

BEFORE THE ADMINISTRATOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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In the matter of )  
)  
Appalachian Power Company )  
d/b/a American Electric Power ) January 6, 2003  
Clinch River Power Plant )  
Registration No: SWRO10236 )  
Russell County, Carbo, Virginia )  
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THE BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE'S PETITION  
OF THE ENVIRONMENTAL PROTECTION AGENCY TO OBJECT TO THE  
TITLE V AIR QUALITY OPERATION PERMIT ISSUED TO  
AMERICAN ELECTRIC POWER CLINCH RIVER POWER PLANT  
BY THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

The Blue Ridge Environmental Defense League (BREDL) hereby petitions the Environmental Protection Agency to object to the final Title V Air Quality Operation Permit issued to Appalachian Power Company on November 7, 2002, by the Virginia Department of Environmental Quality (DEQ) which has been designated as Permit No. SWRO10236 by DEQ. The grounds for this petition are set forth in the following: July 17, 2002 written comments submitted to DEQ by Mark Barker; August 26, 2002 written comments submitted to DEQ by Mark Barker; July 17, 2002 written comments submitted to DEQ by David Muhly; oral testimony delivered at the July 17, 2002 DEQ public hearing on the permit, AEP Clinch River's permit, application, and all supporting documentation; all DEQ reviews, orders, documentation or other records in this matter; and all other subsequent written or recorded comments of record. Attached to this petition is our brief outlining the problems we have identified with DEQ's issuance of the final Title V permit.

Respectfully submitted,

Dated: January 6, 2003

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**Outline of Problems with DEQ's Issuance of a Final Title V Permit for the American Electric Power Clinch River Power Plant in Russell County, Virginia**

Permittee: Appalachian Power Company  
d.b.a., American Electric Power  
Registration No: SWRO10236  
Russell County, Carbo, Virginia

**Overview**

Title V permits are meant to reduce confusion by including all applicable requirements that apply to a given source. The operating permit program is designed to define compliance, not just applicable standards. The permit must list all applicable requirements including monitoring, methods of testing, semi-annual reporting, and annual compliance certification. Compliance is determined by monitoring conditions with respect to an associated standard. If there is no federal standard for monitoring requirements, averaging times, or record keeping, Title V directs the state to determine them. This monitoring provision allows the public, the state, and the operator to know if the facility is in compliance with emission standards. According to the US EPA OAQP&S, "In effect, title V makes compliance a matter of corporate responsibility."

As set forth below, DEQ did not respond to many of the comments offered by citizens. In our opinion, Virginia DEQ has not used its delegated powers to reduce the impact of air pollution. Practical enforceability is a Title V requirement and, notwithstanding extant or pending court actions, the permit must establish clear legal obligations which allow compliance to be verified and the permit to be enforced.

The AEP Clinch River Power Plant Title V permit is invalid because of 1) outstanding violations of PSD (Prevention of Significant Deterioration) permitting and other requirements of PSD review, 2) failure to install BACT (best available control technology) to reduce emissions of nitrogen oxides (NOx) and sulfur dioxide (SO2), 3) failure to enforce NSR (New Source Review) requirements, 4) failure to include enforcement provisions for opacity exceedences, 5) failure to adequately demonstrate emissions compliance with NAAQS due to the lack of criteria pollutant monitors in the region of the plant, and 6) failure to prohibit a double standard for particulate emission controls when electrostatic precipitators are used at lower power during power generation than during stack testing.

**Background**

In 1999, the Clinch River facility ranked first in the amount of NOx emissions from stationary sources in Virginia . The plant ranked fourth in SO2 emissions, seventh in PM2.5 emissions and eleventh in PM10 emissions.

As a grandfathered coal-fired power plant, the facility is exempt from most pollution control and emission limits regulations; however, the facility made significant plant modifications in the Fall of 1995 that increased NO<sub>x</sub> and SO<sub>2</sub> emissions. These modifications should have triggered NSR requirements.

