

# Exhibit 8

December 24, 2007

**VIA OVERNIGHT MAIL AND EMAIL**

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Mr. William Presson  
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Lansing, MI 48933-1502

**Re: Comments on the Draft Prevention of Significant Deterioration  
Construction Permit for University of Northern Michigan Boiler.**

Dear Mr. Presson:

These comments are submitted on behalf of the Sierra Club and its 800,000 members, including over 30,000 members in Michigan and Wisconsin. At the outset we note that we support NMU's decision to consider steps to reduce its current reliance on aging coal-fired power plants for its electricity needs and strongly support co-generation as an efficient and low-polluting option for meeting the campus' steam and electricity needs. At the same time, it is not apparent that NMU has demonstrated that it needs a cogeneration plant as large as proposed, or that it has considered the environmental impacts of using wood from nearby forests as a fuel source or the global warming impacts of using coal as a fuel source.

The Nobel Peace Prize winning International Panel on Climate Change, which includes NMU Alumnus Professor Fritz Nelson, has urged urgent action to achieve global warming pollution reductions in the range of 25-40 percent by 2020 and 80-90 percent by 2050. Any long-term decision about how NMU meets its energy needs, such as building a new power plant, must be consistent with these reduction targets. Before investing tens of millions of dollars on a new power plant is the opportune time to assess how such reductions can be achieved and for NMU to demonstrate its commitment to environmental stewardship.

Because of these concerns we urge NMU to pull back its application and this draft permit and conduct, at a minimum, the following: 1) a campus-wide assessment of all cost-effective energy efficiency measures that could minimize the size needed for a new power plant, 2) a campus-wide assessment of all potential renewable energy options that don't emit any global warming pollutants, 3) a campus-wide assessment of how NMU will meet the global warming pollution reduction targets urged by the IPCC, and 4) assess the environmental impacts associated with mining, drilling or harvesting the fuel source that NMU ultimately selects.

#### **Specific Comments**

The Michigan Department of Environmental Quality ("MDEQ") proposes to issue a permit to the Northern Michigan University ("NMU") for a new boiler and associated equipment at the site of the existing Ripley Heating Plant. According to the applicant, the new boiler will have the ability to, and should be required to burn 100% "waste wood," a term which is not defined.

Congress intended to ensure that major sources of air pollution like the proposed Ripley Heating Plant ("Ripley") boiler do not degrade air quality for those who live and work in the areas where they are located. Congress recognized that generic national ambient air quality standards ("NAAQS") do not adequately protect people. NAAQS "do not adequately protect against genetic mutations, birth defects, cancer, or diseases caused by long-term chronic exposures or periodic short-term peak concentrations, and hazards due to derivative pollutants and to cumulative or synergistic impacts of various pollutants; and they do not adequately protect against crop damage and acid rain."

*Hawaiian Elec. Co. v. U.S. Env'tl Protection Agency*, 723 F.2d 1440, 1447 (9<sup>th</sup> Cir. 1984).

NAAQS also do not prevent the deterioration of otherwise cleaner air regions from deteriorating to the NAAQS "floor." For these reasons, Congress enacted the Prevention of Significant Deterioration ("PSD") provisions of the Clean Air Act. 42 U.S.C. §§ 7470, *et seq.* EPA, MDEQ, and the applicant rely upon the EPA's *New Source Review Workshop Manual* ("NSR Manual") in implementing the PSD program. See Application at 33.

**I. MDEQ HAS NOT PROVIDED A SUFFICIENT ANALYSIS OF THE IMPACTS FROM THE PROPOSED PLANT.**

An application for a PSD permit must include, among other information, "a description of the nature, location and typical operating schedule..." of the plant. 40 C.F.R. § 52.21(n)(1)(i). Additionally, the applicant must provide an analysis of impacts of the proposed plant on soils and vegetation, as well as commercial and industrial growth associated with the proposed modification. 40 C.F.R. § 52.21(o). We note that there is no

such information for this source, especially as to the impacts of the fuel acquisition, including impacts on endangered species of vegetation.

