Tulane University

TULANE ENVIRONMENTAL LAW CLINIC

January 29, 2008

Via U.S. Mail and E-mail transmission

Lisa Jackson, EPA Administrator
Rm. 3000 Ariel Rios Bldg.
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

RE: Clean Air Act Section 505(b) Petition Requesting EPA to Object to the Proposed Part 70 Air Operating Permit and Prevention of Significant Deterioration Permit for Consolidated Environmental Management, Inc., Nucor Steel Facility in Romeville, Louisiana Permit # PSD-LA-740 and # 2560-00281-V0

Dear Ms. Jackson:

Pursuant to section 505(b)(2) of the Clean Air Act, 42 U.S.C. § 7661d(b)(2) and 40 C.F.R. § 70.8(d), the Sierra Club Delta Chapter, Louisiana Environmental Action Network, and O'Neil Couvillion ("Petitioners") petition the Administrator of the U.S. Environmental Protection Agency to object to the Part 70/Title V Air Operating Permit No. 2560-00281-V0 ("draft Title V permit") and Prevention of Significant Deterioration Permit No. PSD-LA-740 ("draft PSD permit") (collectively "draft permits") proposed by the Louisiana Department of Environmental Quality ("Department") on October 15, 2008 for the planned Nucor Steel Facility ("the Plant") in Romeville, St. James Parish, Louisiana, owned and operated by Consolidated Environmental Management, Inc., a subsidiary of Nucor Corporation ("Nucor").

Petitioners base their petition on comments they filed with the Department on November 24, 2008 during the public comment period on the draft permits. Petitioners incorporate by reference to this petition their public comments, and attach them here as Exhibit 1.

Under CAA section 505(b)(1), 42 U.S.C. § 7661d(b)(1), the Administrator shall object to the issuance of any permit not in compliance with the CAA requirements. Petitioners ask the Administrator to object the draft permits because, but not limited to, the following reasons:

(1) The notice published by Nucor fails to meet the mandatory requirements of Louisiana's implementation plan;

(2) Nucor's application is incomplete and must be revised to provide air analyses that meet the Clean Air Act requirements;

(3) The draft permits and associated materials fail to consider the adverse affects of the plant's mercury emissions and lacks proper controls;

(4) The draft permits do not address greenhouse gases;

(5) The draft PSD permit fails to provide a BACT analysis and set a BACT emission limit for PM2.5;

(6) The draft permits fails to consider fugitive sources;

(7) The draft permits unlawfully exclude startup, shutdown, and malfunction periods from emission limits;

For the reasons detailed and specified in Exhibit 1, we ask the Administrator to object the draft permits for Nucor's planned Plant. Petitioners file this petition within sixty days following the end of EPA's 45-day review period as required by CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2). The Administrator has sixty days to grant or deny this Petition after it is filed. If the Administrator determines that the draft permits do not comply with the requirements of the Clean Air Act, he must object to issuance of the permit under CAA § 505(b)(2), 42 U.S.C. § 7661d(b)(2). In addition, Petitioners reserve the right to petition hereafter, if EPA extends its review period and conducts further review.

Sincerely,

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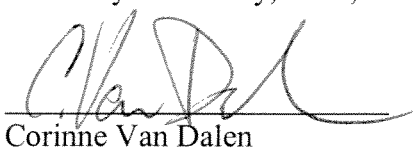
On behalf of Louisiana Environmental Action Network, Sierra Club Delta Chapter, and O'Neil Couvillion.

Cc:

I hereby certify that I have this 29th day of January, 2008, served a copy of this Petition to those listed below.



Corinne Van Dalen

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TULANE ENVIRONMENTAL LAW CLINIC

November 24, 2008

Via Hand Delivery

Ms. Soumaya Ghosn
Louisiana Department of Environmental Quality
Public Participation Group
602 N. Fifth Street
Baton Rouge, LA 70821-4313.

RE: Comments on the Proposed Part 70 Air Operating Permit and Prevention of Significant Deterioration Permit for Consolidated Environmental Management, Inc., Nucor Steel Facility in Romeville, Louisiana
AI # 157847
Permit # PSD-LA-740 and # 2560-00281-V0
Activity # PER20080001 and PER20080002

Dear Ms. Ghosn,

We are writing to comment on the Part 70/Title V Permit No. 2560-00281-V0 (~~"d~~raft Title V permit") and Prevention of Significant Deterioration Permit No. PSD-LA-740 (~~"d~~raft PSD permit") (collectively ~~"d~~raft permits") proposed by the Louisiana Department of Environmental Quality (~~"D~~epartment") on October 15, 2008 for the planned Nucor Steel Facility (the ~~"P~~lant") in Romeville, St. James Parish, Louisiana, owned and operated by Consolidated Environmental Management, Inc., a subsidiary of Nucor Corporation (~~"N~~ucor").

We submit these comments on behalf of the Louisiana Environmental Action Network, Sierra Club Delta Chapter, and O'Neil Couvillion (~~"C~~ommenters").

SPECIFIC COMMENTS

I. THE DEPARTMENT MUST REQUIRE NUCOR TO RENOTICE THE PROPOSED PERMITS FOR PUBLIC COMMENT BECAUSE THE NOTICE PUBLISHED BY NUCOR FAILS TO MEET THE MANDATORY REQUIREMENTS OF STATE REGULATIONS.

Nucor's public notice for the draft permits is legally deficient and fails to meet the requirements of state air regulations under LAC 33:III.531. On November 17, 2008, LEAN and Sierra Club submitted a letter to Ms. Soumaya Ghosn (copies to Ms. Cheryl Nolan and Mr. Bryan Johnston) detailing the deficiencies of Nucor's public notice and requesting that LDEQ require Nucor to re-publish its notice in a manner that meets state air regulations under LAC

33:III.531. To date, neither LEAN nor Sierra Club have received a response from the Department regarding this letter, nor are either groups aware that the Department has required Nucor to republish its public notice in a manner that meets LAC 33:III.531.

Commenters reassert the concerns outlined in the letter detailing Nucor's deficient notice and incorporate it as Exhibit 1 to these comments. Commenters ask the Department require Nucor to republish its notice or explain why it has decided to continue processing the draft permits without requiring Nucor to meet the public notice mandates of LAC 33:III.531.

Sierra Club and LEAN submit the following comments notwithstanding prejudice to their members who did not receive notice of Nucor's draft permits due to Nucor's inadequate public notice.

II. THE DEPARTMENT MUST REJECT NUCOR'S APPLICATION AS INCOMPLETE AND REQUIRE NUCOR TO FIX ITS AIR QUALITY MONITORING MISTAKES IN ITS APPLICATION.

The Plant would cause an increase in ambient $PM_{2.5}$ air pollution and lead to violations of PM2.5 National Ambient Air Quality Standards (~~"~~NAAQS"). Therefore, the Department must conduct its permit analysis under 40 C.F.R. Pt. 51, Appendix S. To support this argument, Commenters incorporate by reference Memorandum from Alexander Sagady & Assoc. to EPA Region 6 (Nov. 18, 2008), attached to these comments as Exhibit 2. Commenters ask that the Department respond to all the $PM_{2.5}$ air quality issues and modeling mistakes raised in this memorandum.

Commenters also ask the Department to respond to other air quality monitoring errors raised in the Alexander Sagady & Assoc. Memo attached as Exhibit 2, including but not limited to Nucor's inappropriate PM_{10}, SO_2 and NO_x background determination, failure to include the most recent background data, failure to include receptors at the fenceline to the public road, failure to address the modeled NAAQS violations, and wrongful application of full increment consumption ceilings since the demonstration shows NAAQS violations.

III. THE DRAFT PERMITS AND ASSOCIATED MATERIALS FAIL TO CONSIDER THE ADVERSE AFFECTS OF THE PLANT'S MERCURY EMISSIONS AND THE DEPARTMENT FAILS TO REQUIRE PROPER CONTROLS.

The draft permit would allow 0.26 tons/year (512 pounds) of mercury emissions. Mercury emissions are a special concern since the proposed site for the Plant is located just to the south of the Maurepas Marsh—the soils of which are likely to be the most heavily impacted by wet and dry mercury deposition from the Plant. Slack marsh water adjacent to this mercury source is the kind of mercury environmental fate and transport situation that can be expected to indicate the potential for fish and shellfish contamination in adjacent wetland areas. *See* Alexander Sagady & Assoc. Memo, pp 5-6, attached as Exhibit 2. The Maurepas Mash contains segments of the Blind River and Amite River which are already listed for mercury water quality impairment in the latest Department report under Section 303(d) of the Clean Water Act. Many other waterways in the area are also impaired for mercury. Furthermore, portions of the Bogue

Falaya River, Tchefuncte River, Tangipahoa River, bayou Liberty, Blind River, Bogue Chitto River and Pearl River and these waters plus others are on mercury advisory lists with the following warning:

> Women of childbearing age and children less than seven years of age SHOULD NOT CONSUME largemouth bass and crappie and should consume no more than ONE MEAL PER MONTH of freshwater drum, spotted bass, or catfish combined from the advisory area. Other adults and children seven years of age and older should consume no more than TWO MEALS PER MONTH of largemouth bass and crappie and no more than FOUR MEALS PER MONTH of freshwater drum, spotted bass, or catfish combined from the advisory area. Unless the fish species is specifically addressed in the details of the advisory, please limit consumption of all species in an advisory area to FOUR MEALS PER MONTH.

Under 40 C.F.R. § 52.21(o), a PSD permit applicant must submit additional impact information including the effect of the source operations on soils. However, Nucor conducted no such review on the impact of mercury emissions on the soils—especially wetland soils—in the vicinity of the Plant. As the agency charged with administering the state's SIP-approved PSD program and as public trustee of the environment under the Louisiana Constitution, the Department must require Nucor to perform a multipathway human health and ecological risk assessment of the Plant's mercury emissions and subsequent deposition in Louisiana's already-impaired waterways and waterways bearing a mercury advisory.

Mercury is an extremely hazardous neurotoxin that is dangerous at very low levels. Mercury emitted from coal plants becomes methylmercury in the environment, where it becomes toxic in even minute amounts. Readily absorbed by living tissues, methylmercury can cause serious birth defects, central nervous system and brain damage, diminished intelligence, and, recent evidence suggests, autism. According to the FDA standard, it would only take one pound of methylmercury to contaminate 500,000 pounds of fish, which, when consumed by humans and wildlife, increases their mercury levels. EPA has found that 1 in 6 women has levels of mercury in her blood above the safe standard, putting her future children at risk for learning and behavioral problems associated with mercury poisoning.

As the EPA pointed out in a recent letter to Idaho Department of Environmental Quality, ~~t~~the absence of a detailed description of the mercury control equipment, the expected speciation of mercury emissions, the mercury handling practices, and monitoring of mercury emissions prevent meaningful and informed comment by EPA or the public."[1]

The Department failed to require mercury emission controls for the Plant even though other jurisdictions have provided mercury emission controls for non-recovery coke ovens. For example, the Ohio EPA required mercury control technology at the FDS2 coke plant – which is permitted to emit 51 pounds of mercury a year, as compared to over 500 pounds under the proposed Nucor permit. *See* Ohio EPA, Fact Sheet on FDS Coke Plant, Toledo, at http://www.epa.state.oh.us/pic/media/fds2.pdf.

[1] Letter from R. Albright, US EPA, to M. Bauer,IDEQ Administrator, dated Nov. 18, 2008.

Clean Air Act § 112(g)(2)(B) commands: "no person may construct or reconstruct any major source of hazardous air pollutants, unless the Administrator (or the State) determines that the maximum achievable control technology ["MACT"] emission limitation under this section for new sources will be met." Further, the provision requires that the determination of maximum achievable control technology "shall be made on a case-by-case basis where no applicable emission limitations have been established . . . ." The Department must revise the proposed permit to ensure that it meets MACT requires for mercury and other hazardous air pollutants.

IV. THE DRAFT PERMIT DOES NOT ADDRESS GREENHOUSE GASES.

The Department has completely ignored the Plant's greenhouse gas emissions. The draft permits do not disclose the Plant's expected emissions of CO_2 or other greenhouse gases, such as nitrous oxide and methane. A rough calculation shows that CO_2 emissions from burning coal to produce coke, and processing coke in the blast furnaces, would total approximately 9.58 million tons per year.[2] This is double the CO_2 emissions from the proposed Little Gypsy coal-fired power plant.

The Department failed to require an emissions limitation for CO_2. This failure to address CO2 and other greenhouse gas emissions for a new, massive, and long-lived source of such pollution is contrary to state and federal law.

A. Given Developments in Federal Law, the PSD Permit Should Not Issue Without a BACT-Based Emissions Limit for Carbon Dioxide.

A PSD permit for a source that emits significant quantities of a pollutant "subject to regulation" under the Clean Air Act must include an emissions limit based on the best available control technology ("BACT") for that pollutant. 42 U.S.C. § 7475(a)(4); *see also* 40 C.F.R. § 52.21(b)(50) (2007).[3] The Supreme Court has determined that carbon dioxide and other

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[2] *See* AP-42 Volume 1, Chapter 1, p. 1-1-42, Table 1.1-20, *at* http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s01.pdf; Nucor Application, Vol. 1 at 81-82. This calculation does not include emissions resulting from the calcining of calciferous materials in fluxing agents, which may be substantial. The calculation also assumes there will be no carbon retention in the pig iron product. More detailed technical information regarding emissions from the coke production process is available in AP-42 Volume 1, Chapter 12.2, *at* http://www.epa.gov/ttn/chief/ap42/ch12/final/c12s02_may08.pdf. However, Commentors do not have the expertise to perform a detailed analysis of the Plant's carbon dioxide emissions, and the brief public comment period did not provide enough time to obtain expert help on this issue. In any event, it is the responsibility of Nucor and the Department, not the public, to calculate and disclose the greenhouse gas emissions that would be emitted from the Plant.

[3] Likewise, the Louisiana State Implementation Act (SIP) specifically requires that major new sources like the Nucor project "shall apply best available control technology for each regulated NSR pollutant for which it would result in a significant net emissions increase at the source." LAC 33:III.509.J.3.[3] A "regulated NSR pollutant" includes, *inter alia*, "any pollutant that otherwise is subject to regulation under the Clean Air Act," excepting hazardous air pollutants listed under section 108 of the Act. LAC 33:III.509.B.

greenhouse gases are ―pollutants" under the Act. *Massachusetts v. EPA*, 127 S. Ct. 1438 (2007). As discussed in section IV.B below, CO_2 is subject to regulation under the Act because various statutory and regulatory provisions require monitoring, reporting, and control of CO_2 emissions. The Nucor PSD permit must therefore include a BACT emission limit for CO_2.

In a recent opinion that has crucial implications for state agencies, the federal Environmental Appeals Board (―EAB") addressed the question of whether CO_2 is ―subject to regulation" under the Clean Air Act. *In re Deseret Power Electric Cooperative,* Slip Op., PSD Appeal No. 07-03 (E.A.B. 2008). In *Deseret*, the EAB remanded a PSD permit to the E Region 8 for its failure to adequately justify excluding CO_2 from its BACT analysis. The EAB rejected every reason EPA offered to support its contention that it did ―not now have the authority to impose a CO_2 BACT limit." *Id.* at 8-9.

Although the EAB ―ha[s] the authority to resolve legal questions on behalf of the [EPA] in issuing the [EPA's] final decision," it chose to remand the permit rather than deciding whether CO_2 is subject to regulation under the Act, noting that ―even legal and interpretive questions are best resolved on the basis of a well-developed record." *Id.* at 62 n.63. The EAB therefore did not consider various arguments in favor of requiring BACT for CO_2 emissions, instead allowing the EPA region to consider those arguments in the first instance. *Id.* at 55 n.57. The EAB held that EPA could not issue a PSD permit lacking a CO_2 BACT limit without ―develop[ing] an adequate record for its decision, including reopening the record for public comment." *Id.* at 64. Because of the national implication of the decision, the EAB recommended that EPA consider taking an ―action of nationwide scope" to address whether BACT limits must be applied to CO_2. *Id.*

Ultimately, EPA is sure to interpret the Clean Air Act as requiring BACT for CO_2 emissions. The Clean Air Act mandates it, the EAB has rejected all of EPA's rationales for refusing the regulate CO_2, and the incoming Administration has made numerous public statements on the need to address greenhouse gases. EPA's action will affect SIP-approved programs such as Louisiana's, because the Act provides that states may only set standards that are at least as stringent as federal law. 42 U.S.C. § 7416; 70 C.F.R. § 70.1(c). If the Department were to treat CO_2 as an unregulated pollutant while EPA determines the contrary, the Department would put both the PSD permit and the Louisiana SIP at risk.

