

*Biomass Accountabilty Project*Georgia NAACP State Conference*
Valdosta-Lowndes NAACP* Ron Saff, M.D.* William Blackley, M.D.* Mary S. Booth,
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Re: Request for Review of Air Quality Permit 4911-185-0107-E-01-0, Wiregrass
Biomass Facility, Valdosta, Georgia

Dear Ms. McCabe and Mr. Worley:

We are writing on behalf of concerned citizens of Georgia and the region to request that the Office of Air and Radiation review the above-referenced Air Quality Permit issued by the Georgia Department of Natural Resources, Environmental Protection Division (EPD) for the construction and operation of a 45 megawatt¹ biomass combustion electric generating facility in Valdosta, Georgia (the “biomass facility” or “Wiregrass facility”). A copy of the permit is attached as Exhibit 1 and was issued effective July 19, 2010. The grounds for this request are that the assumptions and emissions calculations underlying the permit appear to be inconsistent with science and the Clean Air Act. The apparently erroneous emissions calculations, when viewed in light of environmental justice concerns and a lack of due process in the permit proceeding warrant EPA’s independent review. These factors are explained in detail below.

¹ The plant will produce 45 megawatts gross, 40 megawatts net to be sold to the grid. The permit allows burning of “clean woody biomass from forest residue, mill residue, and clean urban wood waste” in addition to sludge and small quantities of natural gas.

I. Background

The Wiregrass facility is being promoted as a “clean and green” renewable energy project. It will be funded in large part by taxpayer subsidies, including a likely cash grant in lieu of tax credits under the American Recovery and Reinvestment Act (ARRA) for up to one third of the capital cost. The facility will burn “biomass” in addition to all the sludge produced by a nearby waste water treatment plant (up to 12 tons per day). The applicant requested Prevention of Significant Deterioration (PSD) avoidance limits for nitrogen oxides (NO_x), sulfur dioxide (SO₂), and carbon monoxide (CO), and Maximum Achievable Technology (MACT) avoidance limits for hazardous air pollutants. Georgia EPD issued the permit with these avoidance limits, allowing the facility to be built and operated without Best Available Control Technology (BACT) and MACT.

II. Valdosta is an environmental justice community and will be unfairly burdened by the biomass facility.

On September 23, 2010, the Valdosta Lowndes County Branch of the National Association for the Advancement of Colored People wrote to President Obama and Congress stating its concerns about the biomass facility’s impact on the health of local citizens. The NAACP Branch has passed a “resolution that the siting of the Valdosta, Georgia, biomass incinerator is a clear-cut example of environmental racism.” A copy of the letter is attached as Exhibit 2. The facility is located an area with a percentage of minorities population and high poverty rate, according to EPA’s own environmental justice mapping tool.
(<http://epamap14.epa.gov/ejmap/ejmap.aspx?wherestr=valdosta,%20ga>).

Lowndes County, where the facility is located, ranks between the 80th and 90th percentile amount all U.S. counties on total chemical releases to the environment. The hazardous air pollutant with the greatest contribution to added cancer risk in Georgia is diesel emissions and 93% of the contribution risk in Georgia is from mobile sources.
http://scorecard.org/env-releases/hap/state.tcl?fips_state_code=13#maps

The facility will require at least 50 large diesel trucks making daily round trip for fuel delivery to the plant, and additional daily trips to haul fly ash off site. With a fuel supply radius of 60 miles, and assuming a mean one-way distance of 30 miles, that could be as many as 3,000 diesel-truck miles of additional mobile-source pollution per day to operate the biomass facility. These and other fugitive emissions were not included in calculating total emissions from the facility for Clean Air Act purposes.

While we applaud EPA’s recent focus on environmental justice in recent rulemakings and policies, a failure to enforce the Clean Air Act by ensuring that the emissions from this facility are accurate and scientifically sound will undermine this effort.

III. By using “biomass” as a fuel instead of fossil fuels, Wiregrass is able to take advantage of Clean Air Act loopholes.

Two Clean Air Act loopholes allow Wiregrass to avoid BACT and MACT, heightening the need for EPA’s review of the permit.

First, the Wiregrass facility is subject to a lower PSD threshold than a fossil fuel facility conducting the same commercial energy production process – using a boiler to burn fuel for electricity. If Wiregrass used fossil fuels to make electricity, instead of “biomass” and sludge, it would be subject to PSD New Source Review (NSR) if it had the “potential to emit” more than 100 tons per year (tpy) of any regulated pollutant. 40 CFR 51.166(b)(1)(i).² Instead, a 250 tpy threshold for PSD applies to Wiregrass, even though it is making electricity just like a fossil fuel power plant, and emitting substantial volumes of regulated pollutants – some at rates that are higher per unit of energy than a coal fired plant.

