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SECOND REVISED FINDING OF NO SIGNIFICANT IMPACT TENNESSEE VALLEY AUTHORITY

WASHINGTON COUNTY SERVICE AUTHORITY REQUEST FOR SECTION 26a APPROVAL
TO CONSTRUCT AN INTAKE IN SOUTH HOLSTON RESERVOIR (TRACT NO. SH 737F)
SOUTH FORK HOLSTON RIVER MILE 72.5R NEAR THE CONFLUENCE OF
THE MIDDLE FORK HOLSTON RIVER
WASHINGTON COUNTY, VIRGINIA

Background

The Washington County Service Authority (WCSA) proposes to construct a new 12 million gallon per day (MGD) raw water intake structure at South Fork Holston River Mile 72.5, right bank, about 150 feet upstream of the Middle Fork Holston River confluence. The purpose of the intake is to provide increased capacity for the Washington County water treatment plant in anticipation of additional demands for future municipal water supply. The proposed project would affect land owned by WCSA; the Tennessee Valley Authority (TVA) holds a flowage easement on this land. Because the proposed intake structure would constitute a permanent obstruction, approval under Section 26a of the TVA Act is required.

TVA prepared an environmental assessment (EA) of the proposed project and issued a finding of no significant impact (FONSI) on December 1, 2006. Following issuance of these documents, the applicant revised plans for the intake structure. TVA considered the potential environmental effects of construction and operation under the revised plans and issued a revised FONSI in August 2010. These documents are incorporated by reference.

In late September 2010, WCSA proposed additional modifications for the water intake as shown in Attachments 1 and 2. These modifications call for the construction of three small submerged intake structures (as opposed to the one large structure that was originally proposed) and the construction of a valve vault on the adjacent shoreline. These structures would be located slightly upstream of the previously proposed site. The water intake lines would be installed by directional drilling, as planned previously. TVA has considered the potential environmental effects of construction and operation of the revised facilities and is issuing this second revised FONSI.

The project as proposed in 2006 would adversely affect the archaeological site 44WG0560, which is eligible for inclusion in the National Register of Historic Places (NRHP). Additionally, the project would have a minor visual effect on the nearby Norfolk & Western Railroad bridge. The bridge is part of the Virginia Creeper Trail, which is eligible for inclusion in the NRHP. Because of the potential adverse effects to these historic properties, a memorandum of agreement (MOA) was established involving TVA, the Virginia State Historic Preservation Officer (SHPO) within the Virginia Department of Historic Resources, the Eastern Band of Cherokee Indians, and WCSA. The MOA, which was executed on November 6, 2006, stipulated that if impacts to Site 44WG0560 could not be avoided, mitigation for loss of the site would include both the development and the implementation of a data recovery plan. The MOA also stipulated that WCSA would use appropriate material and colors as well as vegetative screening to avoid or reduce adverse visual effects of the intake structure on the nearby Virginia

Creeper Trail and train trestle. WCSA would be responsible for and provide all funds necessary for the mitigation.

Actions under WCSA's latest proposal would avoid effects to Site 44WG0560. The current proposal involves the placement of three 20- by 5-foot underwater intake structures immediately upstream of the previously proposed intake structure location (Attachments 1 and 2). These three box-like structures would be embedded in the streambed. To support these smaller intake structures, a 25- by 7-foot valve vault would be located in the bank adjacent to the intakes. The top of the intake structures would be at 1,710.3 feet of elevation, and the top of the valve vault would be at 1,711 feet of elevation (Attachment 2). The normal lake level at this location is 1,729 feet, while the low water elevation at river mile 72.5 is estimated to be at 1,710 feet. Three permanent warning buoys would be installed to warn boaters of the low-water obstacle. Two 20-inch diameter water lines and an 8-inch diameter sediment flush pipe to the intake would be installed by directional boring to connect the intake structure to the raw water pump station as shown in Attachment 1. A raw water pump and motor would be installed in a small building located on the inland portion of the tract above the 500-year flood elevation (i.e., 1,742 feet), also shown in Attachment 1.

Impacts Assessment

With the exception of effects to historic resources, the potential environmental effects of implementing the revised proposal would be the same as those evaluated in the 2006 EA and FONSI, and in the 2010 revised FONSI. By design, WCSA's most recent proposal would reduce the potential for adverse effects to historic resources. The proposed directional drilling would be conducted at a depth (1,714 feet elevation or lower) adequate to avoid the disturbance of archaeological resources. WCSA would be required to employ appropriately textured and colored materials and vegetative screening of on-site structures to minimize adverse visual effects to the Virginia Creeper Trail. The water intake structures and the valve vault would be underwater during most of the year, and the raw water intake lines would be buried. Thus, the visual effect of the project on the Virginia Creeper Trail and train trestle would be minimal. WCSA has prepared an archaeological contingency plan to address actions following any inadvertent effects to archaeological resources during construction. Both TVA and the Virginia SHPO have approved this plan. Therefore, TVA has determined that the currently proposed undertaking, implemented in conjunction with measures listed below in the mitigation section, would not adversely affect historic properties. The Virginia SHPO concurred with this determination via electronic correspondence on October 5, 2010.

