-689-7124
Richard Stimson		<a href="mailto:rstimson@schoolink.net">rstimson@schoolink.net</a>	252-586-3304

Updated 1 September 2005

**ATTACHMENT 3  
WORK GROUPS**

## John H. Kerr Work Group Membership List

### Downstream Flow and Riparian

#### Ecosystem

*Jim Mead, LEAD - NCDWR*

Jerad Bales – USGS  
John Dorney – NCDWQ  
John Ellis – USFWS  
Jennifer Everett – NCDWQ  
Earl Gillis – NCWRC  
Bob Graham – Dominion  
John Hazelton – USACE  
Harvey Hill – FWS - ref  
Adugna Kebede – NCDWQ  
Bob Lindsay – RRBA  
Masato Miwa – IP  
Linda Pearsall (NCNHP)  
Sam Pearsall – TNC  
Jean Richter – FWS – ref  
Jeff Richter – USACE

#### Water Quality

*Jennifer Everett, LEAD - NCDWQ*

*Frank Yelverton, LEAD – USACE*

Tom Augsburger – USFWS  
Jerad Bales – USGS  
Bill Bolin – Dominion  
Joe Hassell – VADEQ  
Wayne Jones – NCWRC  
Adugna Kebede – NCDWQ  
Pete Kornegay – NCWRC  
Bud LaRoche – VADGIF  
Martin Lebo – Weyerhaeuser  
Jim Mead – NCDWR  
Jim Mulligan – NCDWQ  
Jean Richter – FWS – ref

#### Sedimentation & Channel

##### Morphology

*H. Pourtaheri, LEAD - USACE*

Bill Bolin – Dominion  
Jennifer Everett – NCDWQ  
Cliff Hupp – USGS  
Adugna Kebede – NCDWQ  
Jean Richter – FWS – ref  
Phil Townsend – TNC

##### Salt Wedge

*John Hazelton, LEAD – USACE*

Jerad Bales – USGS  
Dan Emerson, USACE  
Jennifer Everett – NCDWQ  
Tom Fransen – NCDWR  
Adugna Kebede – NCDWQ  
Pete Kornegay – NCWRC  
Martin Lebo – Weyerhaeuser  
Jim Mulligan – NCDWQ  
Jim Thorton – Dominion

### Reservoir Resources

*Tom Fransen, LEAD - NCDWR*

*Bud LaRoche, LEAD - VADGIF*

Gene Adesso – RRBA  
Leon App – VADCR  
Robert Dennis, USACE  
Carter Edge – SEPA  
Jack Hearne – Steel Crk Marina  
Wayne Jones – NCWRC  
Bob Munson – VADCR  
Tim Rainey, USACE  
Russel Slayton – RPLG  
Frank Snipes – USACE  
Brian Strong – NCDPR  
Jim Thorton – Dominion  
Scott VanHorn – NCWRC

#### Downstream Flow-based

##### Recreation

*Jim Mead, LEAD – NCDWR*

Leon App – VADCR  
Jack Hearne – Steel Crk Marina  
Harvey Hill – FWS - ref  
Bob Munson – VADCR  
Kent Nelson – NCWRC  
Jean Richter – FWS – ref  
Frank Snipes – USACE  
Jim Thorton – Dominion  
Cindy Tripp – RR Partners

#### Diadromous Fish & Downstream

##### Aquatic Habitat

*Chuck Wilson, LEAD – USACE*

*Bennett Wynn, LEAD – NCWRC*

Bill Bolin – Dominion  
Pres Brownell – NMFS  
Tom Fransen – NCDWR  
Bob Graham – Dominion  
Wilson Laney – USFWS  
Bud LaRoche – VADGIF  
Jim Mead – NCDWR  
Kent Nelson – NCWRC  
Dave Penrose – NCDWQ  
Sara Winslow – NCDMF  
Joe Hightower – USGS  
Bob Graham – Dominion