One danger for this permit is that EPA may simply invalidate it – and stop construction of the Plant -- under Section 167 of the Act for failure to include CO_2 BACT limits. *See Alaska Dep't of Envtl. Conservation v. EPA*, 540 U.S. 461, 484-95 (2004) (upholding EPA's invalidation of state PSD permit because ―Congress . . . vested EPA with explicit and sweeping authority to enforce CAA requirements' relating to the construction and modification of sources under the PSD program, including BACT."). Although EPA's use of this power may be ―rare," it is justified where the state permitting agency has not based a BACT determination on reasoned analysis. *Id.* at 491 n. 14, 493-95.

Second, EPA could object to a Title V permit that does not include BACT limits for carbon dioxide. 42 U.S.C. §§ 7661(d)(b)(3), 7661d(c). If EPA objects to a permit, it may not be used unless it is first revised to take the objection into account. *Id.* Third, the EPA could make a finding of SIP inadequacy and call for the state to revise the SIP. *See* 42 U.S.C. 7410(k)(5).

Accordingly, the Department should suspend permitting for the Plant while EPA considers whether carbon dioxide is "subject to regulation," and thus subject to BACT emissions limits. If the state finalizes the permit without a CO_2 limit, the Plant may soon find that it does not have a valid PSD permit under federal law.

B. If the Department Proceeds with the Permitting Process, it Must Require BACT Emissions Limits for Carbon Dioxide after Notice and Public Comment.

If the Department nevertheless chooses to act on this issue before EPA does, it should limit the Plant's CO_2 emissions after notice and public comment on a BACT analysis for carbon dioxide. Thus, even in the unlikely event that EPA determines that BACT is not required for CO_2, the state's interpretation would be *more* stringent than federal law. As such, the inconsistency would not put the state's SIP or PSD permits at risk. *See* 42 U.S.C. § 7416; 70 C.F.R. § 70.1(c). The Department should make this determination for the following reasons.

1. Carbon Dioxide Is Currently Regulated Under The Clean Air Act.

Commenters maintain that the plain language of the Act compels permitting agencies to impose BACT-based limits on CO_2 emissions. While in *Deseret* the EAB held that the plain language of the Act is not "so clear and unequivocal" as to mandate the conclusion that CO_2 is currently a "subject to regulation," the EAB did not reject, or even consider, a number of Sierra Club's arguments that the Act does in fact regulate carbon dioxide. *See Deseret*, at 26, 55 n.57. Moreover, it found that construing the Act to require BACT for CO_2 is not only plausible, but is also supported by the only regulatory history that speaks directly to the meaning of "subject to regulation." *Deseret*, Slip. Op. at 38-42. In any event, the EAB's decision is not the final word on whether the CO_2 is a regulated pollutant under the plain language of the Act. *See, e.g., Colorado Farm Bureau Fed'n v. United States Forest Serv.,* 220 F.3d 1171, 1173-74 (10th Cir. 2000) (action is not final unless "the action marks the consummation of the agency's decisionmaking process").

As discussed above, the EPA is highly likely to find on remand that the text of the Act does in fact mean that CO_2 is a regulated pollutant. Or, if the EPA decides the contrary, that decision would be appealable to the appropriate federal court. 42 U.S.C. § 7607(b). Accordingly, the question of whether CO_2 is "subject to regulation" under the plain language of the Act remains open. The following discussion explains why the Department can and should answer it in the affirmative.

a. Section 821

Section 821(a) of the Clean Air Act Amendments of 1990 directed EPA to promulgate regulations to require certain sources to monitor carbon dioxide emissions and report monitoring

data to EPA. 42 U.S.C. § 7651k note. In 1993, EPA promulgated these regulations, which are set forth at 40 C.F.R. Part 75. The regulations generally require monitoring of carbon dioxide emissions through the installation, certification, operation and maintenance of a continuous emission monitoring system or an alternative method, 40 C.F.R. §§ 75.1(b), 75.10(a)(3); preparation and maintenance of a monitoring plan, *id.* § 75.33; maintenance of certain records, *id.* § 75.57; and reporting of certain information to EPA, including electronic quarterly reports of carbon dioxide emissions data, *id.* §§ 75.60 – 64. Section 75.5 of the federal regulations prohibits operation of an affected source in the absence of compliance with the substantive requirements of part 75, and provides that a violation of any requirement of part 75 is a violation of the Clean Air Act. Thus, carbon dioxide is currently regulated under Title IV of the Act. *See Buckley v. Valeo*, 424 U.S. 1, 66-67 (1976) (finding record-keeping and reporting requirements to be regulation of political speech).

Significantly, Congress used the same term – ~~"r~~egulation" – in sections 165(a)(4) and 821 of the Clean Air Act. In section 165 Congress expressly and unambiguously makes BACT a requirement for any pollutant ~~"s~~ubject to *regulation*," 42 U.S.C. § 7475(a)(4) (emphasis added), and in section 821 Congress requires EPA to establish ~~"r~~*egulations*" requiring monitoring, recordkeeping, and reporting for carbon dioxide emissions, *id.* § 7651k note (emphasis added). Basic tenets of statutory interpretation demand that these two provisions must be read consistently – ~~"r~~egulation" used in one section of the Act cannot be appropriately understood to mean something different than the same term used elsewhere.[4]

A more narrow reading of ~~"r~~egulation" for purposes of section 165(a)(4) of the Act to include only those measures that restrict emissions would be especially inappropriate, as the Act already includes terminology that is specifically intended to identify such requirements. In particular, 42 U.S.C. §§ 7602(k), 7651d(a)(1), and 7617(a)(7) establish and use the terms ~~"e~~mission limitation" and ~~"e~~mission standard" to refer to regulatory requirements that limit or restrict emissions. *See also* 42 U.S.C. § 7617(a)(5) (distinguishing between regulations that establish emission standards and ~~"o~~ther" regulations). Thus, if Congress had intended for BACT to apply only where a pollutant is subject to an emission limitation or emission standard, it would have done so expressly.

Notably, the only regulatory history that directly interprets the meaning of ~~"s~~ubject to regulation under this Act" supports the view that CO2 is subject to regulation by virtue of section 821 and its implementing regulations. The preamble to the 1978 PSD regulations states:

> Some questions have been raised regarding what ~~"s~~ubject to regulation under this Act" means relative to BACT determinations. The Administrator believes that the proposed interpretation published on November 3, 1977, is correct and is today being made final. As mentioned in the proposal, **"subject to regulation under this Act" means any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations** for any source type. This then includes * * *.

[4] *See Merrill Lynch v. Dabit*, 547 U.S. 71, 86 (2006).

43 Fed. Reg. 26,388, 26,397 (June 19, 1978) (cited in *Deseret*, Slip Op. at 38-39)(emphasis added). The preamble proceeded to identify the general categories of pollutants then regulated in Subchapter C of Title 40. *Id.*

The regulations that implement section 821 by requiring monitoring and reporting of CO_2 emissions are located in Subchapter C of Title 40. As the EAB noted in *Deseret*, the 1993 rulemaking that added the section 821 regulations to Subchapter C did not withdraw this 1978 interpretation. *Deseret*, Slip Op. at 42. Thus the only existing EPA interpretation of the meaning of "subject to regulation" in section 165 of the Act reinforces the view that BACT is required for CO_2 emissions because CO_2 is subject to regulation under the Act.

b. Regulation of emissions from landfills

In addition to section 821 of the Act and its implementing regulatory requirements, greenhouse gases such as carbon dioxide and methane are also regulated as a component of landfill gases. EPA has promulgated emission guidelines and standards of performance for municipal solid waste (MSW) landfill emissions. 40 C.F.R. §§ 60.33c, 60.752. "MSW landfill emissions" are defined as "gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste." 40 C.F.R. § 60.751. EPA has specifically identified carbon dioxide as one of the components of the regulated "MSW landfill emissions." *See* Air Emissions from Municipal Solid Waste Landfills – Background Information for Final Standards and Guidelines, U.S. EPA, EPA-453/R-94-021 (Dec. 1995), available at http://www.epa.gov/ttn/atw/landfill/landflpg.html (explaining "MSW landfill emissions, or [landfill gas], is composed of methane, carbon dioxide, and NMOC."). Thus, carbon dioxide is regulated through the landfill emission regulations at 40 C.F.R. Part 60 Subparts Cc, WWW. *See also* 56 Fed. Reg. 24468 (May 30, 1991) ("Today's notice designates air emissions from MSW landfills, hereafter referred to as 'MSW landfill emissions,' as the air pollutant to be controlled").

c. Regulation of carbon dioxide under state implementation plans

Finally, carbon dioxide is also regulated under various state implementation plans (SIPs), which in turn constitutes regulation under the Clean Air Act. Most significantly, EPA has now approved and promulgated a Delaware state implementation plan revision that sets limits on CO_2 emissions. Specifically, in a Federal Register notice that became effective on May 29, 2008, EPA promulgated its approval of CO_2 emission standards, operating requirements, record keeping and reporting requirements, and emissions certification, compliance and enforcement obligations for new and existing stationary electric generators in Delaware. *See* 73 Fed. Reg. 23,101. The control requirements approved and promulgated by EPA included a CO_2 emission standard of 1900 lbs/MWh for existing distributed generators, 1900 lbs/MWh for new distributed generators installed on or after January 1, 2008, and 1,650 lb/MWh for new distributed generators installed on or after January 1, 2012. *See* Delaware Department of Natural Resources and Environmental Control (DNREC), Regulation No. 1144: Control of Stationary Generator Emissions, §3.2; *see also* 73 Fed. Reg. at 23,102-103 (codifying approval in the Code of Federal Regulations at 40 C.F.R. § 52.420).

In EPA's proposed and final rulemaking notices for the Delaware SIP revision, the Agency plainly stated that it was approving the SIP revision "under the Clean Air Act" (see 73 Fed. Reg. 11,845 (March 5, 2008)) and "in accordance with the Clean Air Act." *See* 73 Fed. Reg. at 23,101. EPA's action in approving the SIP revision made the control requirements and obligations part of the "applicable implementation plan" enforceable under the Clean Air Act. *See* 42 U.S.C. §7602(q).

Many Clean Air Act provisions authorize EPA enforcement of requirements and prohibitions under the "applicable implementation plan." *See, e.g.*, 42 U.S.C. § 7413(a)(1) (authorizing EPA Administrator to issue a compliance order, issue an administrative penalty, or bring civil action against the violating party); *id.* at (a)(2) (Administrator may enforce the "applicable implementation plan" if states fail to do so); *id*. at (b)(1) (requiring the Administrator to commence a civil action or assess and recover a civil penalty against the owner or operator of a source or facility that violates an "applicable implementation plan"). In addition, EPA's action makes the emission standards and limitations enforceable by a citizen suit under section 304 of the Clean Air Act. 42 U.S.C. § 7604.

The Supreme Court has made clear that the requirements under an EPA-approved state implementation plan are federally-enforceable obligations under the federal Clean Air Act:

> The language of the Clean Air Act plainly states that EPA may bring an action for penalties or injunctive relief whenever a person is in violation of any requirement of an "applicable implementation plan." § 113(b)(2), 42 U.S.C. § 7413(b)(2) (1982 ed.). There can be little or no doubt that the existing SIP remains the "applicable implementation plan" even after the State has submitted a proposed revision.

General Motors Corp. v. United States, 496 U.S. 530, 540 (1990).

Thus CO_2 is a pollutant subject to regulation under the Clean Air Act both because it is subject to monitoring and reporting requirements, and because it is subject to emissions limits.

In sum, section 165 of the Clean Air Act requires a BACT limit for "any pollutant subject to regulation" under the Act. 42 U.S.C. § 7475(a)(4). Accordingly, in light of *Massachusetts v. EPA* and the regulation of carbon dioxide under section 821, landfill gas regulations, and state implementation plans, a plain-language reading of the Act compels the conclusion that section 165 requires BACT limits for carbon dioxide emissions from coal-fired power plants under the PSD program.[5]

3. Carbon Dioxide Is Subject To Further Regulation under the Act.

[5] Although the EAB disagreed in *Deseret* with Sierra Club's argument that the plain language of the Clean Air Act compels a reading that carbon dioxide is a regulated pollutant, it did not identify anything in the Act that is inconsistent with Sierra Club's reading of section 821 as making carbon dioxide "subject to regulation."

Carbon dioxide is also "subject to regulation," as that term is defined, under a number of the Clean Air Act's other provisions, including sections 111 and 202.

a. Pollutants Subject To Future-Enacted Regulation Are "Subject To Regulation"

Emissions of a pollutant need not be currently regulated for the pollutant to be "subject to" regulation under the Clean Air Act. "Subject to regulation" means "capable of being regulated" and is not limited to pollutants that are "currently regulated." The plain meaning of section 165(a)(4) extends not only to air pollutants for which there are regulatory requirements, but also to air pollutants for which EPA and the states *possess but have not exercised authority* to impose such requirements.

EPA has recognized the general principle that "[t]echnically, a pollutant is considered regulated once it is *subject to regulation* under the Act. A pollutant *need not be specifically regulated* by a section 111 or 112 standard to be considered regulated." 66 Fed. Reg. 59161, 59163 (Nov. 27, 2001) (citing 61 Fed. Reg. 38250, 38309 (July 23, 1996)) (emphasis added).

EPA has also previously interpreted the phrase "subject to" in the context of the Resource Conservation and Recovery Act (RCRA) and Clean Water Act as meaning "should" be regulated, as opposed to currently regulated:

> RCRA section 1004(27) excludes from the definition of solid waste "solid or dissolved materials in … industrial discharges which are point sources subject to permits under [section 402 of the Clean Water Act]." For the purposes of the RCRA program, EPA has consistently interpreted the language "point sources *subject to permits* under [section 402 of the Clean Water Act]" to mean point sources that *should have* a NPDES permit in place, whether in fact they do or not. Under EPA's interpretation of the "subject to" language, a facility that should, but does not, have the proper NPDES permit is in violation of the CWA, not RCRA.

Memo from Michael Shapiro and Lisa Friedman (OGC) to Waste Management Division Directors, Interpretation of Industrial Wastewater Discharge Exclusion from the Definition of Solid Waste at 2 (Feb. 17, 1995) (emphasis added). This interpretation of "subject to" is not limited to the context of environmental regulation. *See Kennedy v. Commonwealth Edison*, 410 F.3d 365, 371 (7th Cir. 2005) (holding that the phrase "subject to' does not require proof that an employer has [actually] reduced an employee's wages" under Fair Labor Standards Act, 29 U.S.C. § 213); *Klein v. Rush-Presbyterian – St. Luke's Medical Center*, 990 F.2d 279, 286 (7th Cir. 1993) (holding that the phrase "[s]ubject to reduction' does not mean that a reduction was actually made," under Fair Labor Standards Act).

b. Sections 111 And 202 Of The Act Require EPA To Promulgate Regulations Limiting Emissions Of Pollutants From New Stationary Sources And Motor Vehicles

Section 111 of the Act requires EPA to promulgate regulations establishing standards of performance for emissions of "air pollutants" from new stationary sources. 42 U.S.C. § 7411. Section 202 requires EPA to promulgate regulations establishing standards applicable to emissions of "any air pollutant" from motor vehicles. 42 U.S.C. § 7521. Carbon dioxide is emitted from stationary sources and motor vehicles. Regulation under sections 111 and 202 is required where air pollution "may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7411(b)(1)(A); 42 U.S.C. § 7521(a)(1). In *Massachusetts v. EPA*, the Court held that if EPA makes an endangerment finding for a pollutant, it must regulate emissions of the pollutant from new motor vehicles. 127 S. Ct. at 1462. The same analysis applies with equal force to section 111. Given this regulatory scheme and the Supreme Court's determination that EPA is authorized to regulate carbon dioxide and other greenhouse gases as "pollutants" under the Act, carbon dioxide is unquestionably a pollutant subject to regulation under the Act.

