



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES

William R. Snodgrass - Tennessee Tower
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Nashville, Tennessee 37243-1102

NOTICE OF DETERMINATION

Economic/Social Necessity for Degradation of Exceptional Tennessee Waters
Aquatic Resource Alteration Permit application NRS23.228
Columbia Power and Water Systems

Pursuant to *The Tennessee Water Quality Control Act of 1977*, and Tenn. Comp. R. & Regs. 0400-40-03-.06(4)(d), this notice sets out the Department of Environment and Conservation's (the "Department's") determination that the degradation resulting from continued withdrawal of drinking water and a new intake and new withdrawal from the Duck River proposed in the § 401 Water Quality Certification and Aquatic Resource Alteration Permit application NRS23.228 is necessary to accommodate important economic or social development in the area.

Background

Columbia Power and Water Systems (CPWS) applied for a § 401 Water Quality Certification and Aquatic Resource Alteration Permit to replace its existing permit (file number NRS18.285) for withdrawal of up to 20 million gallons per day (MGD) from the Duck River near Columbia near river mile 134 and issuance of a new permit that would renew the existing withdrawal and include construction of a new intake downstream near river mile 100 to obtain an additional 12 MGD. The new intake would be capable of providing 32 MGD, which is the total combined withdrawal of the existing intake and the new withdrawal of 12 MGD. Additional information on the project proposal and supporting documents are available for review on the internet at the Division's Water Resources Permits Data viewer (<https://www.tn.gov/environment/about-tdec/tdec-dataviewers.html>) by entering the permit file number listed in the title of this Notice of Determination.

The Division issued public notice soliciting comments on the CPWS proposal on September 12, 2023, and announced the scheduling of a public hearing to be held on October 19, 2023, at 5:00 p. m. at the Columbia Environmental Field Office 1421 Hampshire Pike, Columbia, TN 38401. The public comment period ended on November 17, 2023.

Pursuant to Tennessee's water quality standards, Rule 0400-40-03-.04, a single water withdrawal is considered de minimis if it removes less than five percent of the minimum 7-day average streamflow with a 10-year recurrence interval (7Q10) flow of the stream. The new intake is proposed to be located near Duck River mile 100 in river segment ID TN06040003016_1000.

Using the USGS Hydrologic Toolbox 1.0.0 for the period of record from April 1, 2016 – March 31, 2023, at the USGS Gage 03601600 DUCK RIVER NEAR SHADY GROVE, TN, the calculated 7Q10 in this river segment is 202.90 cubic feet per second (CFS).

The Antidegradation Statement applies to new or increased water withdrawals. The new withdrawal is 12 MGD (18.57 CFS). The new withdrawal is 9.15% of the 7Q10 flow. As defined in Rule 0400-40-03-.04(4) the proposed withdrawal would result in greater than de minimis degradation.

In waters identified as Exceptional Tennessee Waters, new or increased water withdrawals that would cause degradation of any available parameter above the level of de minimis will only be authorized if the applicant has demonstrated to the Department that there are no practicable alternatives to prevent or lessen degradation associated with the proposed activity and the degradation is necessary to accommodate important economic or social development in the area and will not violate the water quality criteria for uses existing in the receiving waters. If one or more practicable alternatives is identified, the Department shall only find that a lowering is necessary if those alternative(s) are selected for implementation.

Discussion

The proposed activity is the construction of a new water intake and 12 MGD additional water withdrawal about 34 river miles downstream of the existing Duck River intake, which will result in greater than de minimis degradation. Given the required infrastructure investment, the Department will consider 20-year projections.

Although the proposal will result in greater than de minimis degradation, there are also offsetting ecological benefits that reduce the overall degradation. The drainage area at the downstream intake is about 505 square miles larger than the drainage area at the upstream intake with a commensurate increase in water availability. CPWS will use the new location as its primary water source, with its existing upstream intake maintained as an emergency backup. Withdrawing water from the downstream location is ecologically preferable because the base flow at this location is significantly greater and there are not known significant mussel populations. This location also provides for greater reliability for public water supply due to the higher instream flow and the absence of a regulatory flow restriction. Further, a significant portion of the water to be withdrawn downstream will be returned to the Duck River upstream.

CPWS serves as a regional public water supplier. The maximum daily water demand for CPWS in 2023 was 17 MGD. Although rated at 20 MGD, the sustainable production capacity of the current water treatment plant is 16 to 17 MGD. As part of its expansion project, CPWS plans to make the improvements necessary to allow the plant to produce 20 MGD. However, using empirical water use projections CPWS expects to experience a peak demand of 19.2 MGD in 2024, and 28.9 MGD in 2040.

In the absence of the proposed infrastructure, the CPWS service area encompassing Maury County, including the City of Columbia, the Town of Mount Pleasant, and portions of Spring Hill would not be able to accommodate the water needs for projected population growth. Such water limitations may restrain residential construction, resulting in a loss of economic activity in the area.

In addition, the proposed withdrawal would support industrial economic development in the area. CPWS would provide water for Ultium, which will have a peak demand approaching 1.5 MGD to support electric vehicle battery production to support General Motors. The Ultium facility is expected to employ approximately 1,300 people. CPWS would also provide water for Fiberon, which produces composite decking material and will have peak water demand of 0.5 MGD.

Determinations

After taking into consideration the information received in support of the permit application and the comments received through public participation, the Department has determined that:

1. As defined in rule 0400-40-03-.04(4) the proposed withdrawal is greater than de minimis degradation of water quality parameters in waters identified as Exceptional Tennessee Waters.
2. The degradation of Exceptional Tennessee Waters is necessary to accommodate important economic or social development in the area.

Petition for Declaratory Order/Permit Issuance

Pursuant to the Antidegradation Statement, Tenn. Comp. R. & Regs. 0400-40-03-.06(4)(d), the Department's determination that degradation above a de minimis level of the Exceptional Tennessee Waters is necessary to accommodate important economic or social development in the area is subject to review by the Board of Water Quality, Oil, and Gas.

Within 30 days after the date of this notification, any affected intergovernmental coordination agency or affected third person may petition the Board for a declaratory order under Tenn. Code Ann. § 4-5-223, and the Board shall convene a contested case. If a petition for declaratory order is timely filed, it will be processed in accordance with Tenn. Comp. R. & Regs. 0400-40-03-.06(4)(d) and rules governing contested case hearings. If no such petition is filed within 30 days after this notification, then the Department will proceed to its final determination of whether to issue the permit. A petition may be filed by electronic mail at TDEC.Appeals@tn.gov or by mail to Jenny Howard, TDEC General Counsel, 312 Rosa L. Parks Ave., Nashville, TN 37243.