There is outstanding litigation regarding the 1995 modifications. The state of New York has initiated legal action. Several environmental groups, including the Sierra Club, have initiated a separate legal action.

While NO<sub>x</sub> emissions have decreased in recent years, these reductions are not binding. The only emissions limits on this facility are through the Clean Air Act Acid Rain program. As DEQ points out, these limits are not limits, per se. AEP includes several units (currently 45 AEP units in several states) in a NO<sub>x</sub> Averaging Plan (Alternative Contemporaneous Annual Emissions Limitation – ACEL). AEP had amended the Acid Rain permit each year. A unit and or facility may exceed these "limits" as long as the average of all units in the plan do not exceed the group's NO<sub>x</sub> rate.

The rate of acid deposition in Virginia's mountains is among the highest in the country. From 1985 through 1997, nitrogen oxides from stationary and mobile sources have increased by 50 percent. Increases in NO<sub>x</sub> emissions, even if not sustained, can have severe impacts.

Ozone impacts on human health are severe. The Clean Air Task Force using U.S. Census and American Lung Association data lists a 30 mile radius population around the Clinch River plant as 257,092 people. Of that, 62,806 are children. There is an estimated 3,231 cases of pediatric asthma within this 30 mile area.

The Task Force further reports that in Virginia, annually there are 30.3 deaths related to power plant pollution per 100,000 adults. This breaks down to 1,240 annual deaths, 823 hospitalizations, 341 asthma ER visits, and 27,900 asthma attacks.

Damage to trees has weakened defenses against insects, disease, and severe weather causing widespread tree mortality with unknown long-term effects on the region.

#### **A. New Source Review Requirements of the Clean Air Act Were Not Met**

The Virginia Dept. of Environmental Quality failed to require AEP to obtain a PSD permit despite major modifications at the Clinch River plant. The permit shield provisions of the Title V permit issued on November 7, 2002 note ongoing litigation in this matter. Section VIII of the DEQ permit states:

Language Specifically Related to Ongoing Litigation between EPA and AEP

Had there been any requirements specifically identified as being not applicable to this permitted facility, those requirements would also have been covered by

the permit shield. This permit shield does not currently encompass major or minor source construction permit requirements that are deemed applicable to the source as a result of ongoing litigation in federal court between the U.S. Environmental Protection Agency and the permitted facility. The permitted facility shall not be shielded from any such requirements found to be applicable by the court, and in the event that such a finding is made, this will provide a basis for reopening the permit to establish a schedule for complying with these requirements.

It is specifically recognized that this exception to the permit shield only applies to a determination by federal court in the litigation pending between the U.S. Environmental Protection Agency and the permitted facility that major or minor new source construction permit requirements apply to the permitted facility. Nothing in the permit shield under this Condition VIII has made any specific finding of non-applicability of any prevention of deterioration (PSD), new source performance standards (NSPS), or minor source review requirements under the applicable Virginia State implementation plan (SIP) for any modifications to which these requirements should have applied.

(9 VAC 5-80-140)

The federal Clean Air Act at 42 U.S.C. § 7411(a)(4) states a modification is “any physical change, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted.” The Act itself admits of no exceptions in this matter, although subsequent EPA regulations do allow limited, or *de minimis*, “routine maintenance, repair and replacement.” However, in *Alabama Power Co. v. Costle*, 636 F.2d 323, 400 (D.C. Cir. 1979), the court ruled that “the provisions concerning modifications indicate that this [grandfathering] is not to constitute a perpetual immunity from all standards under the PSD program. If these plants increase pollution, they will generally need a permit.” [emphasis added]

AEP’s Clinch River plant has required major modifications in order to continue operating. Virginia DEQ allowed these to be done without proper permitting. On March 19, 1996 AEP stated:

Only Clinch River Unit 1 was able to achieve the 235 MW Capacity due to the new Primary Superheater, Secondary Superheater and Reheat Superheater Sections of the Unit 1 Boiler, installed in the Fall 1995.