EPA is not only authorized to establish emission limitations for carbon dioxide emissions under sections 202 and 111, but is required to do so because there is no question that emissions of those pollutants from motor vehicles, power plants and other sources "may reasonably be anticipated to endanger the public health and welfare."[6] This standard, reflecting the precautionary nature of the Clean Air Act, does not require proof of actual harm. Congress directed that regulatory action taken pursuant to an endangerment finding would be designed to "precede, and, optimally, prevent, the perceived threat." *Ethyl Corp. v. EPA*, 541 F.2d 1, 13 (D.C. Cir. 1976). EPA is not required to document "proof of actual harm" as a prerequisite to regulation; rather, EPA is supposed to act where there is "a significant risk of harm." *Id.* at 12-13. In *Ethyl Corp.*, noting the novelty of many human alterations of the environment, the Court of Appeals for the District of Columbia Circuit found:

> Sometimes, of course, relatively certain proof of danger or harm from such modifications can be readily found. But, more commonly, 'reasonable medical concerns' and theory long precede certainty. Yet the statutes – and common sense – demand regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable.

[6] Significantly, the Supreme Court in *Massachusetts v. EPA*, also held that, having received a request to regulate CO_2 under a particular statutory provision, EPA could not invoke extra-statutory factors to decide not to regulate or to avoid addressing the applicable regulatory criteria. In short, EPA may appropriately respond to the outstanding petitions for rulemaking only by actually addressing whether or not CO_2 endangers public health or welfare. 127 S. Ct. at 1462 ("[T]se of the word 'judgment' is not a roving license to ignore the statutory text. It is but a direction to exercise discretion within defined statutory limits."). In *Green Mountain Plymouth Dodge Jeep v. Crombie*, the United States District Court for the District of Vermont, relying on *Massachusetts v. EPA*, stressed the importance of controlling emissions of greenhouse gases, even where the sources at issue make only a relatively small contribution to the very large global problems presented by global warming. Case Nos. 2:05-cv-320 and -304, slip op. at 46-47, 93-94 and 234 (Sept. 12, 2007). The court rejected an automobile industry challenge to Vermont regulations establishing greenhouse gas emission standards for automobiles.

Id. at 25.[7] The 1977 Clean Air Act Amendments confirmed and adopted the precautionary interpretation enunciated in *Ethyl Corp*., enacting special provisions, Pub. L. No. 95-95, § 401, 91 Stat. 790-91 (Aug. 7, 1977), designed to "apply this interpretation to all other sections of the act relating to public health protection." H.R. Rep. No. 294, 95th Cong., 1st Sess. 49 (1977); *accord*, *id.* at 51 (amendments are designed, *inter alia*, to "emphasize the precautionary or preventive purpose of the act (and, therefore, the Administrator's duty to assess risks rather than wait for proof of actual harm)"). Congress rejected the argument that, "unless conclusive proof of actual harm can be found based on the past occurrence of adverse effects, then the standards should remain unchanged," finding that this approach "ignores the commonsense reality that 'an ounce of prevention is worth a pound of cure.'" *Id.* at 127.

The precautionary nature of the Clean Air Act creates a low threshold for findings relating to the negative consequences of air pollution. Indeed, the Supreme Court analysis in *Massachusetts v. EPA*, addressing the petitioners' standing, outlines harms caused by global warming that are more than adequate to establish endangerment under the Clean Air Act. As discussed above, other sources similarly describe adverse impacts that clearly show that the endangerment criteria of the Act have been met, and that any official finding of such is little more than a formality.

Quite simply, there is no question that greenhouse gas emissions that contribute to global warming endanger public health and welfare. As a result, not only is carbon dioxide currently "subject to regulation" under the Act because of existing statutory authority to regulate, but EPA and the states have a statutory *obligation* to adopt regulations that establish emission limitations for carbon dioxide and other greenhouse gases pursuant to various provisions of the Act. Global warming's far-reaching and grave public health and welfare impacts, which are in large part attributable to carbon dioxide emissions from power plants, automobiles and other sources, compel EPA to exercise its authority under sections 111 and 202 of the Clean Air Act to regulate greenhouse gas emissions.

Thus, carbon dioxide is "subject to regulation under the Clean Air Act" both because EPA and the states currently have authority to regulate them as pollutants under the Act and because EPA and the states have an obligation to do so under particular provisions of the Act.

c. EPA Must Promulgate Additional Clean Air Act Regulations Governing Greenhouse Gases

In addition to regulation under section 111 and 202 of the Clean Air Act, the Consolidated Appropriations Act of 2008 requires EPA to use its existing authority under the Clean Air Act to establish regulations that require monitoring and reporting of greenhouse gases, including CO_2, across all sectors of the economy by June 2009. 2008 Consolidated

[7] *Accord*, *Industrial Union Dep't v. American Petroleum Institute*, 448 U.S. 607, 656 (1980) (plurality opinion) (agency need not support finding of significant risk "with anything approaching scientific certainty," but rather must have "some leeway where its findings must be made on the frontiers of scientific knowledge," and "is free to use conservative assumptions in interpreting the data," "risking error on the side of overprotection rather than underprotection").

Appropriations Act (H.R. 2764, Public Law 110-161); *see* http://www.epa.gov/climatechange/emissions/ghgrulemaking.html.

EPA has no discretion regarding whether to promulgate these regulations and no endangerment finding is required. Because EPA must promulgate these Clean Air Act regulations governing carbon dioxide, it is subject to regulation under the Act and BACT limits are required.

4. Georgia Recently Affirmed the View that Carbon Dioxide is "Subject to Regulation" under the Act.

A Georgia court recently overturned the decision of a Georgia Department of Environmental Protection ALJ granting an air permit to a new facility because the agency had not performed a BACT analysis for $C0_2$.[8] The Georgia ruling overturned a state-issued air permit for the 1,200-megawatt Longleaf coal plant because "the permit contains no CO_2 emissions limits." *Id*. at 6. "There was no effort to identify, evaluate, or apply available technologies that would control CO_2 emissions, and the permit contains no CO_2 emission limits." *Id*. at 7. The judge cited the *Massachusetts v. EPA* 2007 Supreme Court decision that recognized carbon as a pollutant under the federal Clean Air Act and concluded that "there is no question that CO_2 is 'subject to regulation under the [Clean Air] Act.'" *Id*. at 7. Since CO_2 is "otherwise subject to regulation under the Act," a PSD permit could not issue for Longleaf without CO_2 emission limitations based on a BACT analysis. The Nucor air permit is invalid for the same reason.

C. Even if Carbon Dioxide Were Not Currently "Subject to Regulation", Regulation Controlling Carbon Dioxide Emissions Is Imminent.

Numerous levels of government are already taking action to address the climate crisis by setting targets for reducing greenhouse gas pollution. President-elect Obama made climate change a central issue in his campaign and is committed to implementing aggressive programs to stop global warming, including implementing a cap-and-trade program aimed to reduce greenhouse gases by 80% below 1990 levels by the year 2050.[9] At the same time, the next Congress will continue the carbon legislation work of its predecessors. It is widely anticipated that some form of federal carbon legislation will take effect well before the Nucor project becomes operational.[10] Indeed, yet another group of large corporations recently urged Congress to act quickly.[11] Louisiana lags behind this movement at its own peril.

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[8] *Friends of the Chattahoochee Inc. et al. vs. Dr. Carol Couch & Longleaf Energy Ass. LLC.*, 2008CV146398 (Fulton County, GA Jun. 30, 2008) (appeal pending).

[9] Brian Knowlton, *Obama Reaffirms Targets on Climate Change*, N.Y. Times, Nov. 18, 2008, *available at* http://www.nytimes.com/2008/11/19/us/politics/19climate.html. *See also* Barack Obama for President website, New Energy for America, *available at* http://my.barackobama.com/page/content/newenergy_more#emissions (last visited Nov. 17, 2008)

[10] *See, e.g.*, Zachary Coile, *Energy industry preparing for limits*, Seattlepi.com, August 28, 2006.

[11] *Big U.S. Corporations Urge Quick Cap and Trade Legislation*, Environment New Service (Nov. 19 2008), *at* http://www.ens-newswire.com/ens/nov2008/2008-11-19-091.asp.

D. The BACT Analysis for Carbon Dioxide Must Consider All Feasible Control Technologies.

BACT requires a comprehensive analysis of all potentially available emission control measures, expressly including input changes (such as use of clean fuels), process and operational changes, and the use of add-on control technology. Additionally, it requires that a new source comply with emission limits that correspond to the most effective control measures available, unless the source can affirmatively demonstrate that use of the most effective control measures would be technologically or economically infeasible.

BACT is defined under federal law as follows:

> an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each pollutant subject to regulation under the [Clean Air] 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.*

See 40 C.F.R. § 52.21(b)(12) (emphasis added); *see also* CAA§169(3), 42 U.S.C. §7479(3).

There are at least four readily-available options for limiting a facility's greenhouse gas emissions that could and should be considered in a top-down BACT analysis. These options include: 1) use of natural gas instead of coal, 2) use of rotary hearth furnaces with coal, 3) mandating carbon capture and sequestration, 4) modifying combustion conditions, and 5) using post-combustion controls.

1. Natural Gas

There are more than 60 facilities in 21 countries currently producing high purity iron products from natural gas, rather than coal. The Midrex Technologies Website describes the technologies used in the process. *See* http://www.midrex.com/handler.cfm?cat_id=87. This production process reduces both carbon dioxide emissions and energy consumption. *See* http://www.midrex.com/handler.cfm?cat_id=105. The Department should therefore consider it in the BACT analysis.

2. Rotary Hearth Furnaces

The United States Department of Energy has advocated a significantly cleaner method of producing pig iron from coal than that proposed by Nucor, which should be considered in the CO_2 BACT analysis, as well as the BACT analysis for other pollutants. *See* U.S. Department of Energy, *Steel Success Story*, *at* http://www1.eere.energy.gov/industry/steel/pdfs/mnp_success.pdf. The rotary hearth furnace

consists of a flat, refractory hearth rotating inside a stationary, circular tunnel kiln. Inside the furnace, direct reduction of iron ore or iron-bearing by-products occurs, using coal (or, as in the Midrex process, natural gas) as the reductant. Reduction, melting, and slag removal occur in only 10 minutes as compared to hours for the blast furnace process described in the draft permit. *Id.* Carbon dioxide emissions can be reduced by more than 40 percent compared to the blast furnace process. *Id*.; Ishikawa et al., Rotary Hearth Furnace Technologies for Iron Ore and Recycling Applications, *Archives of Metallurgy and Materials*, Vol. 2, Iss. 3 (2008), at Figure 9 (showing reduced carbon dioxide emissions and energy consumption using rotary hearth furnace technology).

The rotary hearth furnace method would not only be cleaner; it would also lower transportation costs and produce a higher value product. Jack Lyne, *Minnesota Pilot Plant Could Alter Steel-Making Equation, Add Thousands of Jobs*, Site Selection (Nov. 11, 2002), *at* http://www.siteselection.com/ssinsider/snapshot/sf021111.htm.

As mentioned above, the Department should particularly consider the rotary hearth furnace process developed by Midrex Technologies, which uses natural gas as a reductant instead of coal. However, if the Department rejects this technology, it must also consider rotary hearth furnaces in general.

3. Carbon Capture and Sequestration

The EPA, in comments on a draft EIS for the proposed White Pine plant in Nevada, directed the federal Bureau of Land Management (BLM) to ~~"~~discuss carbon capture and sequestration and other means of capturing and storing carbon dioxide as a component of the proposed alternatives."[12] The EPA's determination that it is appropriate for the BLM to consider carbon capture and sequestration and other means of carbon dioxide storage at the White Pine plant is a reasonable indication that carbon capture and sequestration (and other means of storing carbon) could be considered in the top-down BACT process for the Clean Air Act PSD permit.

E. The Department Should Conduct An Alternatives Analysis That Considers Global Warming Impacts.

Regardless of whether carbon dioxide is currently a pollutant subject to regulation under the Clean Air Act, the Department, as the delegated permitting authority for the Plant, has the authority to require evaluation of greenhouse gas emissions and establish appropriate permit conditions or otherwise address these emissions. EPA's Office of Air and Radiation, Office of General Counsel, and the Environmental Appeals Board have expressed the opinion that permitting authorities have broad discretion to consider alternatives, conduct or require analyses, and impose permit conditions to address issues under Clean Air Act section 165(a)(2) beyond the required BACT analysis. *See In re Prairie State*, PSD Appeal 05-05, 12 E.A.D. __ (Aug. 24, 2006); *In re Knauf Fiber Glass*, 8 E.A.D. 1212, (EAB 1999); *In re Hillman Power*, 10 E.A.D.

[12] EPA Comment on the Draft EIS for the White Pine Energy Station at 14 (Exhibit 3).

673, 692 (EAB 2002).[13] The EAB has consistently held that states have broad discretion to consider various options, including, among other things, broad discretion to independently evaluate options and alternatives, and to adopt conditions or requirements that they deem appropriate.

EPA has recognized that ―a PSD permitting authority still has an obligation under section 165(a)(2) to consider and respond to relevant public comments on alternatives to the source," and that a ―PSD permitting authority *has discretion under the Clean Air Act to modify the PSD permit based on comments raising alternatives* or other appropriate considerations." BRIEF OF THE EPA OFFICE OF AIR AND RADIATION AND REGION V, *In re Prairie State*, PSD Appeal 05-05, 12 E.A.D. __ (EAB, Aug. 24, 2006). Moreover, the EAB has made clear that a permitting authority has discretion to modify a permit based on consideration of ―alternatives" whether or not the commenters raise the issues:

> Indeed, the permit issuer is not required to wait until an ―alternative" is suggested in the public comments before the permit issuer may exercise the discretion to consider the alternative. Instead, the permit issuer *may identify an alternative on its own*. This interpretation of the authority conferred by CAA section 165(a)(2)'s reference to ―alternatives" is consistent with the Agency's longstanding policy that, . . . ―this is an aspect of the PSD permitting process in which *states have the discretion to engage in a broader analysis if they so desire*."

See In re Prairie State, PSD Appeal 05-05 (Aug. 24, 2006) (quoting the NSR Workshop Manual at B.13).

In fact, under this authority, a permitting authority can engage in a wide-ranging exploration of options. Under this authority the Department clearly has the discretion to require specific evaluation and control of carbon dioxide emissions, and/or to require other action to mitigate potential global warming impacts. Failure to do so in this case is a material breach of the agency's obligations to the people of Louisiana and the United States.

To date, there has been no specific assessment of available measures or options to reduce the expected greenhouse gas emissions from the Plant. The Department could require any number of possible actions to address the carbon dioxide footprint of the proposed plant. Options include requiring construction of a more efficient facility, requiring the purchase of carbon dioxide offsets, or some combination of these approaches or others.

Among the alternatives the Department should consider under § 165(a)(2) of the Act is the ―no-build" option, under which the Department would deny the PSD permit based on policy

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[13] This discretion even extends to requiring specific additional BACT analysis. In *Knauf*, the Board explained that although ―s]ubstitution of a gas-fired power plant for a planned coal-fired plant would amount to redefining the source . . . redefinition of the source is not always prohibited. This is a matter for the *permitting authority's discretion*. *The permitting authority may require consideration of alternative production processes in the BACT analysis when appropriate*. *See* NSR Manual at B.13-B.14; *Old Dominion*, 3 E.A.D. at 793 (permit issuer has discretion ―to consider clean fuels other than those proposed by the permit applicant.")." *Knauf*, 8 E.A.D. at 136 (emphasis added).

considerations related to carbon dioxide and other harmful emissions.[14] The consideration of such options should be subject to a process of public discussion.

In combination with one or all of the above alternatives, Nucor could counteract some of the enormous carbon dioxide emissions from the Plant through offsets. Offsets can be an essential component of reducing carbon dioxide emissions because they can be implemented quickly for a relatively low cost. There are a number of ways in which Nucor could create offsets, including programs to increase the energy efficiency in buildings, factories, or transportation, generating electricity from renewable energy sources like wind or solar, shutting down older and less efficient plants, and capturing carbon dioxide in forests and agricultural soils. Another advantage of offsets is that they often result in other environmental, social, and economic co-benefits such as reductions in other dangerous pollutants, restoration of degraded lands, improvement in watersheds and water quality, creation of jobs and lower prices for electricity and gasoline.