This loophole in the Clean Air Act has serious impacts on human health and the environment because it results in the application of the higher 250 tpy “major source” threshold for “biomass” burning electric facilities instead of the lower 100 tpy threshold. Moreover, as shown below, Wiregrass’ emissions calculations purport to show that its emissions will be 247 tpy, just 1.2% below the 250 tpy threshold, after pollution controls are applied.

Second, because it is burning biomass instead of fossil fuels, Wiregrass is able to exclude “fugitive emissions” in calculating whether or not it is a “major source” for PSD review.³ This is another factor that presents a public health threat that is not addressed by pollution controls at Wiregrass, although it would be if it were a coal plant or fell in one of the other enumerated categories.⁴

² Under 40 CFR 51.166(b)(1)(i)(a), the PSD definitions, a major stationary source is one with the potential to emit 100 tons per year or more of any regulated NSR pollutant, that falls within the 28 enumerated categories. If Wiregrass used fossil fuels, it would be subject to the 100 tpy threshold because it would be considered steam electric plant with more than 250 million British thermal units per hour heat input, or a fossil fuel boiler with more than 250 million tons British thermal units. See also, the provisions in the state implementation regulations at 40 CFR 52.21(b).

³ Under 40 CFR 52.21(b)(1)(iii), fugitive emissions shall not be included in determining whether a facility is a major stationary source, unless the facility falls within one of the 28 enumerated categories. Category (u) is a fossil fuel boiler, or combination, with more than 250 million British thermal units per hour heat input, and category (z) is a fossil fuel-fired steam electric plant of more than 250 million British thermal units per hour heat input. According to the permit, Wiregrass has a 626 MM Btu/hr heat input capacity, using a bubbling fluidized bed boiler, which is a type of boiler also used in coal fired electric plants. This same provision appears in the PSD definitions section, 40 CFR 51.166(b)(iii).

⁴ We note that the Port Townsend Paper Company (PTPC’s) biomass burning facility in Washington, which is an existing major source that will add 25 MW of electricity to be sold to the grid, is required to count fugitive emissions in calculating whether the addition of 25 MW is a major modification, since it falls within the kraft paper mill category of 40 CFR 52.21(b)(1)(i)(a). PTPC’s emissions calculations for purposes of determining whether it is a major modification is being challenged by a citizen appeal in part due to failure to accurately calculate fugitive emissions from biomass fuel handling and storage.

The apparent legislative and/or regulatory oversight that allows biomass electric facilities to escape the lower 100 tpy threshold for PSD NSR and to avoid counting fugitive emissions in total emissions for major source determinations results in BACT and MACT avoidance and has significant public health and environmental impacts.

IV. The permit's emissions calculations appear to be inconsistent with science and data from other biomass electricity power facilities.

The permit applies the PSD NSR 250 tpy threshold based on emissions calculations by Wiregrass and EPD. The permit is based on the assertion that the facility will have annual emissions of less than 250 tpy of CO, SO₂ and NO_x, after pollution control, and it is therefore a minor source of air pollutants, subject to minor source NSR. The permit states that the emissions of these pollutants will be 247 tpy, just 1.2% below the major source review threshold, *after pollution controls*. The permit is also based on calculations purporting to establish that it is also a minor source for hazardous air pollutants.

Our research, described below, shows that permit most likely underestimates the facility emissions, and that the actual emissions will be above 250 tpy and may exceed HAP thresholds.

A. Inaccurate calculation of heat content of fuel. The permit states that the biomass wood fuel at 50% moisture content has 4,300 British Thermal Units (btus) per pound. However, this represents the higher heating value of the wood fuel; the lower heating value, which is the correct value to use when calculating energy output by the Wiregrass facility, is 3,775 btus per pound. In order to generate 45 megawatts of electricity, as stated in the permit, the facility will have to burn approximately 19% more biomass fuel than stated in the permit, or about 761,633 tons per year. This in turn will emit more pollution, as much as 19% more than the 247 tpy stated in the permit. Given that more wood will have to be burned than stated, and more emissions created, the 247 tpy threshold figure for the major source determination should be subject to an independent review by EPA. Moreover, with 19% more fuel, there will be 19% more diesel and CO₂ emissions from truck trips and 19% more ash produced.