The proposed plant will be fired on either 100% "waste wood," 100% coal, or some mix of the two. There is no information in the materials provided by the state indicating the source of the "waste wood" and whether this term includes the harvesting of uncut, standing timber. If the applicant is proposing to burn uncut, standing timber, the source of the fuel could have significant environmental impacts. For example, increased logging of existing forest lands could impact the region's biodiversity, endangered species dependant on large swaths of uncut older forests, and water quality. If the applicant is proposing to use uncut standing timber (i.e. green wood) and this may cause the planting of non-native tree species, or the growing of a single species of tree (monoculture) on large areas of existing forest land, that too could have significant environmental impacts on the soils, vegetation, and consequently the biodiversity of the area. If the applicant is proposing to burn waste wood that would otherwise be discarded and serve as an important source of soil nourishment that too can have significant impacts on the soils of Northern Michigan. Prior to granting this permit and the close of the public comment period, the PSD application and MDEQ must undertake a thorough review of the impacts to soil and vegetation, commercial and industrial growth, as well as other environmental impacts, associated with the proposed harvesting of forest resources to supply fuel for the facility.

Similarly, there is no information in the materials provided by the state or the applicant disclosing the source of the proposed coal, and the environmental impacts, including soil and vegetation impacts, associated with mining, transporting and burning such coal. The impacts of mining coal vary depending on the source of the coal. If the proposed coal source is Appalachia, the impacts may include destruction of entire mountains and the soils and vegetation thereon, the filling of thousands of miles of streams, and the loss of some of the richest biodiversity in North America. If the proposed coal source is Illinois, the impacts from long-wall mining include the destruction of high-quality farmland, drying up of streams and springs, and the loss of life-sustaining soil. If the proposed coal source is the Powder River Basin, the impacts from open pit mining involve removing the soils and vegetation entirely. This analysis must be done and provided to the public prior to the closing of the public comment period if the permit will allow combustion of coal.

## **II. THE DRAFT PERMIT DOES NOT INCLUDE SUFFICIENT BACT LIMITS**

The new boiler and associated equipment is subject to stringent air pollution control requirements under the Clean Air Act's Prevention of Significant Deterioration ("PSD") program, 42 U.S.C. § 7470, *et. seq.* MDEQ has been delegated the authority to issue PSD permits on behalf of the United States Environmental Protection Agency ("USEPA") and is required to following the policy and regulations of the USEPA. Specifically, MDEQ must ensure that all new and modified emission sources at the Ripley plant are subject to emission limits that are to be based on the "best available control

technology" or "BACT" and that the facility does not exceed ambient air quality standards or maximum increase over baseline (i.e., "increment") during worst-case conditions. 42 U.S.C. § 7475(a)(4); 40 C.F.R. § 52.21(j).

BACT is "one of the most critical elements of the PSD permitting process." *In re Knauf Fiber Glass, GmbH*, 8 E.A.D. 121, 131 (EAB 1999) ("Knauf I"). BACT is defined as:

an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under Act which would be emitted from any proposed major stationary source or major modification which the Administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

40 C.F.R. § 52.21(b)(12). To ensure that the BACT determination is "reasonably moored" to the Clean Air Act's statutory requirement that BACT represent the maximum achievable reduction through the use of various pollution control techniques, U.S. EPA established a top-down analysis process outlined in the NSR Manual. *Alaska Dept. of Env't'l Conservation v. Env't'l Protection Agency*, 540 U.S. 461, 485 (2004). This process must be followed. *Alaska v. US EPA*, 298 F.3d 814 (9th Cir. 2002).

To ensure that the limits in the final PSD permit ensure "maximum degree of reduction," based on applicable production processes, fuel cleaning, clean fuels, and other pollution control techniques, the permit applicant is required to propose a permit limit that constitutes BACT and to supply sufficient information on the control option used to achieve that limit. Specifically, the applicant must provide a detailed description of the

system of continuous emissions reduction planned for the source or modification, emission estimates, and any other information necessary to ensure a detailed analysis leading to a limit ensuring maximum achievable pollution reduction. Each step of the BACT analysis and especially a decision to reject an effective pollution reduction option in favor of a less effective option when establishing a BACT limit must be adequately explained and justified.

Although the BACT selection process can be complicated, its purpose is simple: to promote the use of the best control technologies. Congress chose to require an emission limit based on the "maximum degree of reduction ... achievable for such source" at the time the source is constructed. 42 U.S.C. §§ 7475(a)(4) (new sources are subject to BACT), 7479(3) (BACT definition). A BACT analysis should always default to the best pollution control option available. Therefore, by design, BACT results in increasingly stringent limits as technology advances and improves the ability to reduce or capture pollutants.