F. The Department's Duty as Public Trustee Requires it to Regulate Greenhouse Gas Emissions from the Plant.

Even aside from its obligation under the federal Clean Air Act the Department has the duty as public trustee of the environment and agency in charge of air regulations in Louisiana to regulate greenhouse gases. As explained below, carbon dioxide is an air contaminant under Louisiana law, and state law prohibits Nucor from releasing it into the atmosphere without a permit from the Department that controls that release. Coastal Louisiana is ground zero for global warming—it is already feeling the effects of stronger storms, rising sea levels, and coastal erosion. The Department must discharge its duty under the state constitution and state law to address the harmful effects of carbon dioxide and other greenhouse gases.

1. Climate Crisis Impact on Louisiana.

According to an interagency group comprised of the Louisiana Department of Natural Resources and several federal agencies, "Coastal Louisiana is more vulnerable to the effects of global climate change than any other region in the United States. It's low elevation, high rate of subsidence and rapid loss of wetlands expose this area to the worst consequences of climatic change — a rising Gulf, possibly stronger storms, unpredictable rainfall and warmer weather." [15]

[14] The Board has said:

> We are unable to reconcile the view that consideration of need for a facility is outside the scope of section 165(a)(2) of the Clean Air Act with the text of the statute and prior decisions. The statutory text's plain meaning does not lend itself to excluding public comments that request consideration of the "no build" alternative to address air quality concerns. Moreover, the Board's and Administrator's prior decisions would appear to recognize that consideration of "need" is an appropriate topic under section 165(a)(2). *See In re EcoEléctrica*, LP, 7 E.A.D. 56, 74 (EAB 1997)

In re Prairie State, PSD Appeal 05-05, 12 E.A.D. __ (EAB Aug. 24 ,2005).

[15] LaCoast.gov at http://www.lacoast.gov/WaterMarks/2003-02/4threat/index.htm.

Indeed, according to the Union of Concerned Scientists, "[t]here is already evidence of a warming and changing climate in [Louisiana]."[16]

Louisiana's coastal wetlands make up 40 percent of the total coastal wetlands in the lower 48 states.[17] These wetlands offer critical habitat for migratory birds, fish, and other species, act as speed bumps for advancing hurricanes, and buffer uplands from storm surges. However, these wetlands are disappearing at an alarming rate of 40 square miles a year.[18] In addition, "[r]ising sea levels will magnify the tidal surges, further eroding beaches and flooding interior marshes with salt water."[19]

The federal government and Louisiana have been developing plans and implementing projects to restore Coastal Louisiana for several years. In fact, Governor Bobby Jindal recently announced plans for more than $1 billion in coastal protection and restoration projects in Louisiana. However, while "massive efforts are already underway to restore the state's precious coastal wetlands, global warming threatens to undermine these efforts and intensify the existing threats to this valuable ecosystem."

Projects like the Nucor plant, which will dump millions of additional tons of carbon dioxide into the air, stand at odds with plans to restore Louisiana's coast and curb global warming. The Department should consider the impacts of the Plant's carbon dioxide emissions on Louisiana's environment and citizens. By ignoring the Plant's carbon dioxide emissions, the Department violates its duty as public trustee of the environment and its charge under state statute to regulate these emissions now.

Although Louisiana is more vulnerable to climate change effects than anywhere else in the country, it lags behind its sister states in addressing greenhouse gas emissions. For example, California has enacted the landmark "Global Warming Solutions Act of 2006," which seeks to reduce greenhouse gas emissions to 80 percent below 1990 levels by 2050. California and Washington have both adopted carbon dioxide emission limitations of 1100 pounds per megawatt-hour for power plants. Montana recently adopted a minimum sequestration mandate, providing that new coal plants must capture and sequester a minimum of 50% of the carbon dioxide produced. The Regional Greenhouse Gas Initiative – a cooperative effort by ten Northeastern and Mid-Atlantic states to reduce carbon dioxide emissions by 10% by 2020 through the implementation of a multi-state cap-and-trade program – is expected to reduce carbon dioxide emissions by 12 million tons per year.

2. The Department Has The Public Trustee Duty and Statutory Obligation To Address Greenhouse Gas Emissions from the Nucor Plant Before Issuing Any Air Permits.

Although the proposed project is certain to result in large emissions of carbon dioxide and other greenhouse gases, the draft permits fail to disclose the amount or to address these

[16] http://www.ucsusa.org/gulf/gcstatelou_wet.html.
[17] *Id.*
[18] *Id.*
[19] *Id.*

emissions. Based on the amount of coal being processed, and standard EPA emissions factors for coal combustion, the coke oven batteries at the plant will emit approximately 9.58 million tons of CO_2 annually.[20] This amount is more than the Big Cajun I and II power plants combined. And yet it is conservative. For example, it does not include emissions from the calcining of calciferous materials in fluxing agents, which will also contribute substantial amounts of CO_2 to the atmosphere. Nor does it include emissions of other types of greenhouse gases, such as methane or nitrous oxide. The Department should, at a minimum, renotice a draft permit that includes accurate estimates of the greenhouse gases likely to be produced by the Plant, and provide an opportunity for public comment.

The Department failed to require an emission limitation or any other design, equipment, work practice or operational standards for carbon dioxide. This failure to address carbon dioxide and other greenhouse gas emissions for a new, massive, and long-lived source of greenhouse gas pollution is contrary to state law, Clean Air Act requirements, case law, and federal and state regulations. Therefore, the Department must, at a minimum, revise the draft air permits to address greenhouse gas emissions and provide an opportunity for public comment on the revised permit.

a. The Department's Duty as Public Trustee Requires it to Regulate Greenhouse Gas Emissions from the Plant.

The Louisiana Constitution mandates that ―t[]he natural resources of the state, including air and water, and the healthful, scenic, historic, and esthetic quality of the environment shall be protected, conserved and replenished insofar as possible and consistent with the health, safety, and welfare of the people."[21] According to state statute, the Department is the public trustee with the duty to protect Louisiana's air.[22]

As the Louisiana Supreme Court pointed out in a landmark environmental decision, the Department's ―role as the representative of the public interest does not permit it to act as an umpire passively calling balls and strikes for adversaries appearing before it; the rights of the public must receive active and affirmative protection at the hands of the [department]." *Save Ourselves, Inc. v. La. Envtl. Control Com'n*, 452 So.2d 1152, 1157 (La. 1984). Indeed, the Department has the affirmative duty to analyze the Plant, including the effects of its carbon dioxide and other greenhouse gas emissions to determine whether:

(1) Potential and real adverse environmental effects of the proposed project have been avoided to the maximum extent possible;

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[20] *See* AP-42 Volume 1, Chapter 1, p. 1-1-42, Table 1.1-20, *at* http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s01.pdf; and Nucor Application, Vol. 1 at 81-82.

[21] La. Const. art. IX § 1.

[22] La. Rev. Stat. § 30:2014.A.4 (―The [LDEQ] secretary shall act as the primary public trustee of the environment, and shall consider and follow the will and intent of the Constitution of Louisiana and Louisiana statutory law in making any determination relative to the granting or denying of permits, licenses, registrations, variances, or compliance schedules authorized by [the Louisiana Environmental Quality Act].").

(2) A cost benefit analysis of the environment impact costs balanced against the social and economic benefits of the project demonstrate that the latter outweighs the former; and

(3) There are alternative projects or alternative sites or mitigating measures which would offer more protection to the environment than the proposed project without unduly curtailing non-environmental benefits to the extent applicable.

In re Rubicon, Inc., 95-0108 (La. App. 1 Cir. 2/14/96) 670 So. 2d 475, 483 (articulating the holding in *Save Ourselves, Inc.* as the above three-part test).

In Kansas, where similar standards apply, the Secretary of the Kansas Department of Health and Environment denied a permit application to build two new coal-fired power plants because of the greenhouse gases they would have produced. The Secretary made his decision pursuant to a statutory provision authorizing him to take action to protect the health of persons or the environment where the emission of air pollution presents a substantial endangerment to the health of persons or the environment.[23] Kansas Governor Kathleen Sebelius defended this decision by vetoing legislation that would have permitted the power plants and stripped the state agency of the power to deny such permits in the future if they held utilities to standards stricter than those in the federal Clean Air Act.[24]

As in Kansas, the Department must abide by its public trustee duty and postpone finalizing the air permits for the Plant until it has reviewed the project as a large new source of carbon dioxide—a potent greenhouse gas agent that is injurious to human, plant, and animal life.

b. Louisiana Law Requires The Department To Regulate Greenhouse Gases.

In addition to the Department's constitutional mandate as public trustee to consider the harmful effects of carbon dioxide emissions, Louisiana lawmakers gave the Department the explicit duty to regulate carbon dioxide and other greenhouse gases. Louisiana statute requires the Department to "develop permitting procedures and regulations conforming to applicable state and federal laws, and to require and issue permits, licenses, variances, or compliance schedules *for all sources of air contaminants within the state of Louisiana*." La. R.S. § 30:2054.B(2)(a) (emphasis added). State statute defines "air contaminant" as "particulate matter, dust, fumes, *gas*, mist, smoke, or vapor, or any combination thereof *produced by other than natural processes*." La. R.S. § 30:2053(1) (emphasis added). Therefore, state law requires the Department to regulate carbon dioxide from sources such as the Nucor plant. Nowhere in Louisiana law does it say the Department may defer efforts to regulate sources of air

[23] *See* Kansas Department of Health and Environment, *KDHE Denies Sunflower Electric Air Quality Permit*, October 18, 2007, *at* http://www.kdheks.gov/news/web_archives/2007/10182007a.htm; *see also,* Paul J. Morrison, Kansas Attorney General, ATTORNEY GENERAL OPINION NO. 2007-31, September 24, 2007.

[24] Office of the Governor, Press Release, March 21, 2008, *at* http://www.governor.ks.gov/news/NewsRelease/2008/nr-08-0321a.htm.

contaminants until such time as the federal government takes action. Consequently, should the Department decide to issue air permits for the Nucor plant after conducting its analysis as mandated by the Louisiana Constitution, it must incorporate all applicable requirements for carbon dioxide controls into the Nucor permits.

Furthermore, Nucor itself will violate state law if it fails to obtain permits that regulate its carbon dioxide emissions from the Plant. The Louisiana Air Control Law states, "No person shall conduct any activity which results in the discharge of air contaminants without the appropriate permit or license…." La. R.S. § 30:2055. The Louisiana Supreme Court has upheld the enforcement provisions of the Louisiana Air Control Law, R.S. §§ 30:2051-2065, as constitutional and not vague. *State v. Hair*, 784 So. 2d 1269 (La. 2001). Therefore, if Nucor emits unpermitted carbon dioxide emissions, it will violate state law and be subject to a state or citizen enforcement action under the Louisiana Environmental Quality Act.

G. Conclusion

In conclusion, there are a multitude of legal, practical, and moral reasons why the Department must not move ahead with permitting the Plant without thoroughly addressing greenhouse gases.

V. THE DEPARTMENT MUST REJECT THE DRAFT PSD PERMIT BECAUSE IT FAILS TO PROVIDE A BACT ANALYSIS AND SET A BACT EMISSION LIMIT FOR $PM_{2.5}$.

A. The Plant's $PM_{2.5}$ Emissions Pose A Threat To Human Health And the Environment.

$PM_{2.5}$ (sometimes referred to as fine particulate matter) is the smallest and most dangerous category of particulate matter by the Clean Air Act and its Amendments. These particles are small enough to be extremely invasive and to cause serious respiratory illness in humans. Risk to human health and welfare caused by fine particulate matter is so great that in 2006 the US EPA was prompted to revise its 1997 National Ambient Air Quality Standard (NAAQS) for $PM_{2.5}$ to a level that is nearly twice as stringent as the 1997 standard.

Very fine particles classified as $PM_{2.5}$ are "produced chiefly by combustion processes and by atmospheric reactions of various gaseous pollutants," and they "can remain suspended in the atmosphere for days to weeks and be transported many thousands of kilometers."[25] Widespread dispersion of $PM_{2.5}$ poses a major human health threat because these particles "contain[] microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems," in both the human respiratory and cardio-vascular systems.[26]

[25] National Ambient Air Quality Standards for Particulate Matter; Proposed Rule, 71 Fed. Reg. 2,619, 2,625 (Jan. 17, 2006).
[26] EPA, Particulate Matter, "Health and Welfare," http://www.epa.gov/oar/particlepollution/health.html (last checked October 18, 2008)

Even short-term exposure to $PM_{2.5}$ causes asthma (especially in children), other respiratory illnesses, heart attacks, and premature death (especially in people with heart or lung disease).[27]

Fine particulate matter also causes serious environmental effects, ranging from lowered visibility and regional haze, to long range environmental degradation of water, soil and ecosystem resources. *See* Environmental Protection Agency, Particulate Matter—Health Environment.[28] Because of their size, fine particulates can travel in the air over long distances, causing widespread environmental and health effects to areas remote from the emission source – including other states.

B. The National Ambient Air Quality Standards For $PM_{2.5}$.

The magnitude of the human health threat posed by $PM_{2.5}$ recently prompted EPA to strengthen federal regulation of $PM_{2.5}$ under the Clean Air Act. In 1997, EPA set primary health-based National Ambient Air Quality Standards for $PM_{2.5}$. However, by 2005, many newly completed studies on $PM_{2.5}$ -related sickness and mortality had convinced staff scientists at EPA that "thousands of premature deaths" and "similarly substantial numbers of incidences of hospital admissions, emergency room visits, aggravation of asthma and other respiratory symptoms, and increased cardiac-related risk" would occur nationally even when the 1997 $PM_{2.5}$ NAAQS were met.[29] In 2006, EPA therefore revised the 24-hour NAAQS for $PM_{2.5}$ to be nearly twice as stringent as the original 1997 NAAQS.[30]

C. The Clean Air Act BACT Requirements Apply to $PM_{2.5}$ Emissions From the Plant.

$PM_{2.5}$ is a pollutant for which NAAQS have been established and subsequently revised in response to severe and well-documented public health concerns. As such, $PM_{2.5}$ is indisputably a "pollutant subject to regulation under th[e] CAA." 42 U.S.C. § 7475(a)(4); see also 40 C.F.R. 52.21(b)(50) (expressly defining regulated pollutants for purposes of the Prevention of Significant Deterioration ("PSD") program to include "[a]ny pollutant for which a national ambient air quality standard has been promulgated").

Accordingly, EPA has acknowledged that "[t]he obligation to implement PSD is triggered upon the effective date of the NAAQS."[31] Indeed, EPA is proposing to rely on BACT emission limits to help achieve attainment of the $PM_{2.5}$ NAAQS across the country.[32]

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[27] See id.; see also 71 Fed. Reg. at 2,627-49 (reviewing extensive scientific literature documenting health problems caused by PM2.5 exposure); National Ambient Air Quality Standards for Particulate Matter, Final Rule, 71 Fed. Reg. 6,144, 6,151-52 (Oct. 17, 2006) (same).

[28] EPA, Particulate Matter: Health and Environment, January 17, 2008.

[29] 71 Fed. Reg. at 2,643.

[30] See 71 Fed. Reg. 6,144 (changing the 24-hour PM2.5 standard from 65 micrograms per cubic meter ("µg/m3") to 35 µg/m3).

[31] Rule to Implement the Fine Particle National Ambient Air Quality Standards, Notice of Proposed Rulemaking, 70 Fed. Reg. 65,984, 66,043 (Nov. 1, 2005).

Nevertheless, the proposed air quality permit for the Plant contains no BACT analysis or limitation for the facility's $PM_{2.5}$ emissions. *See* Statement of Basis. As explained in the attached decision of the Montana Board of Environmental Review regarding the proposed Highwood Generating Station in Central Montana, the Clean Air Act requires permitting authorities to establish BACT-determined emissions limits specifically for emissions of $PM_{2.5}$. To comply with clear requirements of the Clean Air Act, the Department must require a BACT analysis for $PM_{2.5}$ and incorporate BACT-determined $PM_{2.5}$ emissions limits into the permit for the Plant. In addition, to ensure meaningful opportunity for public participation, the Department must make a subsequent $PM_{2.5}$ BACT analysis available for public review before any final air quality permit issues.