The site of the proposed intake is in the upper reaches of the South Holston Reservoir, and water levels at the site are influenced by reservoir levels. The normal water level at the intake is estimated to be at 1,729 feet of elevation, while the top of the proposed intake structures would be at 1,710.3 feet of elevation. The top of the valve vault would be at 1,711.5 feet of elevation. Thus, these structures would be submerged approximately 18.6 feet below the water line from mid-April through mid-September. South Holston Reservoir is normally at its lowest levels from early December through mid-February. During this time, the top of the three intake structures could be covered by only a few inches of water, and the valve vault would protrude approximately 1 foot above the water. A series of three warning buoys would be placed immediately upstream, downstream, and in the channel fronting the intake structures. With this measure in place, potential effects on any recreational boating that may occur during the winter months would be minor and insignificant.

Mitigation and Special Conditions of Approval

The 2006 FONSI stated that the Section 26a approval would be conditioned to include the requirement for WCSA to implement the nine stipulations of the MOA. Additionally, WCSA would be required to comply with the standard and general conditions in the Section 26a approval, as well as to follow procedures included in the *Virginia Erosion and Sediment Control Handbook* during construction. Also according to the 2006 FONSI, the Section 26a approval would be conditioned to limit the maximum peak daily withdrawal to 12 MGD, to require annual usage reporting, and to prohibit the sale or transfer of water from this source outside the existing utility service territory.

A May 8, 2009, letter from the Virginia Department of Historic Resources stated that because ground disturbance within Site 44WG0560 would be avoided by the use of directional drilling, WCSA would no longer be bound by stipulations I through V of the MOA. Thus, WCSA would no longer be obligated to develop and implement a data recovery plan to mitigate for adverse effects to Site 44WG0560. The letter also indicated that if certain stipulations were included as conditions of approval by TVA, the proposed action would be considered to have no adverse effect on historic properties. Thus, the following measures would be imposed on WCSA as conditions of TVA Section 26a approval. These measures replace those in the 2006 FONSI.

Additionally, WCSA would be required to provide documentation indicating how each of these conditions was completed as required.

1. All surface impacts associated with the raw water pump building, pump control building, parking area, and access road and other associated facilities, but excluding the raw water lines, intakes, and valve vault would be limited to areas above the 100-year flood line (i.e. 1,738 feet of elevation).
2. The raw water pipes and the sediment removal pipe will be installed using horizontal directional drilling at an elevation of 1,714 feet or lower as it passes beneath Site 44WG0560.
3. Construction impacts to Site 44WG0560 would be minimized by implementing the following measures:
 - Construction would be carried out in accordance with the plan provided by Olver Inc., dated September 2010.
 - All construction workers would be clearly informed that all construction is to be limited to the area delineated in the plan drawing.
 - Filter fabric and a minimum of 6 inches of rock fill would be applied to the ground surface to minimize disturbance caused by construction machinery.
 - Filter fabric would cover ground surface to be used for temporary storage of soil.
 - Any trees to be removed from the site area would be cut at the ground surface with root systems left undisturbed.
4. An archaeological contingency plan would be implemented to address any inadvertent direct impacts to Site 44WG0560 resulting from the failure of the horizontal directional drilling or other construction activities.

5. Visual effects to the Virginia Creeper Trail would be minimized by implementing the following measures:
- Appropriately textured and colored construction materials, subject to approval by the Virginia Department of Historic Resources, would be employed to blend the project into the pastoral setting.
 - To the extent feasible, existing vegetation between the project and the Virginia Creeper Trail would not be disturbed.
 - To the extent feasible, additional vegetation of appropriate native species would be planted to further obscure the new construction from the Virginia Creeper Trail.

Consistent with the 2006 EA and FONSI, and with the first revised FONSI, the TVA Section 26a approval would require WCSA to adhere to special conditions and requirements, including a maximum peak daily withdrawal rate of 12 MGD, the preparation of annual water usage reports, and the prohibition of sale or transfer of water from this source outside the existing utility service territory. Additionally, the Section 26a approval would expire at the end of 15 years from the date of issuance.

Conclusion and Findings

As stated in the Mitigation section above, TVA would impose conditions in its Section 26a approval to reduce or avoid adverse effects to historic resources. As requested by the Virginia SHPO, WCSA prepared a contingency plan to address actions and mitigative measures to be implemented in the event of inadvertent effects to Site 44WG0560 during construction. Because these measures are in place, the Virginia SHPO has determined that the proposed project would have no adverse effect on historic properties. Thus, the requirements of Section 106 of the National Historic Preservation Act are satisfied.

With the exception of potential effects to historic resources, which would be reduced under the revised proposal, TVA has determined that the environmental review conducted in 2006 adequately addresses the potential environmental effects of WCSA's current proposal. Construction of the proposed water intake under the current proposal would avoid potential effects to historic resources. TVA concludes that approval of the applicant's currently proposed intake structure and the subsequent construction and operation of the facility would not be a major federal action significantly affecting the quality of the environment. Accordingly, an environmental impact statement is not required.



October 28, 2010

Susan J. Kelly, Senior Manager
Federal Determinations
Environmental Permits and Compliance
Tennessee Valley Authority

Date Signed

Attachments

1. Former Proposal and Currently Proposed Water Intake Location
2. Revised Intake Structure Location and Profile Elevations

Attachment 1. Former Proposal and Currently Proposed Water Intake Location