The Draft Permit fails to comply with the requirement that all regulated pollutants be subject to a BACT limit that represents the maximum degree of reduction achievable with available control options. Therefore, the permit must either be denied or the permit limits must be revised, supplemented, and significantly lowered so that the limits represent BACT.

**A. The MDEQ Failed To Conduct A BACT Analysis for PM2.5.**

The Draft Permit does not include a BACT limit for PM2.5 emissions from the new sources at the Ripley Heating Plant. Nor does it appear that MDEQ even considered such a limit. This is unlawful and must be corrected before a PSD permit can issue. The



controlling law requires a BACT limit "for each pollutant subject to regulation under the Act that it would have the potential to emit in significant amounts." 40 C.F.R. § 52.21(j)(2). PM2.5 is "a pollutant subject to regulation under the Act" because EPA established a NAAQS for PM2.5 in 1997. 62 Fed. Reg. 38711; 40 C.F.R. § 50.7. The Court of Appeals rejected industry's collateral attacks of the PM2.5 rule in 2002, upholding the PM2.5 NAAQS. *American Trucking Associations, Inc. v. EPA*, 283 F.3d 355 (D.C. Cir. 2002). Therefore, PM2.5 is a "pollutant subject to regulation under the Act." Moreover, PM2.5 will be emitted from the new and modified emission sources at the Ripley plant in a "significant" amount because it will be emitted at "any emission rate." 40 C.F.R. § 52.21(b)(23)(ii).

Because PM2.5 is regulated pollutant that will be emitted in a significant amount, a BACT limit for PM2.5 is required. 42 U.S.C. § 7475(a)(4); 40 C.F.R. § 52.21(j). Nevertheless, the Draft Permit does not contain a BACT limit for PM2.5 emissions. This is a deficiency that must be corrected before a PSD permit can issue. Additionally, any proposed PM2.5 BACT limit must be subject to public review and comment before KDHE issues a final PSD permit.

The applicant states that "[r]ecent EPA guidance for PM2.5 requires that in the interim period between the dates of the PM2.5 NAAQS designations and when EPA promulgates regulations to implement [non attainment area new source review] for the PM2.5 NAAQS, states should use PM10 as the surrogate." Application at 24. The "guidance" referred to is over 10 years old. The guidance memo, itself, estimated 3 to 5

years to implement PSD for PM2.5 and the impracticalities referenced in the memo as the basis for using PM10 as a surrogate (modeling, emission calculations and estimates, etc.) have been largely resolved, as evidenced by EPA's proposal to establish PM2.5 BACT limits. Proposed Rule, 72 Fed. Reg. 54,112 (Sept 12, 2007); see also 70 Fed. Reg. at 66,043 (recognizing that the "practical difficulties" identified in the Seitz memo "have been resolved in most respects."). Moreover, there is simply no legal basis for ignoring the requirement to implement BACT for PM2.5. The EPA's promulgation of PM2.5 NAAQS is premised upon the finding that PM10 and PM2.5 are not equivalent and a PM2.5 standard—rather than merely a PM10 standard—was necessary to protect health and welfare. That finding cannot be effectively undone, by substituting PM10 through a guidance document, based upon administrative expediency.

Further, PM10 is simply not the same as PM2.5. Controls for PM10 are not necessarily controls for PM2.5 and, more importantly for BACT determinations, top-ranked controls for PM10 are not necessarily top-ranked controls for PM2.5. Common control technologies, such as the fabric filters proposed for the new Ripley plant boiler, are highly effective at controlling PM and PM10, but less effective at capturing finer-grain PM2.5. PM2.5 emissions are more aggressively controlled by controlling the pollutant's precursors. It is therefore necessary to target PM2.5 specifically in a BACT analysis in order to require the greatest feasible reductions in PM2.5 emissions.