##### Water Supply

*Tom Fransen, LEAD -NCDWR*

*Terry Wagner, LEAD - VADEQ*

Carter Edge – SEPA  
Joe Hassell – VADEQ  
Tom Leahy – VA Beach  
Bob Lindsay – RRBA  
John Morris – NCDWR  
Allen Piner – USACE  
Bob Sattin USACE  
Russell Slayton – RPLG  
Jim Thorton – Dominion  
Tony Young – USACE

### Operating Policies and Administrative Procedures

*Joe Hassell, LEAD – VADEQ*

*John Morris, LEAD – NCDWR*

Terry Brown – USACE  
Carter Edge – SEPA  
Tom Fransen – NCDWR  
Pete Kornegay – NCWRC  
Tom Leahy – VA Beach  
Bob Lindsay – RRBA  
Jerry Lovelace – RPLG  
Brian McCrodden – Hydrologics  
Jim Mead – NCDWR  
Sam Pearsall – TNC  
Tim Rainey – USACE  
Richard Roos-Collins – TNC  
Bob, Sattin, USACE  
Jim Thorton – Dominion

#### Modeling Oversight

*Tony Young LEAD - USACE*

Terry Brown - USACE  
Tom Francen - NCDWR  
Joe Hassel - VADEQ  
Adugna Kebede - NCDWQ  
Jim Mead - NCDWR  
Sam Pearsall - TNC  
Jim Thorton – Dominion

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participants\kerr 216 team members

#### Team Leaders

Jennifer Everett, - NCDWQ  
John Hazelton, – USACE  
Pete Kornegay, – NCWRC  
Bud LaRoche, - VADGIF  
Jim Mead, – NCDWR  
John Morris, – NCDWR  
Hasan Pourtaheri, - USACE  
Terry Wagner, - VADEQ  
Greg Williams, – USACE  
Chuck Wilson, – USACE  
Bennett Wynn, - NCWRC  
Frank Yelverton, – USACE  
Tony Young, - USACE