D. A PM_{10} Analysis Does Not Suffice for $PM_{2.5}$

Louisiana is a "SIP-approved state" for the purposes of PSD. The Department and Nucor, however, have completely ignored $PM_{2.5}$ as a PSD-regulated pollutant**.** Specifically, the permit application analysis does not even quantify $PM_{2.5}$ nor does it identify the Plant as a source of "significant" emissions either for direct $PM_{2.5}$ or by virtue of "significance thresholds" for its precursors NO_X, SO_2, and VOC. The Statement of Basis does not even make mention of the intent to use PM_{10} as a surrogate for $PM_{2.5}$ nor does it compare PM_{10} emission rates to the 24-hr and annual $PM_{2.5}$ NAAQS.

Use of PM_{10} to calculate $PM_{2.5}$ would not suffice because the modeled PM_{10} emissions, and would-be modeled $PM_{2.5}$ emissions, are severely underestimated by not including the condensable portion of PM as required by Louisiana air regulations. They do not account for the secondary formation due to chemical conversion of precursors such as NOx and SO_2. Condensable PM and secondary chemical conversion may double the $PM_{2.5}$ impacts modeled with filterable PM alone. The modeled impacts do not demonstrate that there is no adverse impact to the NAAQS as indicated in the statement of basis and the draft permit.

According to the analysis contained in the Memorandum from Alexander Sagady & Assoc. to EPA Region 6 (Nov. 18, 2008), attached as Exhibit 2, the Plant's emissions will cause an increase in the ambient $PM_{2.5}$ air pollution over pre-existing background concentrations leading to violations of $PM_{2.5}$ NAAQS violations. Since this draft PSD permit authorizes emission that would certainly interfere with attainment and maintenance of the $PM_{2.5}$ NAAQS, the Department should deny the permit because it would violate 42 U.S.C. § 7475(a)(3), 40 C.F.R. § 52.21(d)(2); 40 C.F.R. § 52.21(k), LAC 33:III.509.D and LAC 33:III.509.K.

VI. THE DEPARTMENT MUST REQUIRE NUCOR TO CONSIDER FUGITIVE SOURCES.

The Louisiana SIP requires the Department to comply with 40 C.F.R. Part 51, Appendix W (*see* LAC 33:III.509.L). Section 5.2.2(d) and 8.1.1 of Appendix W require use of fugitive

[32] See Prevention of Significant Deterioration (PSD) for Particulate Matter Less Than 2.5 Micrometers (PM2.5) Increments, Significant Impact Levels (SIL), and Significant Monitoring Concentrations (SMC), Proposed Rule, 72 Fed. Reg. 54,112 (September 21, 2007).

emissions in air quality models through use of area and volume sources to describe fugitive emission. The 1990 New Source Review Workshop Manual, Prevention of Significant Deterioration and Nonattainment Area Permitting assumes that fugitive emissions of PM_{10} will be included in all air quality impact analyses. *See* § II.B.3.

The Department approved an air quality modeling protocol submitted by Nucor that allowed the facility's air quality modeling demonstration to exclude all fugitive emissions from Nucor from air quality modeling demonstration requirements. As such, the Department failed to properly apply PSD program requirements and this mistake will cause an understatement of PM_{10} ambient air quality impacts from the Plant.

The Department must therefore find Nucor's air quality modeling demonstration unacceptable and its application incomplete.

VII. THE PROPOSED PERMITS UNLAWFULLY EXCLUDE STARTUP, SHUTDOWN, AND MALFUNCTION PERIODS FROM EMISSIONS LIMITS.

Startup and shutdown periods are considered part of normal operation by EPA for BACT analysis.[33] BACT applies for all normal operating time periods. Although a different numerical value or different averaging time may apply during these periods as BACT, they should not be excluded from BACT.

The draft permit effectively creates an illegal blanket exception to BACT requirements for periods of startup, shutdown, and malfunction. *See* Specific Requirements (exempts certain compliance requirements for emission limitations, work practice standards, and operational maintenance requirements "during periods of startup, shutdown, and malfunction as defined in 40 CFR 63.2). "BACT requirements cannot be waived or otherwise ignored during periods of startup and shutdown." *In re Tallmadge Generating Station,* PSD Appeal No. 12-12, at 24 (E.A.B. 2003). PSD permits "may not contain blanket exemptions allowing emissions in excess of BACT limits during startup and shutdown." *Id*. at 25. Setting a separate emissions limit during SSM periods requires an on-the-record determination "of the specific reasons for conclusion of infeasibility" of BACT limit compliance. *Id.* at 27. This discussion must include a description of "design, control, methodological, or other changes [that] are appropriate for inclusion in the permit to minimize the authorized excess emissions during startup and shutdown." *Id.* PSD permits may impose separate emissions requirements during times of SSM, but they may not completely eliminate emissions requirements.

Additionally, the Department must explain and correct the maximum pound per hour emission limit for SO_2 for the Coke Battery Process Area (RLP 0012 cok-211) which is more than the tons per year SO_2 emission limit for the same point. *See* Emission Rates for Criteria Pollutants, showing 1392.11 SO_2 max lb/hr and 1342.62 tons/yr for Coke Battery Process Area.

VIII. THE PROPOSED PERMITS AND THE DEPARTMENT'S ACTIONS CONSTITUTE ENVIRONMENTAL *IN*JUSTICE.

[33] "Policy on Excess Emission During Startup, Shutdown, Maintenance, and Malfunction" from Kathleen M. Bennett (Sept. 28, 1982 and Feb. 15, 1983).

The Department is required to carry out its responsibilities in a nondiscriminatory manner in accordance with the requirements of Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. §§ 2000d to 2000d-7 (Title VI), EPA's implementing regulations at 40 C.F.R. Part 7, and the Agreement Between The Louisiana Department of Environmental Quality and the United State Environmental Protection Agency (Jan. 18, 2005). The Department has violated the basic tenet of environmental justice by failing to require Nucor to republish its public notice so that it actually puts the people living near the proposed site on notice of the Plant and the associated pollutants. As discussed above, Nucor's notice fails to do this. It provides no notice at all. The Department has violated Title VI, 40 C.F.R. Part 7, and its Agreement with EPA by allowing this permit proceeding to continue without requiring notice to the affected community (largely African-American). The Department cannot begin to comply with its responsibilities to ensure environmental justice unless it requires Nucor to republish a valid notice and allow a new opportunity for a hearing and public comment.

In addition, the Department must take into consideration cumulative adverse health and environmental impacts on the affected community from the multiple pollution sources in the area when making its permit decisions. The Department must detail its analysis and reasoning on this issue and take into consideration any findings of the Mississippi River Corridor Task Force (established by Executive Order MJF 98-01). Furthermore, since the proposed site for the Plant encompasses the same site identified by Shintech for its PVC facility, the Department must update and consider the demographic analysis of the area compiled by EPA when EPA investigated a complaint against the Department for violating Title VI and 40 C.F.R. Part 7. *See* Title VI Admin. Complaint Re: Louisiana Department of Environmental Quality, Permit for Proposed Shintech Facility, Summary Documentation of Draft Revised Demographic Analysis (April 1998), attached as Exhibit 5.

CONCLUSION

For the reasons set forth above, we ask the Department to deny the proposed PSD permit and proposed Title V permit for Nucor's planned Plant. If you have any questions or would like any further information, do not hesitate to contact us.

Commenters reserve the right to supplement these comments and rely on comments submitted by others in this or any future proceeding regarding the proposed permits.

Sincerely,

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TULANE ENVIRONMENTAL LAW CLINIC

November 24, 2008

Via Hand Delivery

Ms. Soumaya Ghosn
Louisiana Department of Environmental Quality
Public Participation Group
602 N. Fifth Street
Baton Rouge, LA 70821-4313.

RE: Comments on the Proposed Part 70 Air Operating Permit and Prevention of Significant Deterioration Permit for Consolidated Environmental Management, Inc., Nucor Steel Facility in Romeville, Louisiana
AI # 157847
Permit # PSD-LA-740 and # 2560-00281-V0
Activity # PER20080001 and PER20080002

Dear Ms. Ghosn,

We are writing to comment on the Part 70/Title V Permit No. 2560-00281-V0 (~~"d~~raft Title V permit") and Prevention of Significant Deterioration Permit No. PSD-LA-740 (~~"d~~raft PSD permit") (collectively ~~"d~~raft permits") proposed by the Louisiana Department of Environmental Quality (~~"D~~epartment") on October 15, 2008 for the planned Nucor Steel Facility (the ~~"P~~lant") in Romeville, St. James Parish, Louisiana, owned and operated by Consolidated Environmental Management, Inc., a subsidiary of Nucor Corporation (~~"N~~ucor").

We submit these comments on behalf of the Louisiana Environmental Action Network, Sierra Club Delta Chapter, and O'Neil Couvillion (~~"C~~ommenters").

SPECIFIC COMMENTS

I. THE DEPARTMENT MUST REQUIRE NUCOR TO RENOTICE THE PROPOSED PERMITS FOR PUBLIC COMMENT BECAUSE THE NOTICE PUBLISHED BY NUCOR FAILS TO MEET THE MANDATORY REQUIREMENTS OF STATE REGULATIONS.

Nucor's public notice for the draft permits is legally deficient and fails to meet the requirements of state air regulations under LAC 33:III.531. On November 17, 2008, LEAN and Sierra Club submitted a letter to Ms. Soumaya Ghosn (copies to Ms. Cheryl Nolan and Mr. Bryan Johnston) detailing the deficiencies of Nucor's public notice and requesting that LDEQ require Nucor to re-publish its notice in a manner that meets state air regulations under LAC

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33:III.531. To date, neither LEAN nor Sierra Club have received a response from the Department regarding this letter, nor are either groups aware that the Department has required Nucor to republish its public notice in a manner that meets LAC 33:III.531.

Commenters reassert the concerns outlined in the letter detailing Nucor's deficient notice and incorporate it as Exhibit 1 to these comments. Commenters ask the Department require Nucor to republish its notice or explain why it has decided to continue processing the draft permits without requiring Nucor to meet the public notice mandates of LAC 33:III.531.

Sierra Club and LEAN submit the following comments notwithstanding prejudice to their members who did not receive notice of Nucor's draft permits due to Nucor's inadequate public notice.

II. THE DEPARTMENT MUST REJECT NUCOR'S APPLICATION AS INCOMPLETE AND REQUIRE NUCOR TO FIX ITS AIR QUALITY MONITORING MISTAKES IN ITS APPLICATION.

The Plant would cause an increase in ambient $PM_{2.5}$ air pollution and lead to violations of PM2.5 National Ambient Air Quality Standards (~~"~~NAAQS"). Therefore, the Department must conduct its permit analysis under 40 C.F.R. Pt. 51, Appendix S. To support this argument, Commenters incorporate by reference Memorandum from Alexander Sagady & Assoc. to EPA Region 6 (Nov. 18, 2008), attached to these comments as Exhibit 2. Commenters ask that the Department respond to all the $PM_{2.5}$ air quality issues and modeling mistakes raised in this memorandum.

Commenters also ask the Department to respond to other air quality monitoring errors raised in the Alexander Sagady & Assoc. Memo attached as Exhibit 2, including but not limited to Nucor's inappropriate PM_{10}, SO_2 and NO_x background determination, failure to include the most recent background data, failure to include receptors at the fenceline to the public road, failure to address the modeled NAAQS violations, and wrongful application of full increment consumption ceilings since the demonstration shows NAAQS violations.

III. THE DRAFT PERMITS AND ASSOCIATED MATERIALS FAIL TO CONSIDER THE ADVERSE AFFECTS OF THE PLANT'S MERCURY EMISSIONS AND THE DEPARTMENT FAILS TO REQUIRE PROPER CONTROLS.

The draft permit would allow 0.26 tons/year (512 pounds) of mercury emissions. Mercury emissions are a special concern since the proposed site for the Plant is located just to the south of the Maurepas Marsh—the soils of which are likely to be the most heavily impacted by wet and dry mercury deposition from the Plant. Slack marsh water adjacent to this mercury source is the kind of mercury environmental fate and transport situation that can be expected to indicate the potential for fish and shellfish contamination in adjacent wetland areas. *See* Alexander Sagady & Assoc. Memo, pp 5-6, attached as Exhibit 2. The Maurepas Mash contains segments of the Blind River and Amite River which are already listed for mercury water quality impairment in the latest Department report under Section 303(d) of the Clean Water Act. Many other waterways in the area are also impaired for mercury. Furthermore, portions of the Bogue

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Falaya River, Tchefuncte River, Tangipahoa River, bayou Liberty, Blind River, Bogue Chitto River and Pearl River and these waters plus others are on mercury advisory lists with the following warning:

> Women of childbearing age and children less than seven years of age SHOULD NOT CONSUME largemouth bass and crappie and should consume no more than ONE MEAL PER MONTH of freshwater drum, spotted bass, or catfish combined from the advisory area. Other adults and children seven years of age and older should consume no more than TWO MEALS PER MONTH of largemouth bass and crappie and no more than FOUR MEALS PER MONTH of freshwater drum, spotted bass, or catfish combined from the advisory area. Unless the fish species is specifically addressed in the details of the advisory, please limit consumption of all species in an advisory area to FOUR MEALS PER MONTH.

Under 40 C.F.R. § 52.21(o), a PSD permit applicant must submit additional impact information including the effect of the source operations on soils. However, Nucor conducted no such review on the impact of mercury emissions on the soils—especially wetland soils—in the vicinity of the Plant. As the agency charged with administering the state's SIP-approved PSD program and as public trustee of the environment under the Louisiana Constitution, the Department must require Nucor to perform a multipathway human health and ecological risk assessment of the Plant's mercury emissions and subsequent deposition in Louisiana's already-impaired waterways and waterways bearing a mercury advisory.

Mercury is an extremely hazardous neurotoxin that is dangerous at very low levels. Mercury emitted from coal plants becomes methylmercury in the environment, where it becomes toxic in even minute amounts. Readily absorbed by living tissues, methylmercury can cause serious birth defects, central nervous system and brain damage, diminished intelligence, and, recent evidence suggests, autism. According to the FDA standard, it would only take one pound of methylmercury to contaminate 500,000 pounds of fish, which, when consumed by humans and wildlife, increases their mercury levels. EPA has found that 1 in 6 women has levels of mercury in her blood above the safe standard, putting her future children at risk for learning and behavioral problems associated with mercury poisoning.

As the EPA pointed out in a recent letter to Idaho Department of Environmental Quality, ~~–t~~he absence of a detailed description of the mercury control equipment, the expected speciation of mercury emissions, the mercury handling practices, and monitoring of mercury emissions prevent meaningful and informed comment by EPA or the public."[1]

The Department failed to require mercury emission controls for the Plant even though other jurisdictions have provided mercury emission controls for non-recovery coke ovens. For example, the Ohio EPA required mercury control technology at the FDS2 coke plant – which is permitted to emit 51 pounds of mercury a year, as compared to over 500 pounds under the proposed Nucor permit. *See* Ohio EPA, Fact Sheet on FDS Coke Plant, Toledo, at http://www.epa.state.oh.us/pic/media/fds2.pdf.

[1] Letter from R. Albright, US EPA, to M. Bauer,IDEQ Administrator, dated Nov. 18, 2008.

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Clean Air Act § 112(g)(2)(B) commands: ―no person may construct or reconstruct any major source of hazardous air pollutants, unless the Administrator (or the State) determines that the maximum achievable control technology [―MACT"] emission limitation under this section for new sources will be met." Further, the provision requires that the determination of maximum achievable control technology ―shall be made on a case-by-case basis where no applicable emission limitations have been established . . . ." The Department must revise the proposed permit to ensure that it meets MACT requires for mercury and other hazardous air pollutants.

IV. THE DRAFT PERMIT DOES NOT ADDRESS GREENHOUSE GASES.

The Department has completely ignored the Plant's greenhouse gas emissions. The draft permits do not disclose the Plant's expected emissions of CO_2 or other greenhouse gases, such as nitrous oxide and methane. A rough calculation shows that CO_2 emissions from burning coal to produce coke, and processing coke in the blast furnaces, would total approximately 9.58 million tons per year.[2] This is double the CO_2 emissions from the proposed Little Gypsy coal-fired power plant.