B. The permit allows Wiregrass to redetermine the emissions after starting operation and after construction is complete and the facility operating.

EPD, in its July 7, 2010 SIP application review (Exhibit 3 hereto), p. 22 on Condition 6.9, allows the Wiregrass facility to determine the heat content of the fuel during the initial performance test and annually thereafter, and states “[t]he fuel heat content (Fuel F factor) must also be redetermined anytime the fuel fired in the boiler changes.” Since the emissions calculations in the permit application are directly correlated to the applicant’s estimate that the heat content will be 4,300 btus per pound, the emissions limits in the permit cannot be viewed as accurate because EPD has

indicated that the heat content will be redetermined. Thus, the 247 tpy figure for purposes of the permit application and PSD NSR is at best tentative.

C. The emissions limits for hazardous air pollutants appear to be unscientific and result in avoiding major source MACT.

EPD's SIP application review determined that emission control figures for HAPs and mercury for Wiregrass were higher than accepted standards, and concluded that the facility would be emitting more of these pollutants than had been stated, but that the figure would still fall below the major source threshold of 10 tpy for any one HAP and 25 tpy for a combination. See, SIP application review, pp. 6-15. Acknowledging the possibility that HCl emissions may exceed 10 tons per year, however, the permit set an artificial limit, restricting the HCl emission rate to 0.003 lb/MMBtu. There is no evidence this limit can be achieved, and in fact the permit contains provisions for ongoing testing to determine the true HCl emission limit. Based on our review, it appears very likely that the Wiregrass facility is a major source for HCl, despite the emissions limit set in the permit.

HAPs emissions are also likely to be higher than represented due to the fuel contamination. When EPD recalculated the facility's HAP and mercury emission totals, the agency made the calculations assuming the low metals and contamination levels present in forest biomass, ignoring the fact that the facility plans to burn construction and demolition waste that even after sorting, contains significant levels of arsenic, chromium, lead, and other HAPs. Emissions of these metals can be significant. By comparison, a facility in Massachusetts that proposed to burn "sorted" construction waste would still have emitted 51% of the state's 24-hour health threshold level for arsenic and 41% of the annual threshold for chromium.

Finally, the inspection and record keeping permit conditions for "clean" wood waste shipments are inadequate for purposes of preventing burning of chemically contaminated wood. Strict inspection, wood sorting practices, and recordkeeping is critical to keeping contaminated urban wood waste out of facility, and to controlling HAP emissions.

D. The permit relies on hexavalent chromium emission rates that are inconsistent with the values used by EPA.

The permit emissions figure for hexavalent chromium is based on a low percentage of chromium that is hexavalent (less than 1%). EPA's database on chromium speciation prepared as part of the National Emissions Inventory states that 56% of the chromium emitted from wood combustion is in the hexavalent form (<http://www.epa.gov/ttn/chief/net2005inventory.html#inventorydata>).

E. Permitted mercury emissions are high.

Although the Wiregrass facility is permitted as a biomass power facility, the permit demonstrates that it is more accurately classified as a sludge incinerator, with mercury emissions to match. Despite claims by EPD that actual mercury emissions at the facility will be lower than permitted levels, the permit has nonetheless been written to allow over seven pounds of mercury emissions *per day*. This permitted level of emissions demonstrates that the facility is in fact a sludge incinerator, not a biomass facility. The effect of such a high permitted level of mercury emissions is that the plant will be able to burn a wide range of fuels without violating the permit limits.

We also note that burning sludge which could contain toxic pollutants from whatever is put into the sewer system, including commercial and industrial waste from hospitals, paint shops, mechanics' garages, and so forth. Burning these materials does not destroy any heavy metals in the sludge but will result in it being emitted into the air.

F. The permit ignores dioxin emissions.

Dioxin/furans are known to affect hormone levels and functions, as well as fetal development, the immune system, and reproduction. They are toxic at levels that already exist in the environment. EPA states: "Because dioxins are widely distributed throughout the environment in low concentrations, are persistent and bioaccumulated, most people have detectable levels of dioxins in their tissues. These levels, in the low parts per trillion, have accumulated over a lifetime and will persist for years, even if no additional exposure were to occur. This background exposure is likely to result in an increased risk of cancer and is uncomfortably close to levels that can cause subtle adverse non-cancer effects in animals and humans."⁵

Dioxin-like compounds will be released from Wiregrass' burning of biomass and will add to an already unacceptable dioxin exposure level in humans and wildlife. The permit improperly ignores and fails to control dioxin emissions.

