



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

August 15, 2011

Lt. Colonel Edward P. Chamberlayne
District Engineer
Attn: Mr. Les Parker
U.S. Army Corps of Engineers
69A Hagood Avenue
Charleston, South Carolina 29403-5107

Subject: Catawba River Water Supply Project SAC-2009-00369-5IK

Dear Colonel Chamberlayne:

This is in response to your request for comments on the above referenced joint public notice (JPN). Lancaster County Water and Sewer District and Union County, North Carolina (applicant) seek a permit to place fill material in wetlands and other waters of the United States in and adjacent to the Catawba River and an unnamed tributary located at the Catawba River Water Treatment Plant in Lancaster County, South Carolina. The proposed fill is to develop a 900 million gallon storage reservoir. The applicant has stated that due to the changes made by the Federal Energy Regulatory Commission (FERC) during the relicensing of the Duke Energy Catawba-Wateree Project, Duke Energy can no longer release water based on Catawba River Water Treatment Plant needs, specifically the Catawba River stage 4 drought conditions. As such, the purpose of the proposed work is to construct a new reservoir adjacent to the existing reservoir that provides a "drought resistant" supply of drinking water for the customers of Lancaster County Water and Sewer District and Union County, North Carolina. The proposed work consists of filling 0.23 acres of waters of the United States comprised of 1,000 linear feet of an unnamed tributary to the Catawba River with approximately 750 cubic yards of material placed below the ordinary high water mark to construct an earthen embankment. The entire embankment will measure approximately 500,000 cubic yards. The embankment will create a 92 acre open water impoundment, which will flood 1.08 acres of waters of the United States, which includes 6,320 linear feet of this unnamed tributary and 0.36 acre of abutting wetlands. Additionally, the construction of the intake structure and its associated coffer dam in the Catawba River will impact approximately 0.5 acre of river bed.

The Environmental Protection Agency, Region 4 has reviewed the JPN and has significant concerns with the proposed project. The aquatic impacts associated with impoundments are well documented in the scientific literature and range from fragmentation of aquatic species habitat, to water quality impacts both up and downstream of an impoundment. In addition to the destruction of the riverine habitat within the impounded area, there are also adverse effects on flow regimes, velocities, temperature, dissolved oxygen, chlorophyll levels, sediment transport, nutrient cycles, etc. The following two citations contain recent studies conducted by two Southeastern states, Tennessee and North Carolina, addressing water quality impacts from impoundments: (*Probabilistic Monitoring of Streams below Small Impoundments in Tennessee*, http://www.tn.gov/environment/wpc/publications/pdf/isp_report.pdf and *Selected Bibliography – Stream Impoundment Perspectives*, North Carolina Division of Water Quality, June 2008, attached).

The EPA has significant concerns that the effect of conversion of this stream into an impoundment could result in the elimination of existing uses of the streams in and downstream of the area of the proposed project, including the segments of the streams that could become the tailrace waters of the reservoirs during and after impoundment. The conversion may also require a change in the designated uses that are currently assigned to these streams in South Carolina water quality standards. Prior to the conversion, it must be demonstrated that such a conversion complies with all aspects and requirements of South Carolina's antidegradation policy, as well as any other applicable provision of South Carolina's water quality standards regulation.

Additionally, the EPA is concerned that while the applicant has addressed some of the guidelines put forward in the EPA Region 4 Guidelines on Water Efficiency Measures for Water Supply Projects in the Southeast, June 21, 2010, other measures need further clarification and evaluation. First, a description of how the utility has or will implement water consumption reduction goals must be supplied. The applicant explains reductions in drought conditions, but not how everyday consumption may be reduced. Next, the applicant should explain how public education of efficiency, other than inserts in monthly billing, has been conducted and how water users have been involved in decision-making. The applicant appears to have implemented a conservation pricing approach, but there is no indication that full cost pricing is being utilized. Also, details about current efforts to use water efficiently, such as stopping leaks, metering all water users, and smart building practices for the future, need to be explained.

