

Mr. David McCray
Chairman Shelby County Groundwater Quality Control Board
814 Jefferson Avenue Memphis, TN 38105



Mr. McCray,

On behalf of our 833 members and more than 3,500 supporters in Shelby County, the Tennessee Chapter of the Sierra Club (Sierra Club) requests that the Shelby County Groundwater Quality Control Board hold a formal hearing on our appeal of permits WP-16-077 and WP-16-078 issued on 09/20/2016 to the Tennessee Valley Authority (TVA), as provided under Section 14.2 (A) of the Rules and Regulations of Wells in Shelby County. We believe that these permits were issued contrary to both the letter and the intent of the Rules and Regulations of Wells in Shelby County.¹

Sierra Club believes that the the issuance of these permits violates the letter of the law in regards to 4.01 (F) of the Rules and Regulations of Wells in Shelby County.

4.01 - Applications

F. The Department shall issue a notice of rejection whenever it determines that an application for a permit fails to meet the requirements of these Rules and Regulations, or any rules, order, regulation or standard adopted pursuant thereto; or that the proposed well will be harmful or potentially harmful to the water resources of Shelby County or, if it is determined by the Department that an adequate water supply is available to the premise without the need to construct a well. Said water supply may be from an existing water well or from a public system.

We believe that the Shelby County Health Department failed to adequately assess the real and potential harmful impacts of these wells on the water resources of Shelby County. Further, we believe that these permits were issued without determination as to whether adequate water supplies were available without the need to construct any wells. Memphis Light, Gas and Water (MLGW) has publicly stated that they would be able and willing to supply the required volumes.

Sierra Club believes that the the issuance of these permits violates the letter of the law in regards to 4.02 (B) (3) of the Rules and Regulations of Wells in Shelby County.

4.02 - Permits Required

B. The issuance of a construction permit is dependent upon:
3. the justifiable need for a well.

¹ [Rules and Regulations of Wells in Shelby County](#)

We believe that TVA has failed to justify the need for these wells. In their Environmental Assessment published in July 2014², TVA stated that they intended to obtain their cooling water from the Maxson Treatment Plant adjacent to the new natural gas plant. Subsequently, TVA decided that using greywater from the treatment plant would cost more than they wanted to spend, claiming in their April 2016 Supplemental Environmental Assessment³ that it would cost \$6 million dollars per year to treat the greywater, which would result in a rate increase of less than \$1 per year per customer, when spread over TVA's 9 million ratepayers. We believe that this rate increase is insignificant and that it does not justify the wasting of more than 3.5 million gallons per day of our valuable drinking water resources. We believe that the potential threat of contamination to the Memphis Sand Aquifer as a result of infiltration of lesser quality water from the shallow aquifer above, outweighs this insignificant cost increase. Furthermore, TVA failed to adequately consider explore the availability of water from MLGW.

Sierra Club believes that the the issuance of these permits is contrary to the intent of 5.02 (E) of the Rules and Regulations of Wells in Shelby County.

5.02 - Siting Criteria

E. A well cannot be sited or placed in service within a half-mile of the designated boundaries of a listed federal or State Superfund site or Resource Conservation and Recovery Act corrective action site, unless the well owner can make a demonstration that the well will not enhance the movement of contaminated groundwater or materials into the shallow or deep aquifer.

We believe that the depression created by these wells will induce and/or exacerbate the movement of contaminated groundwater from the shallow aquifer to the Memphis Sand Aquifer through recognized lenses or thin areas in the confining clays between the shallow and deep aquifers. This threat to our groundwater resources is even recognized in the United States Geological Survey (USGS) report⁴ used by TVA to support their Finding Of No Significant Impact published in April 2016 regarding the use of water from the Memphis Sand Aquifer to cool the plant.

While not listed as a RCRA Corrective Action site, new RCRA rules⁵ on the disposal of coal ash residuals were promulgated in 2015 that recognize the health hazards of the toxic constituents of coal ash. TVA's coal ash impoundments at the Allen Fossil Plant site are under ½ mile from the wells that have been permitted, and they are known to be leaching metals into the shallow aquifer.⁶ However, TVA has since stopped monitoring those wells, since it is not required by TDEC. We believe that the intent of 5.02 (E) includes the real world threat posed by this contamination of the alluvial aquifer and potential threat to the Memphis Sand Aquifer by infiltration of these contaminants.

Sierra Club believes that the issuance of these permits is contrary to the intent of Section 11 (A) of the Rules and Regulations of Wells in Shelby County.

² [ALLEN FOSSIL PLANT EMISSION CONTROL PROJECT FINAL ENVIRONMENTAL ASSESSMENT](#)

³ [Final Supplemental Environmental Assessment](#)

⁴ [Evaluation of Effects of Groundwater Withdrawals at the Proposed Allen Combined-Cycle Combustion Turbine Plant, Shelby County, Tennessee](#)

⁵ 7 US EPA, Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule, 80 FR 21302 (Apr. 17, 2015); 40 CFR 257.

⁶ [TVA's Toxic Legacy: Groundwater Contaminated by Tennessee Valley Authority Coal Ash](#) (Pages 24-31)

Section 11 - LIMITATION ON USE OF WATER

A. Water pumped by private and/or quasi-public water supplies for residential, commercial and industrial purposes shall be limited to reasonable use.

We believe that the intent of this rule is to limit the use of our finite or slowly recharged groundwater resources to those uses that require the quality provided by the Memphis and Fort Pillow Sands. We question whether the evaporative wasting of more than 3.5 million gallons per day is reasonable given the slow recharge rate of the Memphis Sand Aquifer when other, less valuable water resources are available. Many if not most natural gas plants use less pure water--river or wastewater--to meet their cooling water needs.

