

Blue Ridge Environmental Defense League

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April 6, 2010

James A. (Jac) Capp, Branch Chief
Air Protection Branch
Environmental Protection Division
Georgia Department of Natural Resources
4244 International Parkway, Suite 120
Atlanta, Georgia 30354

**Re: Part 70 Air Quality Operating Permit No. 4911-033-0030-V-02-3
Vogle Electric Generating Plant, 7821 River Road, Waynesboro, Georgia**

Dear Mr. Capp:

On behalf of the Blue Ridge Environmental Defense League, our chapter Shell Bluff Concerned Citizens and our members in Georgia, I write to comment on the Environmental Protection Division's operating permit amendment for Georgia Power Company's two additional pressurized water reactors at Southern Nuclear Operating Company Vogtle Electric Generating Plant. The Georgia Environmental Protection Division should not approve the permit modification¹ for the Vogtle Electric Generating Plant which would add four new cooling towers, increasing radioactive air pollution..

Vogle Will Not Meet NESHAP

During normal operations, Plant Vogtle emits radioactive pollution into the air. The following table lists annual emissions:

Table 1: Radioactive Air Emissions from Plant Vogtle²

Year	Microcuries
1987	20
1988	18
1989	1250
1990	85
1991	2080
1992	5870
1993	521

¹ A modified source is "any physical change in...a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted." Clean Air Act Section 111(a)(4)

² Tichler J, Doty K, Lucadamo K. *Radioactive Materials Releases from Nuclear Power Plants*. Upton NY: Brookhaven National Laboratory, prepared for the U.S. Nuclear Regulatory Commission annual reports. NUREG/CR-2907, BNL-NUREG-51581

The emissions included in Table 1 are radioactive isotopes with a half life of more than eight days, including Iodine-131 and particulates, which persist in the environment, therefore making them more likely to be directly inhaled or enter the body by some other route. Table 2 lists gaseous emissions of nuclear fission and activation products.

Table 2: Gaseous Emissions, Vogtle Electric Generating Plant ³ (Curies)

Year	Vogtle Unit 1	Vogtle Unit 2
2001	12.13	0.42
2002	23.89	2.36
2003	1.68	0.64
2004	0.64	1.31

The Vogtle 1 reactor emitted about eight times more radioactivity than did reactor 2 (28.34 to 4.73 curies). The majority of these emissions are often clustered into relatively brief time periods. For example, of the 23.89 curies emitted from Vogtle 1 in 2002, 20.40, or about 85%, occurred during the first quarter. During this quarter, relatively high levels of other radioisotopes occurred as well. For example, Vogtle 1 emitted .0191 of a curie of Iodine-131 into the air; making it the 3rd greatest emission of any U.S. reactor during this time, or thousands of times more than typical emissions.⁴

As you know, air pollution sources subject to Part 70 operating permit rule requirements are determined by the Clean Air Act⁵ and include area sources and hazardous air pollutants (HAP). Section 112(b) of the Act includes radioactive materials on the list of hazardous air pollutants and imposes health-based emission standards. Title III of the Act directs regulatory agencies to assess residual risk after the implementation of the initial standards and impose tighter standards to protect public health.

Radionuclide emissions to the atmosphere are regulated as hazardous air pollutants under Title III of the federal Clean Air Act. National Emission Standards for Hazardous Air Pollutants (NESHAP) are subject to maximum achievable control technology standards (MACT). Specifically, the Vogtle Electric Generating Plants will not meet Clean Air Act standards because: 1) without maximum achievable control technology, routine emissions from the plant would be excessive especially when considered in addition to the existing site-wide radioactive emission levels and 2) the company does not properly account for the higher levels of morbidity and mortality in females and infants caused by low levels of radiation.

Enforcement of the Clean Air Act regulations related to nuclear power plants are delegated to the NRC. Radionuclides are listed as hazardous air pollutants in Section 112 of the Clean Air Act

³ Source: U.S. Nuclear Regulatory Commission, www.reirs.com/effluent

⁴ Joseph Mangano, MPH MBA, *Preliminary Findings: Radioactive Contamination from the Vogtle Nuclear Plant and Cancer Risk for the Local Population*, Radiation and Public Health Project, 6 December 2006

⁵ Clean Air Act §502(a) and 40 CFR 70.3

Amendments of 1977 (Public Law 95-95). NRC-licensed facilities must meet requirements of the Clean Air Act which limit radionuclide emissions to the atmosphere. The goal of the radionuclide emission standard is to limit the lifetime risk of induced fatal cancer to a maximally exposed individual to approximately one in 10,000. The implementing regulations translate this into a maximum individual exposure of 10 millirem/year for airborne emissions that result in exposure through any environmental pathway. 10 CFR § 50 Appx. I This translates into a risk of 5.6 excess fatal cancers/10,000 people. BEIR V, Table 4-2, pp. 172-173. The US EPA develops standards for industries which are major emitters of hazardous air pollutants (HAP) that require the application of controls, known as maximum achievable control technology (MACT).

However, no MACT has been issued for radionuclides. Further, although emission rates from the cooling towers and other sources are measured, the millirem standard for maximum allowable dosage to the public is an ambient standard, not an emission limit. Without ambient measurements, EPD cannot assure that emissions of radionuclides are below 10 millirem per year to any member of the public as required by law. At present, EPD cannot assure that the Plant Vogtle will meet NESHAP radionuclide emissions limits.

Environmental Justice

EPD must consider the impact two new nuclear reactors will have on the people living around Plant Vogtle, a community already noted to suffer from higher-than-average cancer rates. One study conducted by the University of South Carolina⁶ has shown that there is a higher than average instance of cervical cancer in black women, and a higher rate of esophageal cancer in black men, within a fifty mile radius. While the study noted that these types of cancers are not necessarily associated with exposure to radioactive materials, the impact of increased levels of hazardous and radioactive materials into the area on minority population already suffering from high rates of cancer should be assessed. Executive Order 12898 (February 11, 1994) states: "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." This order requires each federal agency to address disproportionate human health or environmental effects of its policies. This includes requirements to assess those impacts and to seek greater public participation in environmental planning and policy making. Georgia EPD is not a federal agency, but it is required to enforce the federal Clean Air Act as an agreement state by the US Environmental Protection Agency.

Respectfully,

Louis A. Zeller
Blue Ridge Environmental Defense League

⁶ 1997 Feb 3, Cancer Weekly, via NewsRx.com and NewsRx.net