The Department failed to require an emissions limitation for CO_2. This failure to address CO2 and other greenhouse gas emissions for a new, massive, and long-lived source of such pollution is contrary to state and federal law.

A. Given Developments in Federal Law, the PSD Permit Should Not Issue Without a BACT-Based Emissions Limit for Carbon Dioxide.

A PSD permit for a source that emits significant quantities of a pollutant ―subject to regulation" under the Clean Air Act must include an emissions limit based on the best available control technology (―BACT") for that pollutant. 42 U.S.C. § 7475(a)(4); *see also* 40 C.F.R. § 52.21(b)(50) (2007).[3] The Supreme Court has determined that carbon dioxide and other

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[2] *See* AP-42 Volume 1, Chapter 1, p. 1-1-42, Table 1.1-20, *at* http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s01.pdf; Nucor Application, Vol. 1 at 81-82. This calculation does not include emissions resulting from the calcining of calciferous materials in fluxing agents, which may be substantial. The calculation also assumes there will be no carbon retention in the pig iron product. More detailed technical information regarding emissions from the coke production process is available in AP-42 Volume 1, Chapter 12.2, *at* http://www.epa.gov/ttn/chief/ap42/ch12/final/c12s02_may08.pdf. However, Commentors do not have the expertise to perform a detailed analysis of the Plant's carbon dioxide emissions, and the brief public comment period did not provide enough time to obtain expert help on this issue. In any event, it is the responsibility of Nucor and the Department, not the public, to calculate and disclose the greenhouse gas emissions that would be emitted from the Plant.

[3] Likewise, the Louisiana State Implementation Act (SIP) specifically requires that major new sources like the Nucor project ―shall apply best available control technology for each regulated NSR pollutant for which it would result in a significant net emissions increase at the source." LAC 33:III.509.J.3.[3] A ―regulated NSR pollutant" includes, *inter alia*, ―any pollutant that otherwise is subject to regulation under the Clean Air Act," excepting hazardous air pollutants listed under section 108 of the Act. LAC 33:III.509.B.

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greenhouse gases are ―pollutants" under the Act. *Massachusetts v. EPA*, 127 S. Ct. 1438 (2007). As discussed in section IV.B below, CO_2 is subject to regulation under the Act because various statutory and regulatory provisions require monitoring, reporting, and control of CO_2 emissions. The Nucor PSD permit must therefore include a BACT emission limit for CO_2.

In a recent opinion that has crucial implications for state agencies, the federal Environmental Appeals Board (―EAB") addressed the question of whether CO_2 is ―subject to regulation" under the Clean Air Act. *In re Deseret Power Electric Cooperative,* Slip Op., PSD Appeal No. 07-03 (E.A.B. 2008). In *Deseret*, the EAB remanded a PSD permit to the E Region 8 for its failure to adequately justify excluding CO_2 from its BACT analysis. The EAB rejected every reason EPA offered to support its contention that it did ―not now have the authority to impose a CO_2 BACT limit." *Id.* at 8-9.

Although the EAB ―ha[s] the authority to resolve legal questions on behalf of the [EPA] in issuing the [EPA's] final decision," it chose to remand the permit rather than deciding whether CO_2 is subject to regulation under the Act, noting that ―even legal and interpretive questions are best resolved on the basis of a well-developed record." *Id.* at 62 n.63. The EAB therefore did not consider various arguments in favor of requiring BACT for CO_2 emissions, instead allowing the EPA region to consider those arguments in the first instance. *Id.* at 55 n.57. The EAB held that EPA could not issue a PSD permit lacking a CO_2 BACT limit without ―develop[ing] an adequate record for its decision, including reopening the record for public comment." *Id.* at 64. Because of the national implication of the decision, the EAB recommended that EPA consider taking an ―action of nationwide scope" to address whether BACT limits must be applied to CO_2. *Id.*

Ultimately, EPA is sure to interpret the Clean Air Act as requiring BACT for CO_2 emissions. The Clean Air Act mandates it, the EAB has rejected all of EPA's rationales for refusing the regulate CO_2, and the incoming Administration has made numerous public statements on the need to address greenhouse gases. EPA's action will affect SIP-approved programs such as Louisiana's, because the Act provides that states may only set standards that are at least as stringent as federal law. 42 U.S.C. § 7416; 70 C.F.R. § 70.1(c). If the Department were to treat CO_2 as an unregulated pollutant while EPA determines the contrary, the Department would put both the PSD permit and the Louisiana SIP at risk.

One danger for this permit is that EPA may simply invalidate it – and stop construction of the Plant -- under Section 167 of the Act for failure to include CO_2 BACT limits. *See Alaska Dep't of Envtl. Conservation v. EPA*, 540 U.S. 461, 484-95 (2004) (upholding EPA's invalidation of state PSD permit because ―Congress . . . vested EPA with explicit and sweeping authority to enforce CAA 'requirements' relating to the construction and modification of sources under the PSD program, including BACT."). Although EPA's use of this power may be ―rare," it is justified where the state permitting agency has not based a BACT determination on reasoned analysis. *Id.* at 491 n. 14, 493-95.

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Second, EPA could object to a Title V permit that does not include BACT limits for carbon dioxide. 42 U.S.C. §§ 7661(d)(b)(3), 7661d(c). If EPA objects to a permit, it may not be used unless it is first revised to take the objection into account. *Id.* Third, the EPA could make a finding of SIP inadequacy and call for the state to revise the SIP. *See* 42 U.S.C. 7410(k)(5).

Accordingly, the Department should suspend permitting for the Plant while EPA considers whether carbon dioxide is "subject to regulation," and thus subject to BACT emissions limits. If the state finalizes the permit without a CO_2 limit, the Plant may soon find that it does not have a valid PSD permit under federal law.

B. If the Department Proceeds with the Permitting Process, it Must Require BACT Emissions Limits for Carbon Dioxide after Notice and Public Comment.

If the Department nevertheless chooses to act on this issue before EPA does, it should limit the Plant's CO_2 emissions after notice and public comment on a BACT analysis for carbon dioxide. Thus, even in the unlikely event that EPA determines that BACT is not required for CO_2, the state's interpretation would be *more* stringent than federal law. As such, the inconsistency would not put the state's SIP or PSD permits at risk. *See* 42 U.S.C. § 7416; 70 C.F.R. § 70.1(c). The Department should make this determination for the following reasons.

1. Carbon Dioxide Is Currently Regulated Under The Clean Air Act.

Commenters maintain that the plain language of the Act compels permitting agencies to impose BACT-based limits on CO_2 emissions. While in *Deseret* the EAB held that the plain language of the Act is not "so clear and unequivocal" as to mandate the conclusion that CO_2 is currently a "subject to regulation," the EAB did not reject, or even consider, a number of Sierra Club's arguments that the Act does in fact regulate carbon dioxide. *See Deseret*, at 26, 55 n.57. Moreover, it found that construing the Act to require BACT for CO_2 is not only plausible, but is also supported by the only regulatory history that speaks directly to the meaning of "subject to regulation." *Deseret*, Slip. Op. at 38-42. In any event, the EAB's decision is not the final word on whether the CO_2 is a regulated pollutant under the plain language of the Act. *See, e.g., Colorado Farm Bureau Fed'n v. United States Forest Serv.,* 220 F.3d 1171, 1173-74 (10th Cir. 2000) (action is not final unless "the action marks the consummation of the agency's decisionmaking process").

As discussed above, the EPA is highly likely to find on remand that the text of the Act does in fact mean that CO_2 is a regulated pollutant. Or, if the EPA decides the contrary, that decision would be appealable to the appropriate federal court. 42 U.S.C. § 7607(b). Accordingly, the question of whether CO_2 is "subject to regulation" under the plain language of the Act remains open. The following discussion explains why the Department can and should answer it in the affirmative.

a. Section 821

Section 821(a) of the Clean Air Act Amendments of 1990 directed EPA to promulgate regulations to require certain sources to monitor carbon dioxide emissions and report monitoring

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data to EPA. 42 U.S.C. § 7651k note. In 1993, EPA promulgated these regulations, which are set forth at 40 C.F.R. Part 75. The regulations generally require monitoring of carbon dioxide emissions through the installation, certification, operation and maintenance of a continuous emission monitoring system or an alternative method, 40 C.F.R. §§ 75.1(b), 75.10(a)(3); preparation and maintenance of a monitoring plan, *id.* § 75.33; maintenance of certain records, *id.* § 75.57; and reporting of certain information to EPA, including electronic quarterly reports of carbon dioxide emissions data, *id.* §§ 75.60 – 64. Section 75.5 of the federal regulations prohibits operation of an affected source in the absence of compliance with the substantive requirements of part 75, and provides that a violation of any requirement of part 75 is a violation of the Clean Air Act. Thus, carbon dioxide is currently regulated under Title IV of the Act. *See Buckley v. Valeo*, 424 U.S. 1, 66-67 (1976) (finding record-keeping and reporting requirements to be regulation of political speech).

Significantly, Congress used the same term – ~~"r~~egulation" – in sections 165(a)(4) and 821 of the Clean Air Act. In section 165 Congress expressly and unambiguously makes BACT a requirement for any pollutant ~~"s~~ubject to *regulation*," 42 U.S.C. § 7475(a)(4) (emphasis added), and in section 821 Congress requires EPA to establish ~~"r~~*egulations*" requiring monitoring, recordkeeping, and reporting for carbon dioxide emissions, *id.* § 7651k note (emphasis added). Basic tenets of statutory interpretation demand that these two provisions must be read consistently – ~~"r~~egulation" used in one section of the Act cannot be appropriately understood to mean something different than the same term used elsewhere.[4]

A more narrow reading of ~~"r~~egulation" for purposes of section 165(a)(4) of the Act to include only those measures that restrict emissions would be especially inappropriate, as the Act already includes terminology that is specifically intended to identify such requirements. In particular, 42 U.S.C. §§ 7602(k), 7651d(a)(1), and 7617(a)(7) establish and use the terms ~~"e~~mission limitation" and ~~"e~~mission standard" to refer to regulatory requirements that limit or restrict emissions. *See also* 42 U.S.C. § 7617(a)(5) (distinguishing between regulations that establish emission standards and ~~"o~~ther" regulations). Thus, if Congress had intended for BACT to apply only where a pollutant is subject to an emission limitation or emission standard, it would have done so expressly.

Notably, the only regulatory history that directly interprets the meaning of ~~"s~~ubject to regulation under this Act" supports the view that CO2 is subject to regulation by virtue of section 821 and its implementing regulations. The preamble to the 1978 PSD regulations states:

> Some questions have been raised regarding what ~~"s~~ubject to regulation under this Act" means relative to BACT determinations. The Administrator believes that the proposed interpretation published on November 3, 1977, is correct and is today being made final. As mentioned in the proposal, **"subject to regulation under this Act" means any pollutant regulated in Subchapter C of Title 40 of the Code of Federal Regulations** for any source type. This then includes * * *.

[4] *See Merrill Lynch v. Dabit*, 547 U.S. 71, 86 (2006).

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43 Fed. Reg. 26,388, 26,397 (June 19, 1978) (cited in *Deseret*, Slip Op. at 38-39)(emphasis added). The preamble proceeded to identify the general categories of pollutants then regulated in Subchapter C of Title 40. *Id.*

The regulations that implement section 821 by requiring monitoring and reporting of CO_2 emissions are located in Subchapter C of Title 40. As the EAB noted in *Deseret*, the 1993 rulemaking that added the section 821 regulations to Subchapter C did not withdraw this 1978 interpretation. *Deseret*, Slip Op. at 42. Thus the only existing EPA interpretation of the meaning of "subject to regulation" in section 165 of the Act reinforces the view that BACT is required for CO_2 emissions because CO_2 is subject to regulation under the Act.

b. Regulation of emissions from landfills

In addition to section 821 of the Act and its implementing regulatory requirements, greenhouse gases such as carbon dioxide and methane are also regulated as a component of landfill gases. EPA has promulgated emission guidelines and standards of performance for municipal solid waste (MSW) landfill emissions. 40 C.F.R. §§ 60.33c, 60.752. "MSW landfill emissions" are defined as "gas generated by the decomposition of organic waste deposited in an MSW landfill or derived from the evolution of organic compounds in the waste." 40 C.F.R. § 60.751. EPA has specifically identified carbon dioxide as one of the components of the regulated "MSW landfill emissions." *See* Air Emissions from Municipal Solid Waste Landfills – Background Information for Final Standards and Guidelines, U.S. EPA, EPA-453/R-94-021 (Dec. 1995), available at http://www.epa.gov/ttn/atw/landfill/landflpg.html (explaining "MSW landfill emissions, or [landfill gas], is composed of methane, carbon dioxide, and NMOC."). Thus, carbon dioxide is regulated through the landfill emission regulations at 40 C.F.R. Part 60 Subparts Cc, WWW. *See also* 56 Fed. Reg. 24468 (May 30, 1991) ("Today's notice designates air emissions from MSW landfills, hereafter referred to as 'MSW landfill emissions,' as the air pollutant to be controlled").

c. Regulation of carbon dioxide under state implementation plans

Finally, carbon dioxide is also regulated under various state implementation plans (SIPs), which in turn constitutes regulation under the Clean Air Act. Most significantly, EPA has now approved and promulgated a Delaware state implementation plan revision that sets limits on CO_2 emissions. Specifically, in a Federal Register notice that became effective on May 29, 2008, EPA promulgated its approval of CO_2 emission standards, operating requirements, record keeping and reporting requirements, and emissions certification, compliance and enforcement obligations for new and existing stationary electric generators in Delaware. *See* 73 Fed. Reg. 23,101. The control requirements approved and promulgated by EPA included a CO_2 emission standard of 1900 lbs/MWh for existing distributed generators, 1900 lbs/MWh for new distributed generators installed on or after January 1, 2008, and 1,650 lb/MWh for new distributed generators installed on or after January 1, 2012. *See* Delaware Department of Natural Resources and Environmental Control (DNREC), Regulation No. 1144: Control of Stationary Generator Emissions, §3.2; *see also* 73 Fed. Reg. at 23,102-103 (codifying approval in the Code of Federal Regulations at 40 C.F.R. § 52.420).

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In EPA's proposed and final rulemaking notices for the Delaware SIP revision, the Agency plainly stated that it was approving the SIP revision "under the Clean Air Act" (see 73 Fed. Reg. 11,845 (March 5, 2008)) and "in accordance with the Clean Air Act." *See* 73 Fed. Reg. at 23,101. EPA's action in approving the SIP revision made the control requirements and obligations part of the "applicable implementation plan" enforceable under the Clean Air Act. *See* 42 U.S.C. §7602(q).

Many Clean Air Act provisions authorize EPA enforcement of requirements and prohibitions under the "applicable implementation plan." *See, e.g.*, 42 U.S.C. § 7413(a)(1) (authorizing EPA Administrator to issue a compliance order, issue an administrative penalty, or bring civil action against the violating party); *id.* at (a)(2) (Administrator may enforce the "applicable implementation plan" if states fail to do so); *id*. at (b)(1) (requiring the Administrator to commence a civil action or assess and recover a civil penalty against the owner or operator of a source or facility that violates an "applicable implementation plan"). In addition, EPA's action makes the emission standards and limitations enforceable by a citizen suit under section 304 of the Clean Air Act. 42 U.S.C. § 7604.

The Supreme Court has made clear that the requirements under an EPA-approved state implementation plan are federally-enforceable obligations under the federal Clean Air Act:

> The language of the Clean Air Act plainly states that EPA may bring an action for penalties or injunctive relief whenever a person is in violation of any requirement of an "applicable implementation plan." § 113(b)(2), 42 U.S.C. § 7413(b)(2) (1982 ed.). There can be little or no doubt that the existing SIP remains the "applicable implementation plan" even after the State has submitted a proposed revision.

General Motors Corp. v. United States, 496 U.S. 530, 540 (1990).

Thus CO_2 is a pollutant subject to regulation under the Clean Air Act both because it is subject to monitoring and reporting requirements, and because it is subject to emissions limits.