#### USACE Project Manager

Ben Lane

#### USACE Lead Planner

Richard Lewis

Updated 23 August 2005

**ATTACHMENT 4**  
**THREE PHASE STUDY APPROACH**

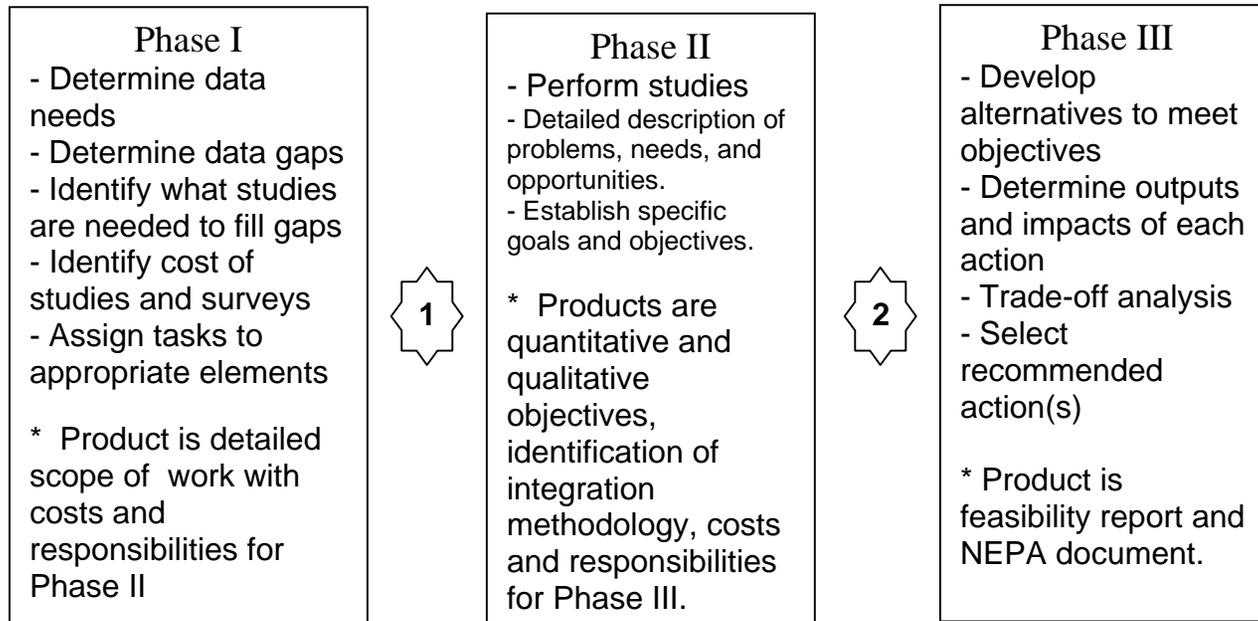
**ATTACHMENT 4**

**THREE PHASE STUDY APPROACH**

**Corps Requirements:** PMP and FCSA must identify full cost of feasibility study  
FCSA must identify allocation of costs for each partner

**Sponsor Requirements:** PMP should be structured to be useful to project sponsor and beneficiaries.  
PMP should identify stakeholder contributions  
PMP should address tasks, methods, costs, and responsible parties

**Actions:** Project Management Plan will be structured to identify a 3-phase approach, identify Subject Matter Specialists for Phase I activities, and costs for each project phase. The three phases are described in the following table.



 **1** Decision Point 1 – what studies, surveys, etc. will be conducted in Phase II and how will the costs be allocated.

 **2** Decision Point 2 – what objectives will be addressed in Phase III and how will costs be allocated.

**ATTACHMENT 5**  
**FEASIBILITY COST SHARING AGREEMENT**

AGREEMENT  
BETWEEN THE DEPARTMENT OF THE ARMY  
AND  
THE COMMONWEALTH OF VIRGINIA  
AND  
THE STATE OF NORTH CAROLINA  
FOR THE  
JOHN H. KERR DAM AND RESERVOIR  
SECTION 216 FEASIBILITY STUDY

THIS AGREEMENT is entered into this 17<sup>th</sup> day, of June, 2003, by and between the Department of the Army (hereinafter the "Government"), represented by the U.S. Army Engineer, Wilmington District (hereinafter the "District Engineer"), and the Commonwealth of Virginia, represented by the Deputy Secretary of Natural Resources and the State of North Carolina, represented by the Secretary, Department of Environment and Natural Resources (hereinafter the "Sponsors").

WITNESSETH, that

WHEREAS, the Congress has authorized the Secretary of the Army, acting through the Chief of Engineers, to review the operation of projects constructed by the Corps of Engineers for navigation, flood control, water supply, and related purposes when found advisable due to significantly changed physical, economic or environmental conditions, and to report to Congress with recommendations on the advisability of modifying the structures or their operation, pursuant to the authority provided by Section 216 of the River and Harbor and Flood Control Act of 1970, Public Law 91-611; and

WHEREAS, the Government has conducted a reconnaissance study of the operations of the John H. Kerr Dam and Reservoir and the effects to the Lower Roanoke River Basin pursuant to this authority, and has determined that further study in the nature of a "Feasibility Phase Study" (hereinafter the "Study") is required to fulfill the intent of the study authority and to assess the extent of the Federal interest in participating in a solution to the identified problems; and

WHEREAS, Section 105 of the Water Resources Development Act of 1986, Public Law 99-662, as amended, specifies the cost sharing requirements applicable to the Study; and

WHEREAS, the Sponsors have the authority and capability to furnish the cooperation hereinafter set forth and are willing to participate in study cost sharing and financing in accordance with the terms of this Agreement; and

WHEREAS, the Sponsors and the Government understand that entering into this Agreement in no way obligates any party to implement a project and that whether the Government supports a project authorization and budgets it for implementation depends upon, among other things, the outcome of the Study and whether the proposed solution is consistent with the Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies and with the budget priorities of the Administration.

