

HEALTH HAZARDS OF LOCAL POWER PLANTS

The Potomac Power Plant in Alexandria is NOT required to meet the pollution standards of modern plants, under the 1970 and 1977 amendments to the Clean Air Act because it was built or operating before 1977. The Potomac River plant is one of eight old power plants in Virginia, and together they contributed to 212,000 of the 215,000 tons of sulfur dioxide and 70,000 of the 82,000 tons of nitrogen oxides emitted in the air in the year 2000 (source 2). The Potomac River power plant, which mostly burns coal, is run by the international power company, Mirant, supplying power locally to the District of Columbia and Maryland. Because of its short smoke stacks, it has an ever greater negative impact on the health of the population in the immediate area.

Why Don't These Plants Have to Meet Modern Clean Air Standards? When the Clean Air Act was enacted, it was expected that these older plants would soon close after their 30-year projected lives and be replaced with cleaner, newer plants. But few have closed. The Bush Administration's New Source Review rolls back the Clean Air Act by allowing aging coal-fired power plants to upgrade their facilities without having to install antipollution equipment.

Where Does Our Air Pollution Come From? Electric power plants are the largest single source of air pollution in this region and nationally. According to USEPA 1999 data, aging power plants in the U.S. contribute 68% of the sulfur dioxide and 23% of the nitrogen oxide emitted in the air (source 1); U.S. Department of Energy's figures are 97% and 85%, respectively (source 2). Pollution from power plants has increased while nitrogen emissions from automobiles have decreased with the application of new emissions technology.

Power plants in Virginia, Ohio, West Virginia, Kentucky, and North Carolina contribute the most air pollution to Virginia's airshed, emitting 77% of the sulfur dioxide (SO₂) and 46 % of nitrogen oxides (NO_x). Virginia's power plants alone generate 60% of the SO₂ and 17% of the NO_x produced annually. These power plants also emit 40% of the mercury (power plants are the largest and only major source of mercury that the government does not regulate) and 50% of the carbon dioxide (CO₂) released into the air (2). In addition, particulate matter (PM) 2.5, soot-like particles, can directly be emitted by power plants; most from downwind as sulfur dioxide and nitrogen gases react with ammonia to form sulfate and nitrate particles (source 1). These particles are a major health risk.

What Harm Do These Emissions Cause? Major reports by Harvard School of Public Health and the American Cancer Society found that residents in heavily polluted cities have on average of one to two-year shorter life-span than people living in the cleanest cities. The *Journal of the American Medical Association* published a study last year that provided the first definitive link between cancer risk and extended exposure to fine particles of pollution from power plants and diesel engines—with more cases reported of lung cancer by non-smokers (source 4).

If the Potomac River plant cut its sulfur dioxide and nitrogen oxide emissions by using modern pollution technology, approximately 75% of the deaths and disease attributed to the plant could be avoided. According to the Harvard study, in 1999 the Potomac River plant alone caused 59 premature deaths, 66 hospitalizations, 870 emergency room visits, and 4,600 asthma attacks. Reduced emissions could have saved 38 lives, 43 hospitalizations, 560 emergency room visits, and 3,000 asthma attacks (source 1).

Northern Virginia is the only area in the state, and one of three areas in the Southeast, that does not meet federal health standards for ozone pollution. The EPA has reported that ozone can irritate the respiratory system, reduce lung function, aggravate asthma, and inflame and damage the lining of the lung (source 2).

Sulfur dioxide and nitrogen oxide are major sources of acid rain and poor visibility conditions. The haze in the Blue Ridge Mountains is primarily due to air pollution. Acid deposition in Virginia's mountains, among the highest in the country, is destroying leaf damage and growth loss to trees and other plants. In 2000, ozone pollution is estimated to have cost Virginia farmers between \$12 million and \$19 million due to reduced yields of corn, soybeans, wheat, barley, peanuts, and cotton. As a nutrient, nitrogen in excess quantities spurs algae growth. Algae consume oxygen as they decay reducing the ability of waterways such as the Chesapeake Bay to sustain diverse aquatic life. Mercury is known to cause neurological damage and birth defects and is particularly hazardous to children and women of child-bearing age. Humans are most exposed through fish consumption (source 2).

What Would Cleaner Air Cost Us? According to a 1999 study by the Northbridge Group, the average utility bill would increase by 1.3 % monthly or \$1.70 if old power plants were required to meet modern NO_x and SO₂ standards. Virginia utilities project a 19% increase in electricity use by 2006. Much of this growth is due to inefficient and wasteful energy use. It is estimated that 1/4 to 1/3 all electricity use could be eliminated, without decrease in services, by installing high efficiency lights, motors, heating and cooling equipment, and improving building design and construction practices (source 2).

How Can We Get Cleaner Air? Support federal action that would require ALL plants to meet modern pollution standards. If these standards were met within Virginia's airshed, SO₂ emissions would be reduced by 261,000 tons, or 81% of current emissions, and NO_x emissions would be reduced by 74,000 tons or 69 % of current emissions (equivalent to removing 4 million cars from Virginia's roads). Additionally, a reduction of mercury and carbon dioxide would help restore the health of our parks and streams (source 2).

Contact Representative Jim Moran's office to give your support to the Clean Smokestacks Act, which he is co-sponsoring. This act would close the grandfathering exemption that the Bush Administration has expanded (source 3).

Source Material Used:

- (1) "Health Impacts of Air Pollution from Washington DC Area Power Plants." May 2002. Clean Air Task Force. <http://www.clnatf.org>; (617) 292-0234.
- (2) "Power That Pollutes: Virginia's Outdated Power Plants and the State of the Air." September 2001. Written by Jeff Gleason (SELC), Jeremy Kranowitz (IWLA), and Peter Leary (SELC); edited by Joy Oakes (NPCA) and Ben Pleasure. Sponsored by the National Parks Conservation Association (www.npca.org), Southern Environmental Law Center (www.southernenvironment.org), and The Izaak Walton League of America (www.iwla.org).
- (3) "Northern Virginia's Air Quality Will Suffer Because of Bush Easing Clean Air Rule for Power Plants, Moran Says," Representative Jim Moran News Release. August 29, 2003. (www.moran.house.gov/issues2.cfm?id=6702)
- (4) "The Cancer in the Air We Breathe." *Washington Post*, March 19, 2002.

Other Sites: Mirant Corporation (www.mirant.com); EPA (www.epa.gov); Edison Electric Institute (www.eei.org)