Unit’s 2 and 3 continue to have the reduced Unit Capacity due to the new High Pressure/Reheat Turbine Assembly installed in the Spring 1993 on Unit 2 and the Fall 1992 on Unit 3. These Units will receive the new sections in their Boiler’s in the near future which will increase the Capacity of both Units.

In 1999, New York State brought suit against American Electric Power for violations of NSR and PSD provisions of the Clean Air Act at Clinch River Power Plant. Eliot Spitzer, Attorney General of the State of New York, wrote:

In approximately 1995-1996, the company replaced the primary, second and reheat superheater banks on Units 1,2 and 3 at the plant. As a result of this extensive work, nitrogen oxide (NOx) emissions at the plant increased from 26,375 tons in 1995 to 35,086 tons in 1997, an increase of approximately 33 %. Sulfur Dioxide (SO2) emissions increased by a comparable amount. Thus, the rebuilding of the superheaters resulted in a significant net emissions increase (as defined in 9 VAC 5-80-1710) in emissions of SO2 and NOx from the plant, thereby triggering the PSD requirements.

The Attorney General of the State of New York, further stated:

We believe that these modifications were subject to the pre-construction review requirements of the PSD program. However, the record indicates that the company failed to apply for a PSD permit for the modifications, and has not, to this date, installed BACT to control emissions of NOx and SO2 from the plant or complied with any other substantive requirements of PSD review. Further, the company failed to assess the impact of the increased emissions on interstate air quality, thereby depriving both environmental regulatory agencies and the public of the opportunity to evaluate the impact of the proposed emissions on air quality in downwind states.

On November 22, 1999 the U.S. EPA issued a Notice of Violation which stated:

For each of the modifications...that occurred at the Clinch River Power Plant, neither AEP nor Appalachian Power Company obtained a PSD permit pursuant to 40 CFR 52.21, or a minor NSR permit pursuant to former Va REG. 120-08-01.C and current 9 Va. Admin. Code 5-80-10.C. In addition, for modifications after 1992, no information was provided to the permitting agency of actual emissions after the modification as required by 40 CFR 52.21(b)(21)(v).

In addition, the New York Attorney General pointed out in July 2001 comments to EPA:

Industry also argues that the replacement of major power plant components such as reheaters, superheaters, and pulverizers, constitutes "routine maintenance" and thus is exempt from the NSR requirements. This argument, however, is contradicted by industry's own documents, showing that these replacements took months to undertake, costs millions of dollars, required thousands of hours to complete, were conducted pursuant to "life extension" programs, and had never been undertaken before on the units at issue."

The EPA must require Virginia DEQ to enforce New Source Review provisions of the federal Clean Air Act, Commonwealth of Virginia environmental laws and regulations, and the State Implementation Plan in this matter.

**B. The Title V Permit as issued violates PSD requirements.**

We are highly concerned over the worsening of Virginia's natural environment. Outdated, uncontrolled power plants, such as the Clinch River facility, are the main contributors to this demise. In 1999, the Clinch River facility ranked first in the amount of NOx emissions. The plant ranked fourth in SO2 emissions, seventh in PM2.5 emissions and eleventh in PM10 emissions.

AEP has the option of using the averaging plan (Alternative Contemporaneous Annual Emissions Limitation – ACEL) in lieu of the NOx Emission Limitation for individual units as listed in 40 CFR 76.5, 76.6 or 76.7. Under an averaging plan, some units may increase their NOx emission rates as long as all the units in the plan will average emission rates that are less than or equal to average emission rates if they are operated in compliance with 40 CFR 76.5, 76.6 or 76.7. The averaging plan in this instance may permit “pollution hot spots;” that is, local areas of high pollution above NAAQS.