NOW THEREFORE, the parties agree as follows:

## ARTICLE I - DEFINITIONS

For the purposes of this Agreement:

A. The term "Study Costs" shall mean all disbursements by the Government pursuant to this Agreement, from Federal appropriations or from funds made available to the Government by the Sponsors, and all negotiated costs of work performed by the Sponsors pursuant to this Agreement. Study Costs shall include, but not be limited to: labor charges; direct costs; overhead expenses; supervision and administration costs; the costs of participation in Study Management and Coordination in accordance with Article IV of this Agreement; the costs of contracts with third parties, including termination or suspension charges; and any termination or suspension costs (ordinarily defined as those costs necessary to terminate ongoing contracts or obligations and to properly safeguard the work already accomplished) associated with this Agreement.

B. The term "estimated Study Costs" shall mean the estimated cost of performing the Study as of the effective date of this Agreement, as specified in Article III.A. of this Agreement.

C. The term "excess Study Costs" shall mean Study Costs that exceed the estimated Study Costs and that do not result from mutual agreement of the parties, a change in Federal law that increases the cost of the Study, or a change in the scope of the Study requested by the Sponsors.

D. The term "Study Period" shall mean the time period for conducting the Study, commencing with the release to the U.S. Army Corps of Engineers, Wilmington District of initial Federal feasibility funds following the execution of this Agreement and ending when the Assistant Secretary of the Army (Civil Works) submits the feasibility report to the Office of Management and Budget (OMB) for review for consistency with the policies and programs of the President.

E. The term "PMP" shall mean the Project Management Plan, which is attached to this Agreement and which shall not be considered binding on any party and is subject to change by the Government, in consultation with the Sponsors.

F. The term "negotiated costs" shall mean the costs of in-kind services to be provided by the Sponsors in accordance with the PMP.

G. The term "fiscal year" shall mean one fiscal year of the Government. The Government fiscal year begins on October 1 and ends on September 30.

## ARTICLE II - OBLIGATIONS OF PARTIES

A. The Government, using funds and in-kind services provided by the Sponsors and funds appropriated by the Congress of the United States, shall expeditiously prosecute and complete the Study, in accordance with the provisions of this Agreement and Federal laws, regulations, and policies.

B. In accordance with this Article and Articles III.A., III.B. and III.C. of this Agreement, the Sponsors shall contribute cash and in-kind services equal to fifty (50) percent of Study Costs other than excess Study Costs. The Sponsors may, consistent with applicable law and regulations, contribute up to 50 percent of Study Costs through the provision of in-kind services. The in-kind services to be provided by the Sponsors, the estimated negotiated costs for those services, and the estimated schedule under which those services are to be provided are specified in the PMP. Negotiated costs shall be subject to an audit by the Government to determine reasonableness, allocability, and allowability.

C. The Sponsors shall pay a fifty (50) percent share of excess Study Costs in accordance with Article III.D. of this Agreement.

D. The Sponsors understand that the schedule of work may require the Sponsors to provide cash or in-kind services at a rate that may result in the Sponsors temporarily diverging from the obligations concerning cash and in-kind services specified in paragraph B. of this Article. Such temporary divergences shall be identified in the quarterly reports provided for in Article III.A. of this Agreement and shall not alter the obligations concerning costs and services specified in paragraph B. of this Article or the obligations concerning payment specified in Article III of this Agreement.