Watershed approaches such as: seeking opportunities for wetland restoration and groundwater recharge and storage, reuse of treated wastewater and graywater, and ensuring source water is protected, can result in lower withdrawals and help to sustain healthy instream flows for ecological and community use.

The applicant justifies their need for a 900 million gallon storage reservoir in two ways. The first justification is based on 36 million of gallons per day (mgd) for 25 days of storage, which is the length of time recommended by the IBT Permit. This 36 mgd rate is the current capacity of the facility and it is unclear if the treatment plant is currently running at this full capacity. Also, it is unclear by what amount this could be lowered by using the efficiency measures mentioned earlier. The second justification for the reservoir is based on 18 mgd (conservation treatment capacity) for 49 days which is the longest consecutive period of days the Catawba River was under low flow conditions in the last 10 years. The applicant has supplied two tables to show consecutive days with low flow and total days with low flow. However, these tables seem to have multiple inaccuracies. Many years in these tables have fewer total days with low flow than consecutive days with low flow (i.e. 2006 had 7 consecutive days of low flow and 0 total days of low flow).

The applicant currently has access to a 100 million gallon reservoir and emergency access to 8.6-11.1 mgd from other water sources. During drought periods, the conservation treatment capacity of 18 mgd should be used. With these alternate water sources and the current reservoir, it appears the applicant would be capable of 12.6-15.1 mgd for the 25 days suggested in the IBT Permit. This leaves only a 2.9-5.4 mgd deficit which could possibly be made up through efficiency measures. These measures should be exhausted before an additional reservoir is considered. In a worst case scenario, this deficit could be supplied by an additional 135 million gallons of storage. This amount of storage would open up many more alternatives including many that the applicant removed due to size restriction and others that may not have been explored at all.


The EPA also has some concerns with the proposed mitigation plan for the project. We appreciate the applicant proposing to utilize all the available stream credits in the impacted area, but it is unclear if wetland credits would be available and why the purchase of wetland credits is not proposed. The applicant proposes to meet the remaining mitigation requirements using a permittee-responsible site referred to as the Big Dutchman's Creek Site. The mitigation plan lacks sufficient detail to determine if it is adequate to supply the needed mitigation and if restoration would be successful. In considering whether permittee-responsible mitigation would be appropriate, the 2008 Mitigation Rule requires that a watershed approach be used in determining where mitigation would best serve the entire impacted watershed. If permittee-responsible mitigation is found to be acceptable, a mitigation plan must include objectives, a site protection instrument, baseline data collection plan for biotic communities, hydrology, etc., determinations of credits, a mitigation work plan, a maintenance plan, performance standards, monitoring requirements, a long-term management plan, an adaptive management plan, and financial assurances, as stated in the 2008 Mitigation Rule.

The applicant needs to provide information for the existing streams in the mitigation area, including the drainage area, stream type, bankfull area and width, width-to-depth ratio, width floodprone area, entrenchment ratio, maximum depth at bankfull width, valley slope, bed material, etc. A reference reach should also be chosen and have the same factors measured. The applicant must then determine the expected measurements of these factors for the design reach and how they will be achieved, including map plans showing the in-stream structures (cross-vanes, j-hooks, etc.) and their placement. Also, the applicant uses the maximum net improvement factors in their credit calculations for these streams. The current impairment of the streams must be assessed and the restoration be explained in detail to determine if these factors are appropriate. It appears that if the factors are lowered, the current mitigation plan would supply insufficient credits for the proposed impacts.

In summary, the EPA finds the current proposal is inadequate in fulfilling the requirements of the Section 404(b)(1) Guidelines and we recommend the permit be denied, as the applicant's preferred alternative does not appear to be the practicable alternative with the least adverse impact on the aquatic ecosystem pursuant to 40 CFR §230.10(a).

Thank you for considering these comments in your permit review and issuance process. If you have any questions, please contact Kelly Laycock at laycock.kelly@epa.gov or 404-562-9132 for more information.

Sincerely,



Jennifer S. Derby
Chief

Wetlands and Marine Regulatory Section

cc:

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