



Plant Washington Air Permit

Overview: Power4Georgians is committed to developing a modern coal energy facility that will meet the rigorous air quality standards of the Georgia Environmental Protection Division (EPD) and the federal Clean Air Act.

Although emissions levels in Plant Washington’s draft permit, issued in August 2009, represent levels that are acceptable under the strictest guidelines of the U.S. Environmental Protection Agency, Power4Georgians continued looking at methods to reduce emissions levels further. To address suggestions made by citizens, and under direction of the EPD, Power4Georgians modified their Best Available Control Technology (BACT) and Maximum Achievable Control Technology (MACT) analyses. Through careful review of more than two-and-one-half years of testing data, as well as an evaluation of the technology and coal types to be used, Power4Georgians was able to devise a strategy that produced significant reductions of many of the draft permit’s allowable emissions. As a result, Plant Washington’s overall emissions profile based upon the final permit will be among the lowest that has ever been proposed for a coal-fired power plant in the United States.

Plant Washington: Reduction in Levels of Permitted Emissions from Levels in Draft Permit

The environmental engineering enhancements to Plant Washington have resulted in tremendous reductions of emissions from levels in the draft permits, as detailed below.

Emission	Maximum Value in Draft Permit	Maximum Value in Final Permit	Reduction	Percentage Reduction
Mercury	105.9 lbs/year	55.6 to 62.2 lbs/year (Based on fuel blend)	43.7 to 50.3 lbs./year	41.3% to 47.5%
NOx	1,818 tons/year	1,091 to 1,345 tons/year (Based on fuel blend)	473 to 727 tons/year	26.0 to 40.0%
HF	7.9 tons /year	5.1 tons/year	2.8 tons/year	35.4%
VOC	109 tons/year	87.2 tons/year	21.8 tons/year	20.0%

Mercury: Mercury is a naturally occurring element that is found in very minute quantities in just about every place and everything on Earth. Coal contains minute concentrations of mercury – about one one-hundred-thousandth of one percent. When coal is used as fuel at Plant Washington, the facility’s advanced air quality control systems will capture all but a very tiny percentage of the mercury emitted. Plant Washington is permitted to burn 100 percent sub-bituminous (i.e., Powder River Basin coal), or up to a 50/50 blend (by weight) of sub-bituminous coal and bituminous coal (i.e., Illinois Basin #6).

Initial evaluations conducted in the fall of 2007 placed the maximum annual emission of mercury at 122 pounds; that level was reduced to approximately 106 pounds per year in the draft permit. Depending on the blend of fuel used, Georgia EPD’s final permit will limit Plant Washington’s mercury emissions to between 62.2 and 55.6 pounds annually – roughly half the original mercury emissions levels.

Nitrogen Oxides (NOx): Plant Washington's annual permitted emissions of NOx, based on the draft permit limit, were approximately 1,818 tons per year. The final permit will limit NOx emissions to between approximately 1,345 and 1,091 tons per year, depending on the fuel blend used. This represents a reduction of about 500 to 700 tons of NOx annually from the draft permit levels.

Hydrogen Fluoride (HF): Plant Washington's annual permitted emissions of HF, based on the draft permit limit, were approximately 7.9 tons per year. The final annual permitted HF emissions will be approximately 5.1 tons per year, approximately 2.8 tons per year lower than levels in the draft permit.

Volatile Organic Compounds (VOCs): Plant Washington's annual permitted emissions of VOCs, based on the draft permit, were approximately 109 tons per year. The final annual permitted VOC emissions will be approximately 87.2 tons per year, approximately 21.8 tons per year lower than levels in the draft permit.

Ozone: Plant Washington's permitted levels of VOC and NOx emissions will be among the lowest permitted limits established for a coal-fired power plant in the nation, and as a result Plant Washington will not have a significant impact on ambient air quality concentrations of ozone.

Filterable PM/PM₁₀: The draft permit emission limit for filterable PM/PM₁₀ was 0.012 pounds per million BTUs of energy generated on a 3-hr average. That limit was revised to 0.010 pounds per million BTUs on a 24-hr average based on continuous monitoring data; the total PM/PM₁₀ emission limit remains unchanged from the draft permit.

Fine Particulate Matter (PM_{2.5}): Plant Washington is one of few facilities in the nation for which a BACT analysis for PM_{2.5} has been conducted.

- These evaluations determined that Plant Washington will not have an adverse impact on the ambient air quality concentrations of PM_{2.5} and that Plant Washington will not affect the PM_{2.5} attainment status of Washington County.
- Ambient air quality concentrations of PM_{2.5} also can result from indirect means, through reactions in the atmosphere of compounds such as Sulfur Dioxide (SO₂) forming PM_{2.5}. Therefore, a reduction in SO₂ emissions will result in a decrease in ambient air quality impacts of PM_{2.5}. The emission limits established for Plant Washington will result in some of the lowest permitted emission levels for SO₂ in the nation.

Note: Although unrelated to Plant Washington and the evaluations conducted, it is important to note that the ambient air quality concentrations of PM_{2.5} in Washington County have dropped significantly from prior historic levels for the last several years.

A final point: All of the annual projected emissions limits noted in the document are maximum annual limits. Because of scheduled downtime for maintenance and repairs, Plant Washington will operate at less than annual maximum capacity. Therefore, the actual emissions produced by Plant Washington, on an annualized basis, will be lower than that stipulated in the permits.

For more information about Plant Washington, visit: www.Power4Georgians.com

For more information about the Plant Washington Permits, visit:
<http://www.georgiaair.org/airpermit/html/permits/psd/dockets/plantwashington/index.htm>