E. If, upon the award of any contract or the performance of any in-house work for the Study by the Government or the Sponsors, cumulative financial obligations of the Government and the Sponsors would result in excess Study Costs, the Government and the Sponsors agree to defer award of that and all subsequent contracts, and performance of that and all subsequent in-house work, for the Study until the Government and the Sponsors agree to proceed. Should the Government and the Sponsors require time to arrive at a decision, this Agreement shall be suspended in accordance with Article X of this Agreement, for a period of not to exceed six months. In the event the Government and the Sponsors have not reached an agreement to proceed by the end of their 6 month period, this Agreement may be subject to termination in accordance with Article X of this Agreement.

F. No Federal funds may be used to meet the Sponsors' share of Study Costs unless the Federal granting agency verifies in writing that the expenditure of such funds is expressly authorized by statute.

G. The award and management of any contract with a third party in furtherance of this Agreement which obligates Federal appropriations shall be exclusively within the control of the Government. The award and management of any contract by the Sponsors with a third party in furtherance of this Agreement which obligates funds of the Sponsors and does not obligate Federal appropriations shall be exclusively within the control of the Sponsors, but shall be subject to applicable Federal laws and regulations.

### ARTICLE III - METHOD OF PAYMENT

A. The Government shall maintain current records of contributions provided by the parties, current projections of Study Costs, current projections of each party's share of Study Costs, and current projections of the amount of Study Costs that will result in excess Study Costs. At least quarterly, the Government shall provide the Sponsors a report setting forth this information. As of the effective date of this Agreement,

estimated Study Costs are \$3,000,000 and the Sponsors' share of estimated Study Costs is \$1,500,000. The dollar amounts set forth in this Article are based upon the Government's best estimates, which reflect the scope of the study described in the PMP, projected costs, price-level changes, and anticipated inflation. Such cost estimates are subject to adjustment by the Government and are not to be construed as the total financial responsibilities of the Government and the Sponsors.

B. The Sponsors shall provide their cash contribution required under Article II.B. of this Agreement in accordance with the following provisions:

1. For purposes of budget planning, the Government shall notify the Sponsors by August 1 of each year of the estimated funds that will be required from the Sponsors to meet the Sponsors' share of Study Costs for the upcoming fiscal year.

2. No later than 30 calendar days prior to the scheduled date for the Government's issuance of the solicitation for the first contract for the Study or for the Government's anticipated first significant in-house expenditure for the Study, the Government shall notify the Sponsors in writing of the funds the Government determines to be required from the Sponsors to meet their share of Study Costs for the remainder of the first fiscal year. No later than 15 calendar days thereafter, the Sponsors shall provide the Government the full amount of the required funds by delivering a check payable to "FAO, USAED, Wilmington " to the District Engineer or verifying to the satisfaction of the Government that the Sponsors have deposited the required funds in an escrow or other account acceptable to the Government, with interest accruing to the Sponsors or presenting the Government with an irrevocable letter of credit acceptable to the Government for the required funds or providing an Electronic Funds Transfer in accordance with procedures established by the Government.

3. For the second and subsequent fiscal years of the Study, the Government shall, no later than 60 calendar days prior to the beginning of such fiscal year, notify the Sponsors in writing of the funds the Government determines to be required from the Sponsors to meet their required share of Study Costs for that fiscal year, taking into account any temporary divergences identified under Article II.D. of this Agreement. No later than 30 calendar days prior to the beginning of such fiscal year, the Sponsors shall make the full amount of the required funds available to the Government through any of the payment mechanisms specified in paragraph B.2. of this Article.

4. The Government shall draw from the funds provided by the Sponsors such sums as the Government deems necessary to cover the Sponsors' share of contractual and in-house financial obligations attributable to the Study as they are incurred.

5. In the event the Government determines that the Sponsors must provide additional funds to meet their share of Study Costs, the Government shall so notify the Sponsors in writing. No later than 60 calendar days after receipt of such notice, the Sponsors shall make the full amount of the additional required funds available through any of the payment mechanisms specified in paragraph B.2. of this Article.