In sum, section 165 of the Clean Air Act requires a BACT limit for "any pollutant subject to regulation" under the Act. 42 U.S.C. § 7475(a)(4). Accordingly, in light of *Massachusetts v. EPA* and the regulation of carbon dioxide under section 821, landfill gas regulations, and state implementation plans, a plain-language reading of the Act compels the conclusion that section 165 requires BACT limits for carbon dioxide emissions from coal-fired power plants under the PSD program.[5]

3. Carbon Dioxide Is Subject To Further Regulation under the Act.

[5] Although the EAB disagreed in *Deseret* with Sierra Club's argument that the plain language of the Clean Air Act compels a reading that carbon dioxide is a regulated pollutant, it did not identify anything in the Act that is inconsistent with Sierra Club's reading of section 821 as making carbon dioxide "subject to regulation."

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Carbon dioxide is also "subject to regulation," as that term is defined, under a number of the Clean Air Act's other provisions, including sections 111 and 202.

a. Pollutants Subject To Future-Enacted Regulation Are "Subject To Regulation"

Emissions of a pollutant need not be currently regulated for the pollutant to be "subject to" regulation under the Clean Air Act. "Subject to regulation" means "capable of being regulated" and is not limited to pollutants that are "currently regulated." The plain meaning of section 165(a)(4) extends not only to air pollutants for which there are regulatory requirements, but also to air pollutants for which EPA and the states *possess but have not exercised authority* to impose such requirements.

EPA has recognized the general principle that "[t]echnically, a pollutant is considered regulated once it is *subject to regulation* under the Act. A pollutant *need not be specifically regulated* by a section 111 or 112 standard to be considered regulated." 66 Fed. Reg. 59161, 59163 (Nov. 27, 2001) (citing 61 Fed. Reg. 38250, 38309 (July 23, 1996)) (emphasis added).

EPA has also previously interpreted the phrase "subject to" in the context of the Resource Conservation and Recovery Act (RCRA) and Clean Water Act as meaning "should" be regulated, as opposed to currently regulated:

> RCRA section 1004(27) excludes from the definition of solid waste "solid or dissolved materials in … industrial discharges which are point sources subject to permits under [section 402 of the Clean Water Act]." For the purposes of the RCRA program, EPA has consistently interpreted the language "point sources *subject to permits* under [section 402 of the Clean Water Act]" to mean point sources that *should have* a NPDES permit in place, whether in fact they do or not. Under EPA's interpretation of the "subject to" language, a facility that should, but does not, have the proper NPDES permit is in violation of the CWA, not RCRA.

Memo from Michael Shapiro and Lisa Friedman (OGC) to Waste Management Division Directors, Interpretation of Industrial Wastewater Discharge Exclusion from the Definition of Solid Waste at 2 (Feb. 17, 1995) (emphasis added). This interpretation of "subject to" is not limited to the context of environmental regulation. *See Kennedy v. Commonwealth Edison*, 410 F.3d 365, 371 (7th Cir. 2005) (holding that the phrase "subject to' does not require proof that an employer has [actually] reduced an employee's wages" under Fair Labor Standards Act, 29 U.S.C. § 213); *Klein v. Rush-Presbyterian – St. Luke's Medical Center*, 990 F.2d 279, 286 (7th Cir. 1993) (holding that the phrase "[s]ubject to reduction' does not mean that a reduction was actually made," under Fair Labor Standards Act).

b. Sections 111 And 202 Of The Act Require EPA To Promulgate Regulations Limiting Emissions Of Pollutants From New Stationary Sources And Motor Vehicles

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Section 111 of the Act requires EPA to promulgate regulations establishing standards of performance for emissions of ―air pollutants" from new stationary sources. 42 U.S.C. § 7411. Section 202 requires EPA to promulgate regulations establishing standards applicable to emissions of ―any air pollutant" from motor vehicles. 42 U.S.C. § 7521. Carbon dioxide is emitted from stationary sources and motor vehicles. Regulation under sections 111 and 202 is required where air pollution ―may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7411(b)(1)(A); 42 U.S.C. § 7521(a)(1). In *Massachusetts v. EPA*, the Court held that if EPA makes an endangerment finding for a pollutant, it must regulate emissions of the pollutant from new motor vehicles. 127 S. Ct. at 1462. The same analysis applies with equal force to section 111. Given this regulatory scheme and the Supreme Court's determination that EPA is authorized to regulate carbon dioxide and other greenhouse gases as ―pollutants" under the Act, carbon dioxide is unquestionably a pollutant subject to regulation under the Act.

EPA is not only authorized to establish emission limitations for carbon dioxide emissions under sections 202 and 111, but is required to do so because there is no question that emissions of those pollutants from motor vehicles, power plants and other sources ―may reasonably be anticipated to endanger the public health and welfare."[6] This standard, reflecting the precautionary nature of the Clean Air Act, does not require proof of actual harm. Congress directed that regulatory action taken pursuant to an endangerment finding would be designed to ―precede, and, optimally, prevent, the perceived threat." *Ethyl Corp. v. EPA*, 541 F.2d 1, 13 (D.C. Cir. 1976). EPA is not required to document ―proof of actual harm" as a prerequisite to regulation; rather, EPA is supposed to act where there is ―a significant risk of harm." *Id.* at 12-13. In *Ethyl Corp.*, noting the novelty of many human alterations of the environment, the Court of Appeals for the District of Columbia Circuit found:

> Sometimes, of course, relatively certain proof of danger or harm from such modifications can be readily found. But, more commonly, 'reasonable medical concerns' and theory long precede certainty. Yet the statutes – and common sense – demand regulatory action to prevent harm, even if the regulator is less than certain that harm is otherwise inevitable.

[6] Significantly, the Supreme Court in *Massachusetts v. EPA*, also held that, having received a request to regulate CO_2 under a particular statutory provision, EPA could not invoke extra-statutory factors to decide not to regulate or to avoid addressing the applicable regulatory criteria. In short, EPA may appropriately respond to the outstanding petitions for rulemaking only by actually addressing whether or not CO_2 endangers public health or welfare. 127 S. Ct. at 1462 (―[T]he use of the word ‗judgment' is not a roving license to ignore the statutory text. It is but a direction to exercise discretion within defined statutory limits."). In *Green Mountain Plymouth Dodge Jeep v. Crombie*, the United States District Court for the District of Vermont, relying on *Massachusetts v. EPA*, stressed the importance of controlling emissions of greenhouse gases, even where the sources at issue make only a relatively small contribution to the very large global problems presented by global warming. Case Nos. 2:05-cv-320 and -304, slip op. at 46-47, 93-94 and 234 (Sept. 12, 2007). The court rejected an automobile industry challenge to Vermont regulations establishing greenhouse gas emission standards for automobiles.

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Id. at 25.[7] The 1977 Clean Air Act Amendments confirmed and adopted the precautionary interpretation enunciated in *Ethyl Corp*., enacting special provisions, Pub. L. No. 95-95, § 401, 91 Stat. 790-91 (Aug. 7, 1977), designed to "apply this interpretation to all other sections of the act relating to public health protection." H.R. Rep. No. 294, 95th Cong., 1st Sess. 49 (1977); *accord*, *id.* at 51 (amendments are designed, *inter alia*, to "emphasize the precautionary or preventive purpose of the act (and, therefore, the Administrator's duty to assess risks rather than wait for proof of actual harm)"). Congress rejected the argument that, "unless conclusive proof of actual harm can be found based on the past occurrence of adverse effects, then the standards should remain unchanged," finding that this approach "ignores the commonsense reality that 'an ounce of prevention is worth a pound of cure.'" *Id.* at 127.

The precautionary nature of the Clean Air Act creates a low threshold for findings relating to the negative consequences of air pollution. Indeed, the Supreme Court analysis in *Massachusetts v. EPA*, addressing the petitioners' standing, outlines harms caused by global warming that are more than adequate to establish endangerment under the Clean Air Act. As discussed above, other sources similarly describe adverse impacts that clearly show that the endangerment criteria of the Act have been met, and that any official finding of such is little more than a formality.

Quite simply, there is no question that greenhouse gas emissions that contribute to global warming endanger public health and welfare. As a result, not only is carbon dioxide currently "subject to regulation" under the Act because of existing statutory authority to regulate, but EPA and the states have a statutory *obligation* to adopt regulations that establish emission limitations for carbon dioxide and other greenhouse gases pursuant to various provisions of the Act. Global warming's far-reaching and grave public health and welfare impacts, which are in large part attributable to carbon dioxide emissions from power plants, automobiles and other sources, compel EPA to exercise its authority under sections 111 and 202 of the Clean Air Act to regulate greenhouse gas emissions.

Thus, carbon dioxide is "subject to regulation under the Clean Air Act" both because EPA and the states currently have authority to regulate them as pollutants under the Act and because EPA and the states have an obligation to do so under particular provisions of the Act.

c. EPA Must Promulgate Additional Clean Air Act Regulations Governing Greenhouse Gases

In addition to regulation under section 111 and 202 of the Clean Air Act, the Consolidated Appropriations Act of 2008 requires EPA to use its existing authority under the Clean Air Act to establish regulations that require monitoring and reporting of greenhouse gases, including CO_2, across all sectors of the economy by June 2009. 2008 Consolidated

[7] *Accord*, *Industrial Union Dep't v. American Petroleum Institute*, 448 U.S. 607, 656 (1980) (plurality opinion) (agency need not support finding of significant risk "with anything approaching scientific certainty," but rather must have "some leeway where its findings must be made on the frontiers of scientific knowledge," and "is free to use conservative assumptions in interpreting the data," "risking error on the side of overprotection rather than underprotection").

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Appropriations Act (H.R. 2764, Public Law 110-161); *see* http://www.epa.gov/climatechange/emissions/ghgrulemaking.html.

EPA has no discretion regarding whether to promulgate these regulations and no endangerment finding is required. Because EPA must promulgate these Clean Air Act regulations governing carbon dioxide, it is subject to regulation under the Act and BACT limits are required.

4. Georgia Recently Affirmed the View that Carbon Dioxide is "Subject to Regulation" under the Act.

A Georgia court recently overturned the decision of a Georgia Department of Environmental Protection ALJ granting an air permit to a new facility because the agency had not performed a BACT analysis for $C0_2$.[8] The Georgia ruling overturned a state-issued air permit for the 1,200-megawatt Longleaf coal plant because "the permit contains no CO_2 emissions limits." *Id*. at 6. "There was no effort to identify, evaluate, or apply available technologies that would control CO_2 emissions, and the permit contains no CO_2 emission limits." *Id*. at 7. The judge cited the *Massachusetts v. EPA* 2007 Supreme Court decision that recognized carbon as a pollutant under the federal Clean Air Act and concluded that "there is no question that CO_2 is 'subject to regulation under the [Clean Air] Act.'" *Id*. at 7. Since CO_2 is "otherwise subject to regulation under the Act," a PSD permit could not issue for Longleaf without CO_2 emission limitations based on a BACT analysis. The Nucor air permit is invalid for the same reason.

C. Even if Carbon Dioxide Were Not Currently "Subject to Regulation", Regulation Controlling Carbon Dioxide Emissions Is Imminent.

Numerous levels of government are already taking action to address the climate crisis by setting targets for reducing greenhouse gas pollution. President-elect Obama made climate change a central issue in his campaign and is committed to implementing aggressive programs to stop global warming, including implementing a cap-and-trade program aimed to reduce greenhouse gases by 80% below 1990 levels by the year 2050.[9] At the same time, the next Congress will continue the carbon legislation work of its predecessors. It is widely anticipated that some form of federal carbon legislation will take effect well before the Nucor project becomes operational.[10] Indeed, yet another group of large corporations recently urged Congress to act quickly.[11] Louisiana lags behind this movement at its own peril.

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[8] *Friends of the Chattahoochee Inc. et al. vs. Dr. Carol Couch & Longleaf Energy Ass. LLC.*, 2008CV146398 (Fulton County, GA Jun. 30, 2008) (appeal pending).

[9] Brian Knowlton, *Obama Reaffirms Targets on Climate Change*, N.Y. Times, Nov. 18, 2008, *available at* http://www.nytimes.com/2008/11/19/us/politics/19climate.html. *See also* Barack Obama for President website, New Energy for America, *available at* http://my.barackobama.com/page/content/newenergy_more#emissions (last visited Nov. 17, 2008)

[10] *See, e.g.*, Zachary Coile, *Energy industry preparing for limits*, Seattlepi.com, August 28, 2006.

[11] *Big U.S. Corporations Urge Quick Cap and Trade Legislation*, Environment New Service (Nov. 19 2008), *at* http://www.ens-newswire.com/ens/nov2008/2008-11-19-091.asp.

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D. The BACT Analysis for Carbon Dioxide Must Consider All Feasible Control Technologies.

BACT requires a comprehensive analysis of all potentially available emission control measures, expressly including input changes (such as use of clean fuels), process and operational changes, and the use of add-on control technology. Additionally, it requires that a new source comply with emission limits that correspond to the most effective control measures available, unless the source can affirmatively demonstrate that use of the most effective control measures would be technologically or economically infeasible.

BACT is defined under federal law as follows:

> an emissions limitation (including a visible emissions standard) based on the maximum degree of reduction for each pollutant subject to regulation under the [Clean Air] 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.*

See 40 C.F.R. § 52.21(b)(12) (emphasis added); *see also* CAA§169(3), 42 U.S.C. §7479(3).

There are at least four readily-available options for limiting a facility's greenhouse gas emissions that could and should be considered in a top-down BACT analysis. These options include: 1) use of natural gas instead of coal, 2) use of rotary hearth furnaces with coal, 3) mandating carbon capture and sequestration, 4) modifying combustion conditions, and 5) using post-combustion controls.

1. Natural Gas

There are more than 60 facilities in 21 countries currently producing high purity iron products from natural gas, rather than coal. The Midrex Technologies Website describes the technologies used in the process. *See* http://www.midrex.com/handler.cfm?cat_id=87. This production process reduces both carbon dioxide emissions and energy consumption. *See* http://www.midrex.com/handler.cfm?cat_id=105. The Department should therefore consider it in the BACT analysis.

2. Rotary Hearth Furnaces

The United States Department of Energy has advocated a significantly cleaner method of producing pig iron from coal than that proposed by Nucor, which should be considered in the CO_2 BACT analysis, as well as the BACT analysis for other pollutants. *See* U.S. Department of Energy, *Steel Success Story*, *at* http://www1.eere.energy.gov/industry/steel/pdfs/mnp_success.pdf. The rotary hearth furnace

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consists of a flat, refractory hearth rotating inside a stationary, circular tunnel kiln. Inside the furnace, direct reduction of iron ore or iron-bearing by-products occurs, using coal (or, as in the Midrex process, natural gas) as the reductant. Reduction, melting, and slag removal occur in only 10 minutes as compared to hours for the blast furnace process described in the draft permit. *Id.* Carbon dioxide emissions can be reduced by more than 40 percent compared to the blast furnace process. *Id.*; Ishikawa et al., Rotary Hearth Furnace Technologies for Iron Ore and Recycling Applications, *Archives of Metallurgy and Materials*, Vol. 2, Iss. 3 (2008), at Figure 9 (showing reduced carbon dioxide emissions and energy consumption using rotary hearth furnace technology).

The rotary hearth furnace method would not only be cleaner; it would also lower transportation costs and produce a higher value product. Jack Lyne, *Minnesota Pilot Plant Could Alter Steel-Making Equation, Add Thousands of Jobs*, Site Selection (Nov. 11, 2002), *at* http://www.siteselection.com/ssinsider/snapshot/sf021111.htm.

As mentioned above, the Department should particularly consider the rotary hearth furnace process developed by Midrex Technologies, which uses natural gas as a reductant instead of coal. However, if the Department rejects this technology, it must also consider rotary hearth furnaces in general.

3. Carbon Capture and Sequestration

The EPA, in comments on a draft EIS for the proposed White Pine plant in Nevada, directed the federal Bureau of Land Management (BLM) to ~~"~~discuss carbon capture and sequestration and other means of capturing and storing carbon dioxide as a component of the proposed alternatives."[12] The EPA's determination that it is appropriate for the BLM to consider carbon capture and sequestration and other means of carbon dioxide storage at the White Pine plant is a reasonable indication that carbon capture and sequestration (and other means of storing carbon) could be considered in the top-down BACT process for the Clean Air Act PSD permit.