⁵ <http://www.epa.gov/opptintr/pbt/pubs/dioxins.htm>. In addition, nursing increases exposure of infants. Consumption of breast milk by nursing infants leads to higher levels of exposure and higher body burdens of dioxins during early years of life as compared with non-nursing infants. Lipid concentrations peaked at around 4 months at about 46 ppt TEQDFP-WHO98. The formula-fed infants peaked at less than 10 ppt after the first year. *P 1-18* EPA/600/P-00/001Cb
Further, effects on children are thought to be greater because they have longer exposure periods, and this is thought to be particularly relevant to cancer (P 313 USPHS Toxicological profile for chlorinated dibenzo-p-dioxins).

G. Particulates

The permit fails to provide clear information on the PSD applicability of PM 2.5 and appears to be inconsistent with EPA's *New Source Review Program for Particulate Matter Less than 2.5 Micrometers* (73 Fed. Reg. 28321). Also, it does not appear that the applicant used the preferred *Other Test Method 027 "Determination of PM 10 and PM 2.5 Emissions from Stationary Source"* but instead the permit directs the use of Method 5 and 202 for PM emissions. (Permit part 6.2(f)).

V. Avoidance of Greenhouse Gas PSD and Title V Permits

The Wiregrass facility will emit over 400,000 tpy of carbon dioxide (CO₂). As noted above, our science appears to support the classification of the Wiregrass facility as a major source for PSD permitting, making it an "anyway source" under the Tailoring Rule since it will exceed 75,000 tpy on a CO₂ equivalent basis. See, *November 2010 Office of Radiation PSD and Title V Permitting Guidance for Greenhouse Gases*. By obtaining a permit prior to January 1, 2010, and calculating an emissions limit for under major source limits, the facility has avoided the Tailoring Rule, Step One PSD permit, and delayed implementation to July 1, 2011.

VI. Citizens have been denied due process and the ability to bring an administrative appeal of the permit.

In September, 2010, Georgia citizens sought administrative review of the permit. On September 22, 2010, the Georgia DNR notified counsel that it would not process the appeal because it was not properly and timely filed. The tremendous financial and personal burden involved in such an appeal resulted in the citizens deciding to not challenge the DNR's flawed decision.

Citizens who filed the permit appeal also commented on the draft permit, attended the DNR hearing, and yet were given only two weeks notice to decide whether to pursue an administrative appeal. While the DNR website claims the permit was issued on July 19, 2010, citizens who had previously commented on the draft permit received the final permit with a postmark of August 4, 2010. Georgia EPD failed to provide a meaningful opportunity to review the permit determine whether to appeal, providing about 14 days from the date of mailing of the permit to the deadline that the DNR claims the appeal was due. We note that Georgia administrative law provides a 30 days appeal period, and the Clean Air Act itself requires a meaningful opportunity for citizens to review and determine whether to appeal a permit. From this date, the citizens complied with the 30 day time period under Georgia law, filing the appeal on September 3, 2010 but it was improperly denied for timeliness by DNR.

Since the citizens have been denied state administrative review of the permit, EPA's review is crucial to providing assurance that the permit is consistent with the Clean Air Act.

VII. Failure to Comply with NEPA

Even though this facility (and others like it) are being federally funded through grant programs administered by the U.S. Treasury and Department of Energy and will significantly affect the quality of the human environment, they are being erroneously exempted from the National Environmental Policy Act (NEPA). No federal or state environmental impact statement has been prepared for this project, in apparent violation of federal law.

In closing, on behalf of our national network of citizens concerned about biomass combustion power plants, we reiterate our support for EPA's recent efforts to implement the Clean Air Act according to its Congressional purposes and the law as set forth by the U.S. Supreme Court in Massachusetts v. EPA. To ensure that the Act is properly enforced and implemented, we strongly urge EPA's review of the Wiregrass permit.

Very truly yours,

Margaret E. Sheehan, Esq., William A.H. Sammons, M.D. on behalf of Biomass
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Michael Brune, President, Sierra Club
James McCaffrey, Director, Sierra Club State Chapter, Massachusetts
Frances Beinecke, President, Natural Resources Defense Council
Ann Alexander, Esq., Natural Resources Defense Council

Attachments:

1-Wiregrass Air Permit
2-NAACP Valdosta-Lowndes Branch Letter to President Obama and Congress
2-EPD SIP Review, July 7, 2010