C. Within ninety (90) days after the conclusion of the Study Period or termination of this Agreement, the Government shall conduct a final accounting of Study Costs, including disbursements by the Government of Federal funds, cash contributions by the Sponsors, the amount of any excess Study Costs, and credits for the negotiated

costs of the Sponsors, and shall furnish the Sponsors with the results of this accounting. Within thirty (30) days thereafter, the Government, subject to the availability of funds, shall reimburse the Sponsors for the excess, if any, of cash contributions and credits given over their required share of Study Costs, other than excess Study Costs, or the Sponsors shall provide the Government any cash contributions required for the Sponsors to meet their required share of Study Costs other than excess Study Costs.

D. The Sponsors shall provide their cash contribution for excess Study Costs as required under Article II.C. of this Agreement by either: delivering a check payable to "FAO, USAED, Wilmington" to the District Engineer; or providing an Electronic Funds Transfer in accordance with procedures established by the Government; as follows:

1. After the project that is the subject of this Study has been authorized for construction, no later than the date on which a Project Cooperation Agreement is entered into for the project; or

2. In the event the project that is the subject of this Study is not authorized for construction by a date that is no later than 5 years after the date of the final report of the Chief of Engineers concerning the project, or by a date that is no later than 2 years after the date of the termination of the Study, the Sponsors shall pay their share of excess Study Costs on such date either 5 years after the date of the final report of the Chief of Engineers or 2 years after the date of the termination of the study.

#### ARTICLE IV - STUDY MANAGEMENT AND COORDINATION

A. To provide for consistent and effective communication, the Sponsors and the Government shall appoint named senior representatives to an Executive Committee. Thereafter, the Executive Committee shall meet regularly until the end of the Study Period.

B. Until the end of the Study Period, the Executive Committee shall generally oversee the Study consistently with the PMP.

C. The Executive Committee may make recommendations that it deems warranted to the District Engineer on matters that it oversees, including suggestions to avoid potential sources of dispute. The Government in good faith shall consider such recommendations. The Government has the discretion to accept, reject, or modify the Executive Committee's recommendations.

D. The Executive Committee shall appoint representatives to serve on a Study Management Team. The Study Management Team shall keep the Executive Committee informed of the progress of the Study and of significant pending issues and actions, and shall prepare periodic reports on the progress of all work items identified in the PMP.

E. The costs of participation in the Executive Committee (including the cost to serve on the Study Management Team) shall be included in Study Costs and shared in accordance with the provisions of this Agreement.

## ARTICLE V – DISPUTE RESOLUTION

As a condition precedent to a party bringing any suit for breach of this Agreement, that party must first notify the other parties in writing of the nature of the purported breach and seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution with a qualified third party acceptable to all parties. The parties participating in the non-binding alternative dispute resolution shall each pay an equal share of any costs for the services provided by such a third party as such costs are incurred. Such costs shall not be included in Study Costs. The existence of a dispute shall not excuse the parties from performance pursuant to this Agreement.

## ARTICLE VI - MAINTENANCE OF RECORDS

A. Within 60 days of the effective date of this Agreement, the Government and the Sponsors shall develop procedures for keeping books, records, documents, and other evidence pertaining to costs and expenses incurred pursuant to this Agreement to the extent and in such detail as will properly reflect Study Costs. These procedures shall incorporate, and apply as appropriate, the standards for financial management systems set forth in the Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments at 32 C.F.R. Section 33.20. The Government and the Sponsors shall maintain such books, records, documents, and other evidence in accordance with these procedures for a minimum of three years after completion of the Study and resolution of all relevant claims arising therefrom. To the extent permitted under applicable Federal laws and regulations, the Government and the Sponsors shall each allow the other to inspect such books, documents, records, and other evidence.

B. In accordance with 31 U.S.C. Section 7503, the Government may conduct audits in addition to any audit that the Sponsors are required to conduct under the Single Audit Act Amendments of 1996, 31 U.S.C. Sections 7501-7507. Any such Government audits shall be conducted in accordance with Government Auditing Standards and the cost principles in OMB Circular No. A-87 and other applicable cost principles and regulations. The costs of Government audits shall be included in Study Costs and shared in accordance with the provisions of this Agreement.