Sierra Club believes that the issuance of these permits is contrary to the intent of Section 11 (C) of the Rules and Regulations of Wells in Shelby County.

Section 11 - LIMITATION ON USE OF WATER

C. The Department shall take whatever steps it deems necessary to conserve groundwater obtained by way of private water supplies for cooling, refrigeration and air conditioning systems. The Department shall require the reuse of water for cooling through the use of cooling towers, evaporative condensers, or some other such device or method approved by the applicable code.

We believe that TVA has failed to document why they cannot condense, recapture and reuse the 3.5 million gallons that they say will be boiled off everyday.

Sierra Club believes that the issuance of these permits is contrary to both the letter and the intent of Section 12.01 (A) of the Rules and Regulations of Wells in Shelby County.

Section 12 - AVAILABILITY OF PUBLIC WATER

12.01 - Public Water Available To A Premise

A. Public water shall be deemed available to a premise other than a subdivision when it is located within three hundred (300) feet of said premise.

MLGW has publicly stated⁷ that it is willing to provide the water required by TVA, as well as its preference to do so. This would put the sourcing of the required water in the hands of a trusted local steward of our water resources.

Sierra Club believes that the issuance of these permits is contrary to both the letter and the intent of Section 12.01 (G) of the Rules and Regulations of Wells in Shelby County.

Section 12 - AVAILABILITY OF PUBLIC WATER

12.01 - Public Water Available To A Premise

G. The construction of a well shall not be permitted at a premise where public water is available and which said water supply has a yield and pump capacity to provide the quantity

⁷ "We're confident we have the capacity with the infrastructure we have in place to meet their needs," spokesman Richard Thompson said Friday. [Commercial Appeal Sept 3, 2016](#)

of water which the user has stated is necessary for purposes for which the water is intended to be used unless otherwise provided by this code.

To our knowledge, TVA never communicated with MLGW to determine whether they were willing to supply the required volumes of water.⁸

Sierra Club believes that the issuance of these permits based on a variance under Section 12.01 (I) is contrary to intent of the Rules and Regulations of Wells in Shelby County.

Section 12 - AVAILABILITY OF PUBLIC WATER

12.01 - Public Water Available To A Premise

I. A well may be approved by the Department for construction on a commercial and/or industrially zoned premise where public water is available, provided the owner demonstrates to the Department that no reasonable alternative water supply to the proposed well exists. The potable water supply shall be obtained from the public water system.

Sierra Club does not believe that that TVA adequately documented that no reasonable alternative source of water was available. TVA originally proposed to use greywater but failed to sufficiently document why it was not cost effective. They also failed to consider other sources, including the shallow aquifer or river water.

Sierra Club believes that the Shelby County Groundwater Quality Control Board should reconsider the issuance of these permits pursuant to Section 14.02 (A) of the Rules and Regulations of Wells in Shelby County.

Section 14 - VARIANCES

14.02 - Appeals - Procedure

Any person who feels aggrieved by an order of the Department issued pursuant to these Rules and Regulations shall be entitled to a hearing before the Board upon request.

A. The Board shall have and exercise the power, duty and responsibility to hear and decide all matters concerning a variance to or an exception taken to any decision, ruling, requirement, rule, regulations or order of the Board or the Department. Such appeal shall be made within fifteen (15) days after receiving notice of such decision, ruling, requirement, rule, regulation, or order by filing a written notice of appeal directly to the Board specifying the grounds thereof and the relief requested. Such an appeal shall act as a stay of decision, ruling, requirement, rule, regulation, or order in question until the Board has taken final action on the appeal, except when the Department has determined that a health hazard exists. The Board shall, not less than thirty (30) days after the date of the receipt of the notice of appeal, set a date for the hearing and shall give notice thereof by certified mail to the interested parties.

⁸ Conversations with MLGW CEO Jerry Collins

Sierra Club believes that the issuance of permits WP-16-020, WP-16-034 and WP-16-047, issued on 5/06/16, 6/14/16 and 7/18/16, should be objectively discussed in a formal hearing under Section 18.01 (A and D) under the Rules and Regulations of Wells in Shelby County.

We believe that, due to the lack of public notification regarding issuance of well permits issued by the Shelby County Health Department, concerned citizens were unaware of the issuance of the three permits (WP-16-020, WP-16-034 and WP-16-047) previously granted the the Tennessee Valley Authority on 5/06/16, 6/14/16 and 7/18/16, and respectfully ask that they too be reviewed pursuant to Section 18.01 (A) and (D).

Section 18 -- ENFORCEMENT AND PENALTIES

18.01 -- Enforcement

A. If the Department determines that the holder of any permit issued pursuant to these Rules and Regulations has violated any provisions of this act, or any rule or regulation adopted pursuant thereto, the Department may suspend or revoke any such permit. The Department may place on probation a person whose permit has been suspended. The Department may reprimand a permittee for a violation of this act or a rule or regulation adopted pursuant to these Rules and Regulations.

D. Any well owner who knowingly causes or permits a hazardous or potentially hazardous condition to exist due to well construction or any other reasons as outlined in these Rules and Regulations which could cause deterioration of groundwater aquifers in the system shall forfeit his right to an approved, certified permit. He shall also be liable to enforcement action.

We believe that these permits were issued without justification as argued above and respectfully submit that they should be reconsidered at a formal hearing.

Sincerely,



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