SUPPLEMENTAL SHEET
Reconnaissance Report
JOHN H. KERR DAM AND RESERVOIR, VIRGINIA AND NORTH CAROLINA
U.S. Army Corps of Engineers
Wilmington District
29 May 2001

The following supplemental items are provided for the subject Reconnaissance Report as required by ER 1105-2-100, 22 Apr 2000, Exhibit G-2 (Section 905(b) (WRDA OF 1986) Analysis.

5. PLAN FORMULATION

c. Preliminary evaluation of alternatives.

(1) Operational change alternatives

(a) Change in Flood Control Releases (assumes that higher release rates at Roanoke Rapids Dam are stated earlier.)

Costs

- Possible decrease in hydropower generation revenues at Kerr Dam (ranging from $100,000 to $400,000 per year out of an average of $4,000,000 per year.)
- Loss of generation benefits at downstream hydropower projects when flows exceed 20,000 cfs (maximum turbine discharge). Flood releases of 35,000 cfs are not uncommon.
- Possible loss in headwater benefits (ranging from $30,000 to $50,000 per year out of an average of $550,000 per year.)
- Possible decreases in flood damages prevented and flood impacts to downstream farmlands, road systems, sewage treatment plants and buildings (ranging from $500,000 to $800,000 per year out of an average of $7,900,000.)
- More frequent impacts to timber harvesting, turkey nesting, farming practices, etc.
- Possible increases in shoreline erosion along the 800 miles of shoreline due to rapid draw down.

Benefits

- Possible benefits to the160,000 acres of bottomland hardwood swamp forest in the lower Roanoke River by attempting to simulate certain natural (pre-dam) floods.
- Recreational benefits by getting lake level down to useable levels at recreational facilities faster.
- Fewer impacts to low-lying road crossings in the Kerr Reservoir area (estimated to be about twelve crossings at lower elevations.)

(b) Changes in Guide Curve Levels (assumes that guide curve levels are changed to a higher level.)

Costs

- Possible decreases in flood damages prevented and flood impacts to downstream farmlands, road systems, sewage treatment plants and buildings (ranging from $500,000 to $800,000.)
- Increased potential for impingement of reservoir fishery through turbines during certain times of the year.
- Possible negative impacts to easement property in Kerr Reservoir area.
- Increases pumping effort at Island Creek facility
- Impacts to timber harvesting.
- Possible increases in shoreline erosion along the 800 miles of shoreline at higher levels.
- More frequent impacts to low-lying road crossings in the Kerr Reservoir area (estimated to be about twelve crossings at lower elevations.)
- Bridges and other infrastructure may have to be raised.

Benefits

- Increased boating accessibility in shallow coves in Kerr Reservoir.
- More efficient hydropower generation and more revenue (ranging from $100,000 to $400,000 per year.)
- Higher dependable capacity.
- Possible increased ability to provide minimum flows for a longer period of time in an extended drought.

(c) Changes in Hydropower Release Rates (such as peaking verses non-peaking or providing a more varied ability to produce certain flow rates during generation.)

Costs

- Equipment cost modifications such as variable pitch blade turbines.
- Decrease in hydropower revenues by not allowing peaking (ranging from $100,000 to $400,000.)
- Increase in costs for commercial power companies to provide facilities to meet peak power loads.
- Possible degradation to the environment due to more commercial units to meet peak power demands such as coal-fired.

Benefits

- Improved uniformity of dissolved oxygen and temperature immediately downstream of Kerr Dam.
- Set generation schedule and constant flows would not endanger anglers downstream.

(2) Re-Allocation of Storage Alternatives.

(a) Reallocation of Storage within the Conservation (Hydropower) Pool (such as reallocating storage to water supply storage or to fish spawn storage.)

Costs

- Possible decrease in hydropower generation revenues at Kerr Dam (ranging from $100,000 to $400,000 per year out of an average of $4,000,000 per year.)
- Possible loss in headwater benefits (ranging from $30,000 to $50,000 per year out of an average of $550,000 per year.)
- Some loss of long term generation capacity and dependable capacity with a potential default on SEPA hydropower contracts and law suits.
- Impacts to recreation if lake levels are lowered due to reallocation.

Benefits

- Increase in amount of water for reallocation to water supply for future and current demands (ranging from 25,000 acre-feet to 100,000 acre-feet.)
- Perception that Kerr Reservoir is a regional resource.
- Increase in ability of Kerr Reservoir to maintain spawning releases for a longer period of time or for different species.

(b) Reallocation of Storage within the Controlled Flood Storage Pool (such as reallocating controlled flood storage to water supply storage, hydropower storage or to fish spawn storage) Resulting in a Higher Guide Curve Level

Costs

- Possible decreases in flood damages prevented and flood impacts to downstream farmlands, road systems, sewage treatment plants and buildings (ranging from $500,000 to $800,000 per year out of an average of $7,900,000.)
- Increased pumping effort at Island Creek.
- More frequent damage to recreation facilities and possibly to easement properties within the reservoir area.
- Increase in impingement of reservoir fisheries through turbines during certain times of the year.
- Possible increases in shoreline erosion along the 800+ miles of shoreline at higher levels.

Benefits

- If a reallocation to water supply - Increase in water supply capability for future and current demands for the general region (ranging from 25,000 acre-feet to 100,000 acre-feet.)
- If a reallocation for any purpose - More efficient hydropower generation and more revenue (ranging from $100,000 to $400,000 per year.)
- Perception that Kerr Reservoir is a regional resource.
- If a reallocation to water quality or fishery resource - Increase in available storage ranging from 25,000 acre-feet to 50,000 acre-feet for targeted needs. Benefits will include improvements to downstream minimum flow needs, water quality, and fish spawning along 120 river miles below Roanoke Rapids.

Total costs for a potential economically feasible plan utilizing a combination of the above proposed alternatives could range from $30,000,000 to $60,000,000 at current price levels for a 50-year project life.

9. FEASIBILITY PHASE MILESTONES

The reconnaissance phase is scheduled for completion in September 2001 upon execution of the Feasibility Cost Sharing Agreement (FCSA) with the sponsor(s). Receipt of the non-Federal share of funds are required for work to begin in FY 2002. The feasibility phase is expected to take approximately 3 years provided budgetary funding is received as scheduled in the PMP. Feasibility phase milestones are as follows:

Feasibility Phase Milestones

Initiate Feasibility Scoping (NEPA)	Oct 2001
Feasibility Scoping (Project without Condition)	Apr 2002
Alternative Formulation Briefing	Feb 2003
Complete Draft Feasibility Report and DEIS	Aug 2003
Complete Final Feasibility Report and EIS	Sep 2004

10. FEASIBILITY PHASE COST ESTIMATE.

The preliminary programmatic cost estimate for the feasibility study is $3,000,000, which is to be shared on a 50-50 basis by Federal and non-Federal interests. The entire non-Federal share may be in-kind services. This study estimate will be refined in the PMP and could change considerably based on the requirements for data collection, model studies, and analyses that will be identified for the feasibility study. An additional $50,000 of Federal funds is required for the reconnaissance phase above that customarily scheduled due to the involvement of two states as the project sponsor and the associated coordination efforts required. A summary of the current estimated study cost sharing through the feasibility phase is as follows:

Total Estimated Study Cost	$3,150,000
Reconnaissance Phase (Federal)	$150,000
Feasibility Phase (Federal)	$1,500,000
Feasibility Phase (non-Federal)	$1,500,000