## ARTICLE VII - RELATIONSHIP OF PARTIES

The Government and the Sponsors act in independent capacities in the performance of their respective rights and obligations under this Agreement, and neither is to be considered the officer, agent, or employee of the other.

## ARTICLE VIII - OFFICIALS NOT TO BENEFIT

No member of or delegate to the Congress, nor any resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom.

## ARTICLE IX - FEDERAL AND STATE LAWS

In the exercise of the Sponsors' rights and obligations under this Agreement, the Sponsors agree to comply with all applicable Federal and State laws and regulations, including Section 601 of Title VI of the Civil Rights Act of 1964 (Public Law 88-352) and Department of Defense Directive 5500.11 issued pursuant thereto and published in 32 C.F.R. Part 195, as well as Army Regulation 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army".

## ARTICLE X - TERMINATION OR SUSPENSION

A. This Agreement shall terminate at the conclusion of the Study Period, and neither the Government nor the Sponsors shall have any further obligations hereunder, except as provided in Article III.C. of this Agreement; provided, that prior to such time and upon thirty (30) days written notice, any party may terminate or suspend this Agreement. In addition, the Government shall terminate this Agreement immediately upon any failure of the parties to agree to extend the study under Article II.E. of this Agreement, or upon the failure of the Sponsors to fulfill their obligation under Article III of this Agreement. In the event that any party elects to terminate this Agreement, the parties shall conclude their activities relating to the Study and proceed to a final accounting in accordance with Article III.C. and III.D. of this Agreement. Upon termination of this Agreement, all data and information generated as part of the Study shall be made available to all parties.

B. Any termination of this Agreement shall not relieve the parties of liability for any obligations previously incurred, including the costs of closing out or transferring any existing contracts.

C. In the event that either of the Sponsors elect to terminate its own responsibilities under this Agreement, and the remaining Sponsor elects to continue to participate in the Study, the Government shall negotiate in good faith with the remaining Sponsor to effect a timely and productive conclusion to that portion of the Study pertaining to the remaining Sponsor's area of statutory authority. The Government shall prepare a revised PMP and revised estimated Study Costs, including the remaining Sponsor's share, to complete that portion of the Study of interest to the remaining Sponsor. If the remaining Sponsor elects to complete the Study, this Agreement shall be amended to reflect the negotiated revisions to the PMP and Study Costs. Cost amendments to this Agreement made pursuant to this paragraph shall reflect credits for the previous cash and in-kind contributions of all Study Sponsors and shall reflect task reductions made as a result of withdrawal of any Study Sponsor.

## ARTICLE XI - NOTICES

A. Any notice, request, demand, or other communication required or permitted to be given under this Agreement shall be deemed to have been duly given if in writing and either delivered personally or by telegram or mailed by first-class, registered, or certified mail, as follows:

If to the Commonwealth of Virginia: David K. Paylor, Deputy Secretary  
of Natural Resources  
P.O. Box 1475  
Richmond, Virginia 23218

If to the State of North Carolina: John N. Morris, Director  
NC Division of Water Resources  
1611 Mail Service Center  
Raleigh, NC 27699-1611

If to the Government: Charles R. Alexander, Colonel  
U.S. Army Corps of Engineers  
P.O. Box 1890  
Wilmington, NC 28402-1890

B. A party may change the address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

C. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at the earlier of such time as it is actually received or seven calendar days after it is mailed.

## ARTICLE XII – OBLIGATION OF FUTURE APPROPRIATIONS

A. Nothing herein shall constitute, nor be deemed to constitute, an obligation of future appropriations by the General Assembly of the Commonwealth of Virginia, where creating such an obligation would be inconsistent with the Constitution or the statutory limitations of the Commonwealth of Virginia.