The rate of acid deposition in Virginia's mountains is among the highest in the country. From 1985 through 1997, nitrogen oxides from stationary and mobile sources have increased by 50 percent. Increases in NOx emissions, even if not sustained, can have severe impacts. Trout Unlimited published these findings:

Recent declines in fish population and species diversity indicate, however, that episodic acidification is taking its toll. In a University of Virginia study on trout reproduction in the Southern Appalachian Mountains, researchers found nearly 100 percent death in the trout eggs and newly hatched fish after a severely acidic rainfall and steep increase in stream water acidity. This sharp acidic surge, due to acidic rainfall, altered stream chemistry, resulting in conditions fatal to fish at young and vulnerable stages. [Trout Unlimited, 1998.]

In a 1995 EPA Report titled “Acid Deposition Standard Feasibility Study, Report to Congress”, the EPA found that the eastern portion of the U.S. is most at risk from continued acid deposition. The targeted areas were the lakes and streams of the Appalachian Mountains.

The Virginia Trout Stream Sensitivity Study, which was released in October 2000, conducted by Trout Unlimited and analyzed by University of Virginia scientists shows that many of Virginia's streams continue to suffer from acid rain. It showed that the number of “chronically acid” streams increased and will continue to increase. The number of dead streams is expected to more than double in the next 40 years.

According to the Southern Appalachian Mountains Initiative (SAMI), “the southeastern United States has more frequent episodes of air stagnation than most other areas of the country. During these periods, pollutants can remain over the mountains for several days at a time. The naturally high humidity of the area magnifies the haze generated by airborne particles.”

The EPA must require Virginia DEQ to enforce Prevention of Significant Deterioration provisions of the federal Clean Air Act, Commonwealth of Virginia environmental laws and regulations, and the State Implementation Plan in this matter.

### **C. Determination of Attainment Area Status is Unreliable**

DEQ's monitoring for criteria pollutants is inadequate. There are no criteria pollutant monitors in the immediate area of the Clinch River facility. The closest Virginia monitors indicate problems in meeting the new particulate matter and ozone health standards. Three-year averages of the fourth daily maximum for the 8-hour ozone standard at the Rural Retreat ozone monitor show that the area will not meet attainment requirements for ozone. In addition, the Bristol particulate matter monitor readings indicate that the area will not meet attainment requirements for particulate matter. These data demonstrate a critical need for more monitoring near the Clinch River facility.

The EPA should require DEQ to alter the permit to ensure compliance with the federal Clean Air Act, Commonwealth of Virginia environmental laws and regulations, and the State Implementation Plan in this matter.

### **D. DEQ's Permit Allows Illegal Use of Current Trimming Software**

BREDL and Virginia Forest Watch have formally requested that DEQ inspect the Clinch River facility to determine if energy management software is utilized by AEP. BREDL has discovered that in North Carolina, Both Duke Energy and Carolina Power and Light use software which ramps down the voltage on the electrostatic precipitators (ESPs) at their fossil-fueled plants. DEQ failed to address our request in the Title V permit issued on November 7.

The practice is widespread and is called "current trimming" because it keys electrostatic precipitator voltage levels to opacity levels. We maintain that this practice is dangerous and must be restricted because a) the plants may be in violation of particulate emission standards when ESPs are used at lower power during normal use. The use of full power to the ESPs during stack testing would give false assurances of compliance; b) opacity is not directly related to particulate emissions; and c) current trimming violates the general duty clause to use pollution control devices at peak efficiency.

In North Carolina, the state inspectors found that during particulate emissions tests the "ESPs were documented to be operating at full power, apparently not controlled by the power-minimization software. This did not appear to be the case when the boilers were observed during subsequent inspections....". The Title V Permit as issued does not include language that prohibits this practice.

The EPA should require DEQ to alter the permit to ensure compliance with the federal Clean Air Act, Commonwealth of Virginia environmental laws and regulations, and the State Implementation Plan in this matter.

## Conclusion

On behalf of the Board of Directors of the Blue Ridge Environmental Defense League, we formally and respectfully request that the EPA require DEQ to rescind this Title V Permit because of an outstanding PSD and NSR violations, continuing exceedences of the opacity standard, and inadequate monitoring for criteria pollutants.

Dated: January 6, 2003

Respectfully submitted,

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