#### **B. The Draft Permit Lacks BACT Limits For CO2 and N2O.**

The Clean Air Act prohibits the construction of a new major stationary source of air pollutants in areas designated as in attainment of the National Ambient Air Quality

Standards except in accordance with a prevention of significant deterioration (PSD) construction permit. 42 U.S.C. § 7475(a); 40 C.F.R. §52.21(a)(2)(iii). One of the requirements, contained in § 165 of the Act, is that every PSD permit must include a BACT emission limit "for each pollutant subject to regulation under this chapter emitted from, or which results from" the facility. 42 U.S.C. § 7475(a)(4). EPA repeated that requirements in the implementing regulations controlling here: BACT is required for "any pollutant that otherwise is subject to regulation under the Act." 40 C.F.R. § 52.21(b)(50)(iv). Carbon Dioxide (CO<sub>2</sub>) has been *regulated* under the Clean Air Act since 1993. And, on April 2, 2007, the Supreme Court held that carbon dioxide and other greenhouse gases are "pollutants" under the Clean Air Act—clarifying that they are, indeed, "subject to regulation." *Massachusetts v. EPA*, 127 S.Ct. 1438, 1460 (2007).

#### 1. CO<sub>2</sub> Is Currently Regulated.

Section 821(a) of the Act provides:

**Monitoring.** -- The Administrator of the Environmental Protection Agency shall promulgate regulations within 18 months after the enactment of the Clean Air Act Amendments of 1990 to require that all affected sources subject to the Title V of the Clean Air Act shall also monitor carbon dioxide emissions according to the same timetable as in Sections 511(b) and (c). The regulations shall require that such data shall be reported to the Administrator. The provisions of Section 511(e) of Title V of the Clean Air Act shall apply for purposes of this section in the same manner and to the same extent as such provision applies to the monitoring and data referred to in Section 511.

42 U.S.C. 7651k note; Pub.L. 101-549; 104 Stat. 2699 (emphasis added). In short, Congress specifically ordered EPA "to promulgate regulations" requiring that facilities covered by

Title IV of the Act monitor and report their CO<sub>2</sub> emissions in § 821.<sup>1</sup> Further, in section 165 of the Act, Congress required a BACT limit for “any pollutant subject to regulation” under the Act. The Supreme Court has already pointed out that information gathering, record keeping, and data publication rules are indisputably within the conventional understanding of “regulation.” *Buckley v. Valeo*, 424 U.S. 1, 66-67 (1976) (record keeping and reporting requirements are regulation of political speech). Therefore, the Act plainly requires a BACT limit for CO<sub>2</sub>.

The most basic canon of statutory interpretation is that words should be given their plain meaning, and Webster’s defines “regulation” as “an authoritative rule dealing with details or procedure; (b) a rule or order issued by an executive authority or regulatory agency of a government and having the force of law.” This plain language is controlling. *Lamie v. United States Tr.*, 540 U.S. 526, 534 (2004); *Chevron v. NRDC*, 467 U.S. 837, 842-843 (1984). As the Court in *Alabama Power Co. v. Costle*, 636 F.2d 323, 403 (D.C. Cir. 1979), held, PSD applies to pollutants in addition to those for which air quality standards or other limits have been promulgated:

The only administrative task apparently reserved to the Agency . . . is to identify those . . . pollutants subject to regulation under the Act which are thereby comprehended by the statute. The language of the Act does not limit the

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<sup>1</sup> EPA’s §821 regulations, which were finalized on January 11, 1993, require CO<sub>2</sub> emissions monitoring (40 CFR §§75.1(b), 75.10(a)(3)); preparing and maintaining monitoring plans (40 CFR §75.33); maintaining records (40 CFR §75.57); and reporting such information to EPA, (40 CFR §§75.60 – 64). 40 CFR §75.5 prohibits operation in violation of these requirements and provides that a violation of any Part 75 requirement is a violation of the Act. These requirements, including the requirement to monitor CO<sub>2</sub>, are also included in various state implementation plans. See Wis. Admin. Code §§ NR 438.03(1)(a) (requiring reporting of pollutants listed in Table I, including CO<sub>2</sub>), adopted under the Act at 40 C.F.R. § 52.2570(c)(70)(i); NR 439.095(1)(f) (Phase I and phase II acid rain units... shall be monitored for... carbon dioxide...”), adopted under the Act at 40 C.F.R. § 52.2570(c)(73)(i)(I).

applicability of PSD only to one or several of the pollutants regulated under the Act,

. . .the plain language of section 165 . . .in a litany of repetition, provides without qualification that each of its major substantive provisions shall be effective after 7 August 1977 with regard to each pollutant subject to regulation under the Act, or with regard to any "applicable emission standard or standard of performance under" the Act. As if to make the point even more clear, the definition of BACT itself in section 169 applies to each such pollutant. The statutory language leaves no room for limiting the phrase "each pollutant subject to regulation" . . .