B. Nothing herein shall constitute, nor be deemed to constitute, an obligation of future appropriations by the General Assembly of the State of North Carolina, where creating such an obligation would be inconsistent with the Constitution of the State of North Carolina.

C. The Sponsors intend to satisfy their obligations under this Agreement. The Sponsors shall include in their budget requests or otherwise propose, for each fiscal period, appropriations sufficient to cover the Sponsors' obligations under this Agreement for each year, and will use all reasonable and lawful means to secure the appropriations for that year sufficient to make the payments necessary to fulfill their obligations hereunder. The Sponsors reasonably believe that funds in amounts sufficient to discharge these obligations can and will lawfully be appropriated and made available for this purpose. In the event the budget or other means of appropriations does not provide funds in sufficient amounts to discharge these obligations, the Sponsors shall use their best efforts to satisfy any requirements for payments under this Agreement from any other source of funds legally available for this purpose. Further, if the Sponsors are unable to satisfy their obligations hereunder, the Government may exercise any legal rights it has to protect the Government's interests related to this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective upon the date it is signed by the District Engineer.

DEPARTMENT OF THE ARMY

COMMONWEALTH OF VIRGINIA

BY: *Charles R. Alexander, Jr.*  
Charles R. Alexander, Jr.  
Colonel, Corps of Engineers  
District Engineer  
Wilmington District

BY: *David K. Paylor*  
David K. Paylor  
Deputy Secretary of Natural Resources

DATE: 6/17/03

DATE: 6-10-2003

STATE OF NORTH CAROLINA

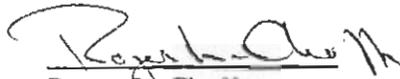
BY: *William G. Ross, Jr.*  
William G. Ross, Jr.  
Secretary, Department of Environment  
and Natural Resources

DATE: 5-22-03

CERTIFICATE OF AUTHORITY

I, Roger L. Chaffe, do hereby certify that I am authorized by the principal legal officer of the Commonwealth of Virginia to make this certification; that the Commonwealth of Virginia is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the Department of the Army, the Commonwealth of Virginia, and the State of North Carolina in connection with a study of the John H. Kerr Dam and Reservoir; and that the persons who have executed this Agreement on behalf of the Commonwealth of Virginia have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this  
9th day of June, 2003.

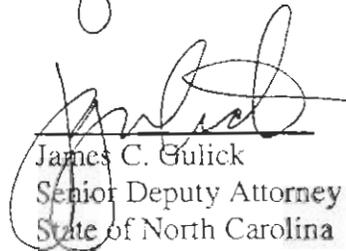


Roger L. Chaffe  
Senior Assistant Attorney General  
Commonwealth of Virginia

CERTIFICATE OF AUTHORITY

I, James C. Gulick, do hereby certify that I am authorized by the principal legal officer of the State of North Carolina to make this certification; that the State of North Carolina is a legally constituted public body with full authority and legal capability to perform the terms of the Agreement between the Department of the Army, the Commonwealth of Virginia, and the State of North Carolina in connection with a study of the John H. Kerr Dam and Reservoir; and that the persons who have executed this Agreement on behalf of the State of North Carolina have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this  
22<sup>d</sup> day of May, 2003.

  
James C. Gulick  
Senior Deputy Attorney General  
State of North Carolina

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.



David K. Paylor  
Commonwealth of Virginia  
Deputy Secretary of Natural Resources

DATE: 6-10-03

CERTIFICATION REGARDING LOBBYING

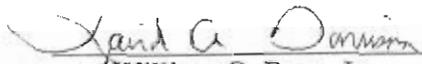
The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

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DIRECTOR  
DIV. OF PURCHASE AND SERVICES  
William G. Ross, Jr.  
State of North Carolina  
Secretary, Department of Environment and Natural Resources

DATE: 5-22-03