



**STATE OF TENNESSEE**  
Department of Environment and Conservation  
Division of Water Resources, Natural Resources Unit  
Davy Crockett Tower, 9<sup>th</sup> Floor  
500 James Robertson Parkway  
Nashville, Tennessee 37243

## **NOTICE OF DETERMINATION**

### **Necessity to Accommodate Economic or Social Development Degradation of Exceptional Tennessee Waters Aquatic Resource Alteration Permit Application NRS21.274 Shelbyville Power, Water, and Sewerage 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 determination that the degradation resulting from an increased withdrawal of drinking water from the Duck River proposed in the Aquatic Resource Alteration Permit application NRS21.274 is necessary to accommodate important economic or social development in the area.

#### **Background**

Shelbyville Power, Water, and Sewerage Systems (SPWSS) has applied for an Aquatic Resource Alteration Permit (ARAP) for an increased withdrawal of up to ten million gallons per day (MGD) from the Duck River in Bedford County near river mile 222. 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.

Public notice of a draft permit that would authorize the withdrawal of ten MGD was issued on December 17, 2024, which announced the scheduling of a public hearing to be held on March 18, 2025, at Henry Horton State Park. The public comment period ended on March 28, 2025.

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 intake is located near Duck River mile 222 in river segment ID TN06040002027\_2000.

Using the USGS Hydrologic Toolbox 1.0.0 for the period of record from April 1, 1995 - March 31, 2025, at the USGS Gage 03598000 DUCK RIVER NEAR SHELBYVILLE, TN, the calculated 7Q10 in this river segment is 140.15 cubic feet per second (CFS).

The proposed withdrawal is ten MGD (15.47 CFS) which is 11.04% of the 7Q10 flow. As defined in Rule 0400-40-03-.04(4) the withdrawal results 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 withdrawal of up to ten million gallons per day from the Duck River near river mile 222.

The Department's rules exempt water withdrawals that existed on July 25, 2000, from permit requirements to the extent that they do not "adversely alter or affect the classified use" of the source stream. SPWSS's peak withdrawal during the summer of 2000 was 6.04 MGD. Because this river segment fully supports its classified uses (the recreational use has not been assessed), this withdrawal does not interfere with achieving these uses. This amount is therefore exempted from permit requirements. The remaining portion of the withdrawal is considered new or increased. That total (10 MGD – 6.04 MGD) is 3.96 MGD.

The SPWSS water treatment plant has a rated capacity of ten MGD. Raw water for the water treatment plant is supplied by an intake in the Duck River. The raw intake pump house has four different pumps that can run in any combination of all four (pump 1 @ 2800 GPM; pump 2 @ 2800 GPM; pump 3 @ 2800 GPM; pump 4 @ 6974 GPM) pumps. The water is pumped out of the clearwell and into the distribution system by one or two of three pumps (6 MGD, 4 MGD or 8 MGD) with a maximum of ten MGD. The highest 24-hour withdrawal occurred on January 19, 2024 at 8.53 MGD.

The number of water customers of SPWSS is 10,358. The service area has 2,394 residential units currently permitted for construction. In addition, there are at least 1,345 residential units proposed to be presented to the Shelbyville Planning Commission. The corresponding growth rate is 23.11 percent. Applying a 23.11 percent growth rate to the peak day production of 8.53 MGD yields a five-year peak day production of 10.50 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](mailto:TDEC.Appeals@tn.gov) or by mail to Jenny Howard, TDEC General Counsel, 500 James Robertson Parkway, 5<sup>th</sup> Floor, Nashville, Tennessee 37243.