The carbon dioxide BACT analysis should consider, inter alia, boiler efficiency, alternate combustion options, and cleaner fuels, including natural gas, biomass, and a blend of biomass and natural gas. The proposed CFB boiler ranks among the least efficient and most polluting boilers possible. More efficient combustion options include gasification of biomass and the burning of biomass gas, instead of a solid fuel. See, for example, the recent announcement by Progress Energy Florida signing another contract with Biomass Gas & Electric LLC (BG&E) to purchase electricity from a second waste-wood biomass plant planned for Florida. BG&E plans to build a power plant in north or central Florida that will use waste wood products – such as yard trimmings, tree bark and wood knots from paper mills – to create electricity. It would generate about 75 MW. The plant will use gasification and projected commercial operation is expected in June 2011.<sup>2</sup>

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<sup>2</sup> <http://money.cnn.com/news/newsfeeds/articles/prnewswire/CLTU05618122007-1.htm> (last visited 12/24/07).

## **2. N2O is Currently Regulated.**

As noted above for CO<sub>2</sub>, a BACT limit is required for any pollutant subject to regulation under the Act. The Act includes state implementation plans approved by the EPA. N<sub>2</sub>O is regulated in at least one State Implementation Plan approved by EPA, and therefore, is not only subject to, but is regulated under the Act. See Wis. Stat. §§ 285.60 (requiring air permits for all sources not otherwise exempted), 285.62(1); Wis. Admin. Code §§ NR 407.05, Table 3 (requiring permit application to include Nitrous Oxides if greater than 2,000 lbs/year). Moreover, nitrous oxide is also regulated under Wis. Admin. Code § NR 438.03(1)(a) and Table 1, adopted under the Act at 40 C.F.R. § 52.2570(c)(70)(i). Therefore, a BACT limit is also required for N<sub>2</sub>O.

### **C. The BACT Determinations for the Boiler Did Not Include a Sufficient Analysis of Cleaner Production Processes, Including Wood Fuel.**

A BACT analysis for a coal fired power plant must include consideration of cleaner production processes and innovative fuel combustion techniques. The NMU's application attempts to obtain a PSD permit, and BACT limits, for burning coal, while conceding that the boiler can and most likely will burn biomass. Permit to Install Application for Northern Michigan University- Ripley Heating Plant at 1 (February 1, 2007) (hereinafter "Application") (boiler will have the capacity to burn 100% waste wood); Letter from Jeffrey Jaros, NTH, to David Riddle, MDEQ, Re: Addendum to Application No. 60-07 to Update SO<sub>2</sub> Emission Limit; Northern Michigan University- Ripley Heating Plant

(September 18, 2007) ("The primary fuel for this boiler will be virgin wood waste.")<sup>3</sup>. In fact, the boiler at issue is "designed to allow operation on Renewable Resources (specifically wood chips) up to 100% of the total heat input..." Letter from Michael Hellman, NMU, to Mary Ann Dolehanty, MDEQ, Re: Permit to Install Application for a New Circulating Fluidized Bed Boiler; Northern Michigan University- Ripley Heating Plant (February 5, 2007). In other words, the boiler is designed for, and can accommodate 100% clean fuel, wood, but NMU is asking for BACT limits based upon coal.

It appears that NMU requests BACT limits based on coal for vague "fuel stability and financial concerns." This is not a sufficient basis for establishing BACT based on the dirtiest fuel – coal – rather than the cleaner fuels that the boiler can burn. Concerns for fuel flexibility and increased cost are not, by themselves, sufficient to justify rejecting clean fuel in a top-down BACT determination. Not every economic consideration justifies rejecting cleaner fuel and, consequently, lower emission limits. Instead, NMU, as the applicant, must demonstrate that the price of using lower-sulfur coal, in dollars per ton of SO<sub>2</sub> removed, is not "cost effective," in terms of dollars per ton of pollutant prevented. Therefore, to justify rejecting biomass, such as waste wood, as a pollution control option under BACT, the cost-per-ton of each pollutant removed/prevented must be disproportionate to the cost per ton incurred by other sources. Merely stating a generalized concern about increased costs, fuel availability, or economics, as NMU has done here, is not enough to justify rejecting a method of reducing emissions. Any

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<sup>3</sup> It is not clear what virgin wood waste means. It is assumed that the fuel is wood waste—excluding unsustainably managed and/or harvested virgin timber. As noted above, if MDEQ cannot assure this, a thorough review of the collateral impacts from harvesting the wood fuel must be included in the PSD review.

pollution control will cost money. BACT is required by law. Its costs are integral to the overall cost of doing business and are not to be considered an afterthought.

As noted above, NMU bears the burden of demonstrating that 100% waste wood is not cost-effective. Here, because NMU failed to demonstrate that waste wood fuel is not cost effective (indeed it is the planned primary fuel), the BACT analysis must default to that cleaner fuel, not to coal.<sup>4</sup>

**1. The BACT Limits Must Be Based On Waste Wood, Not Coal.<sup>5</sup>**

As noted above, according to the USEPA and MDEQ top-down BACT procedure, the best or "top" control option should be selected as BACT unless it is shown to be infeasible due to unacceptable economic, environmental or energy impacts.

Waste wood is the intended primary fuel for the new boiler proposed at the Ripley plant, but coal is being approved and is used to establish the BACT limits. The use of coal will generate significantly more SO<sub>2</sub> and carbon dioxide emissions than wood. Unlike wood and other forms of biomass, coal also contains a long laundry list of hazardous metals, including arsenic, mercury and nickel. Because the use of waste wood would result in the lowest emission rates of SO<sub>2</sub>, the use of 100% waste wood as fuel is the "top" pollution control option. The applicant's application and analyses in support of its permit have not demonstrated, nor can they demonstrate, that this top control option is infeasible.

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<sup>4</sup> Note that even if 100% wood were not cost-effective, a mix of wood and coal that maximizes wood must but is still within the range of dollars-per-ton considered cost-effective (i.e., under \$10,000/ton) must be assumed in setting BACT limits.

<sup>5</sup> We are not condoning the use of waste wood absent information about the source of the wood, and the environmental impacts, including soil and vegetation impacts, associated with the use of such wood.



The uncontrolled SO<sub>2</sub> emissions while burning waste wood are 0.025 lbs/mmbtu. Letter from J. Jaros - NTH Consultants, Ltd. to D. Riddle - MDEQ, September 18, 2007; see also RBLC ID # NC-0092 (woodwaste fired boiler with 0.024 lb SO<sub>2</sub>/MMBtu BACT limit). The emission rate assumed in the Application and MDEQ's proposed permit is based on a maximum coal sulfur content not exceed 1.5% and a heating value not exceed 12,000 BTU/lbs, or 24 MMBtu/ton. For a CFB boiler, uncontrolled SO<sub>2</sub> emissions occur when no calcium-based sorbents are used and the bed material is inert with respect to sulfur capture. EPA recommends that the emission factor for underfeed stokers should be used to estimate the SO<sub>2</sub> emissions from an uncontrolled CFB boiler. USEPA, *Compilation of Air Pollutant Emission Factors*, Table 1.1-3, Emission Factors for SO<sub>x</sub>, NO<sub>x</sub>, and CO from Bituminous and Subbituminous Coal Combustion, September 1998. Therefore, the uncontrolled emissions from burning coal at the proposed Ripley plant CFB boiler is:

$$\begin{aligned} &\text{Coal Factor} \\ &= 31(1.5) \text{ lbs/ton} / 24 \text{ MMBtu/ton} \\ &= 1.938 \text{ lbs/MMBtu} \end{aligned}$$

Therefore, the difference in uncontrolled SO<sub>2</sub> emissions when burning coal versus wood is as follows:

$$\begin{aligned} &\text{Additional SO}_2 \text{ Emissions from burning coal:} \\ &= 185 \text{ MMBtu/hr} \times (1.938 - 0.025) \text{ lbs/MMBtu} \times 8,760 \text{ hrs/yr} \times \text{ton}/2,000 \text{ lbs} \\ &= 1,555 \text{ TPY} \end{aligned}$$

In other words, if uncontrolled emissions from coal is the baseline, the 100% waste wood option achieves 1,555 tons of SO<sub>2</sub> emission reduction per year. This level of SO<sub>2</sub> control is cost-effective.