E. <u>The Department Should Conduct An Alternatives Analysis That Considers Global Warming Impacts</u>.

Regardless of whether carbon dioxide is currently a pollutant subject to regulation under the Clean Air Act, the Department, as the delegated permitting authority for the Plant, has the authority to require evaluation of greenhouse gas emissions and establish appropriate permit conditions or otherwise address these emissions. EPA's Office of Air and Radiation, Office of General Counsel, and the Environmental Appeals Board have expressed the opinion that permitting authorities have broad discretion to consider alternatives, conduct or require analyses, and impose permit conditions to address issues under Clean Air Act section 165(a)(2) beyond the required BACT analysis. *See In re Prairie State*, PSD Appeal 05-05, 12 E.A.D. __ (Aug. 24, 2006); *In re Knauf Fiber Glass*, 8 E.A.D. 1212, (EAB 1999); *In re Hillman Power*, 10 E.A.D.

[12] EPA Comment on the Draft EIS for the White Pine Energy Station at 14 (Exhibit 3).

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673, 692 (EAB 2002).[13] The EAB has consistently held that states have broad discretion to consider various options, including, among other things, broad discretion to independently evaluate options and alternatives, and to adopt conditions or requirements that they deem appropriate.

EPA has recognized that ―a PSD permitting authority still has an obligation under section 165(a)(2) to consider and respond to relevant public comments on alternatives to the source," and that a ―PSD permitting authority *has discretion under the Clean Air Act to modify the PSD permit based on comments raising alternatives* or other appropriate considerations." BRIEF OF THE EPA OFFICE OF AIR AND RADIATION AND REGION V, *In re Prairie State*, PSD Appeal 05-05, 12 E.A.D. __ (EAB, Aug. 24, 2006). Moreover, the EAB has made clear that a permitting authority has discretion to modify a permit based on consideration of ―alternatives" whether or not the commenters raise the issues:

> Indeed, the permit issuer is not required to wait until an ―alternative" is suggested in the public comments before the permit issuer may exercise the discretion to consider the alternative. Instead, the permit issuer *may identify an alternative on its own*. This interpretation of the authority conferred by CAA section 165(a)(2)'s reference to ―alternatives" is consistent with the Agency's longstanding policy that, . . . ―this is an aspect of the PSD permitting process in which *states have the discretion to engage in a broader analysis if they so desire*."

See In re Prairie State, PSD Appeal 05-05 (Aug. 24, 2006) (quoting the NSR Workshop Manual at B.13).

In fact, under this authority, a permitting authority can engage in a wide-ranging exploration of options. Under this authority the Department clearly has the discretion to require specific evaluation and control of carbon dioxide emissions, and/or to require other action to mitigate potential global warming impacts. Failure to do so in this case is a material breach of the agency's obligations to the people of Louisiana and the United States.

To date, there has been no specific assessment of available measures or options to reduce the expected greenhouse gas emissions from the Plant. The Department could require any number of possible actions to address the carbon dioxide footprint of the proposed plant. Options include requiring construction of a more efficient facility, requiring the purchase of carbon dioxide offsets, or some combination of these approaches or others.

Among the alternatives the Department should consider under § 165(a)(2) of the Act is the ―no-build" option, under which the Department would deny the PSD permit based on policy

[13] This discretion even extends to requiring specific additional BACT analysis. In *Knauf*, the Board explained that although ―s[]ubstitution of a gas-fired power plant for a planned coal-fired plant would amount to redefining the source . . . redefinition of the source is not always prohibited. This is a matter for the *permitting authority's discretion*. *The permitting authority may require consideration of alternative production processes in the BACT analysis when appropriate*. *See* NSR Manual at B.13-B.14; *Old Dominion*, 3 E.A.D. at 793 (permit issuer has discretion ―to consider clean fuels other than those proposed by the permit applicant.")." *Knauf*, 8 E.A.D. at 136 (emphasis added).

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considerations related to carbon dioxide and other harmful emissions.[14] The consideration of such options should be subject to a process of public discussion.

In combination with one or all of the above alternatives, Nucor could counteract some of the enormous carbon dioxide emissions from the Plant through offsets. Offsets can be an essential component of reducing carbon dioxide emissions because they can be implemented quickly for a relatively low cost. There are a number of ways in which Nucor could create offsets, including programs to increase the energy efficiency in buildings, factories, or transportation, generating electricity from renewable energy sources like wind or solar, shutting down older and less efficient plants, and capturing carbon dioxide in forests and agricultural soils. Another advantage of offsets is that they often result in other environmental, social, and economic co-benefits such as reductions in other dangerous pollutants, restoration of degraded lands, improvement in watersheds and water quality, creation of jobs and lower prices for electricity and gasoline.

F. The Department's Duty as Public Trustee Requires it to Regulate Greenhouse Gas Emissions from the Plant.

Even aside from its obligation under the federal Clean Air Act the Department has the duty as public trustee of the environment and agency in charge of air regulations in Louisiana to regulate greenhouse gases. As explained below, carbon dioxide is an air contaminant under Louisiana law, and state law prohibits Nucor from releasing it into the atmosphere without a permit from the Department that controls that release. Coastal Louisiana is ground zero for global warming—it is already feeling the effects of stronger storms, rising sea levels, and coastal erosion. The Department must discharge its duty under the state constitution and state law to address the harmful effects of carbon dioxide and other greenhouse gases.

1. Climate Crisis Impact on Louisiana.

According to an interagency group comprised of the Louisiana Department of Natural Resources and several federal agencies, "Coastal Louisiana is more vulnerable to the effects of global climate change than any other region in the United States. It's low elevation, high rate of subsidence and rapid loss of wetlands expose this area to the worst consequences of climatic change — a rising Gulf, possibly stronger storms, unpredictable rainfall and warmer weather." [15]

[14] The Board has said:

> We are unable to reconcile the view that consideration of need for a facility is outside the scope of section 165(a)(2) of the Clean Air Act with the text of the statute and prior decisions. The statutory text's plain meaning does not lend itself to excluding public comments that request consideration of the "no build" alternative to address air quality concerns. Moreover, the Board's and Administrator's prior decisions would appear to recognize that consideration of "need" is an appropriate topic under section 165(a)(2). *See In re EcoEléctrica*, LP, 7 E.A.D. 56, 74 (EAB 1997)

In re Prairie State, PSD Appeal 05-05, 12 E.A.D. __ (EAB Aug. 24 ,2005).

[15] LaCoast.gov at http://www.lacoast.gov/WaterMarks/2003-02/4threat/index.htm.

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Indeed, according to the Union of Concerned Scientists, "[t]here is already evidence of a warming and changing climate in [Louisiana]."[16]

Louisiana's coastal wetlands make up 40 percent of the total coastal wetlands in the lower 48 states.[17] These wetlands offer critical habitat for migratory birds, fish, and other species, act as speed bumps for advancing hurricanes, and buffer uplands from storm surges. However, these wetlands are disappearing at an alarming rate of 40 square miles a year.[18] In addition, "[r]ising sea levels will magnify the tidal surges, further eroding beaches and flooding interior marshes with salt water."[19]

The federal government and Louisiana have been developing plans and implementing projects to restore Coastal Louisiana for several years. In fact, Governor Bobby Jindal recently announced plans for more than $1 billion in coastal protection and restoration projects in Louisiana. However, while "massive efforts are already underway to restore the state's precious coastal wetlands, global warming threatens to undermine these efforts and intensify the existing threats to this valuable ecosystem."

Projects like the Nucor plant, which will dump millions of additional tons of carbon dioxide into the air, stand at odds with plans to restore Louisiana's coast and curb global warming. The Department should consider the impacts of the Plant's carbon dioxide emissions on Louisiana's environment and citizens. By ignoring the Plant's carbon dioxide emissions, the Department violates its duty as public trustee of the environment and its charge under state statute to regulate these emissions now.

Although Louisiana is more vulnerable to climate change effects than anywhere else in the country, it lags behind its sister states in addressing greenhouse gas emissions. For example, California has enacted the landmark "Global Warming Solutions Act of 2006," which seeks to reduce greenhouse gas emissions to 80 percent below 1990 levels by 2050. California and Washington have both adopted carbon dioxide emission limitations of 1100 pounds per megawatt-hour for power plants. Montana recently adopted a minimum sequestration mandate, providing that new coal plants must capture and sequester a minimum of 50% of the carbon dioxide produced. The Regional Greenhouse Gas Initiative – a cooperative effort by ten Northeastern and Mid-Atlantic states to reduce carbon dioxide emissions by 10% by 2020 through the implementation of a multi-state cap-and-trade program – is expected to reduce carbon dioxide emissions by 12 million tons per year.

2. The Department Has The Public Trustee Duty and Statutory Obligation To Address Greenhouse Gas Emissions from the Nucor Plant Before Issuing Any Air Permits.

Although the proposed project is certain to result in large emissions of carbon dioxide and other greenhouse gases, the draft permits fail to disclose the amount or to address these

[16] http://www.ucsusa.org/gulf/gcstatelou_wet.html.
[17] *Id.*
[18] *Id.*
[19] *Id.*

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emissions. Based on the amount of coal being processed, and standard EPA emissions factors for coal combustion, the coke oven batteries at the plant will emit approximately 9.58 million tons of CO_2 annually.[20] This amount is more than the Big Cajun I and II power plants combined. And yet it is conservative. For example, it does not include emissions from the calcining of calciferous materials in fluxing agents, which will also contribute substantial amounts of CO_2 to the atmosphere. Nor does it include emissions of other types of greenhouse gases, such as methane or nitrous oxide. The Department should, at a minimum, renotice a draft permit that includes accurate estimates of the greenhouse gases likely to be produced by the Plant, and provide an opportunity for public comment.

The Department failed to require an emission limitation or any other design, equipment, work practice or operational standards for carbon dioxide. This failure to address carbon dioxide and other greenhouse gas emissions for a new, massive, and long-lived source of greenhouse gas pollution is contrary to state law, Clean Air Act requirements, case law, and federal and state regulations. Therefore, the Department must, at a minimum, revise the draft air permits to address greenhouse gas emissions and provide an opportunity for public comment on the revised permit.

a. The Department's Duty as Public Trustee Requires it to Regulate Greenhouse Gas Emissions from the Plant.

The Louisiana Constitution mandates that ―t[]he natural resources of the state, including air and water, and the healthful, scenic, historic, and esthetic quality of the environment shall be protected, conserved and replenished insofar as possible and consistent with the health, safety, and welfare of the people."[21] According to state statute, the Department is the public trustee with the duty to protect Louisiana's air.[22]

As the Louisiana Supreme Court pointed out in a landmark environmental decision, the Department's ―role as the representative of the public interest does not permit it to act as an umpire passively calling balls and strikes for adversaries appearing before it; the rights of the public must receive active and affirmative protection at the hands of the [department]." *Save Ourselves, Inc. v. La. Envtl. Control Com'n*, 452 So.2d 1152, 1157 (La. 1984). Indeed, the Department has the affirmative duty to analyze the Plant, including the effects of its carbon dioxide and other greenhouse gas emissions to determine whether:

(1) Potential and real adverse environmental effects of the proposed project have been avoided to the maximum extent possible;

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[20] *See* AP-42 Volume 1, Chapter 1, p. 1-1-42, Table 1.1-20, *at* http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s01.pdf; and Nucor Application, Vol. 1 at 81-82.

[21] La. Const. art. IX § 1.

[22] La. Rev. Stat. § 30:2014.A.4 (―The [LDEQ] secretary shall act as the primary public trustee of the environment, and shall consider and follow the will and intent of the Constitution of Louisiana and Louisiana statutory law in making any determination relative to the granting or denying of permits, licenses, registrations, variances, or compliance schedules authorized by [the Louisiana Environmental Quality Act].").

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(2) A cost benefit analysis of the environment impact costs balanced against the social and economic benefits of the project demonstrate that the latter outweighs the former; and

(3) There are alternative projects or alternative sites or mitigating measures which would offer more protection to the environment than the proposed project without unduly curtailing non-environmental benefits to the extent applicable.

In re Rubicon, Inc., 95-0108 (La. App. 1 Cir. 2/14/96) 670 So. 2d 475, 483 (articulating the holding in *Save Ourselves, Inc.* as the above three-part test).

In Kansas, where similar standards apply, the Secretary of the Kansas Department of Health and Environment denied a permit application to build two new coal-fired power plants because of the greenhouse gases they would have produced. The Secretary made his decision pursuant to a statutory provision authorizing him to take action to protect the health of persons or the environment where the emission of air pollution presents a substantial endangerment to the health of persons or the environment.[23] Kansas Governor Kathleen Sebelius defended this decision by vetoing legislation that would have permitted the power plants and stripped the state agency of the power to deny such permits in the future if they held utilities to standards stricter than those in the federal Clean Air Act.[24]

As in Kansas, the Department must abide by its public trustee duty and postpone finalizing the air permits for the Plant until it has reviewed the project as a large new source of carbon dioxide—a potent greenhouse gas agent that is injurious to human, plant, and animal life.

b. Louisiana Law Requires The Department To Regulate Greenhouse Gases.

In addition to the Department's constitutional mandate as public trustee to consider the harmful effects of carbon dioxide emissions, Louisiana lawmakers gave the Department the explicit duty to regulate carbon dioxide and other greenhouse gases. Louisiana statute requires the Department to "develop permitting procedures and regulations conforming to applicable state and federal laws, and to require and issue permits, licenses, variances, or compliance schedules *for all sources of air contaminants within the state of Louisiana*." La. R.S. § 30:2054.B(2)(a) (emphasis added). State statute defines "air contaminant" as "particulate matter, dust, fumes, *gas*, mist, smoke, or vapor, or any combination thereof *produced by other than natural processes*." La. R.S. § 30:2053(1) (emphasis added). Therefore, state law requires the Department to regulate carbon dioxide from sources such as the Nucor plant. Nowhere in Louisiana law does it say the Department may defer efforts to regulate sources of air

[23] *See* Kansas Department of Health and Environment, *KDHE Denies Sunflower Electric Air Quality Permit*, October 18, 2007, *at* http://www.kdheks.gov/news/web_archives/2007/10182007a.htm; *see also,* Paul J. Morrison, Kansas Attorney General, ATTORNEY GENERAL OPINION NO. 2007-31, September 24, 2007.

[24] Office of the Governor, Press Release, March 21, 2008, *at* http://www.governor.ks.gov/news/NewsRelease/2008/nr-08-0321a.htm.

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contaminants until such time as the federal government takes action. Consequently, should the Department decide to issue air permits for the Nucor plant after conducting its analysis as mandated by the Louisiana Constitution, it must incorporate all applicable requirements for carbon dioxide controls into the Nucor permits.

Furthermore, Nucor itself will violate state law if it fails to obtain permits that regulate its carbon dioxide emissions from the Plant. The Louisiana Air Control Law states, "No person shall conduct any activity which results in the discharge of air contaminants without the appropriate permit or license…." La. R.S. § 30:2055. The Louisiana Supreme Court has upheld the enforcement provisions of the Louisiana Air Control Law, R.S. §§ 30:2051-2065, as constitutional and not vague. *State v. Hair*, 784 So. 2d 1269 (La. 2001). Therefore, if Nucor emits unpermitted carbon dioxide emissions, it will violate state law and be subject to a state or citizen enforcement action under the Louisiana Environmental Quality Act.

G. Conclusion

In conclusion, there are a multitude of legal, practical, and moral reasons why the Department must not move ahead with permitting the Plant without thoroughly addressing greenhouse gases.

V. THE DEPARTMENT MUST REJECT THE DRAFT PSD PERMIT BECAUSE IT FAILS TO PROVIDE A BACT ANALYSIS AND SET A BACT EMISSION LIMIT FOR $PM_{2.5}$.

A. The Plant's $PM_{2.5}$ Emissions Pose A Threat To Human Health And the Environment.

$PM_{2.5}$ (sometimes referred to as fine particulate matter) is the smallest and most dangerous category of particulate matter by the Clean Air Act and its Amendments. These particles are small enough to be extremely invasive and to cause serious respiratory illness in humans. Risk to human health and welfare caused by fine particulate matter is so great that in 2006 the US EPA was prompted to revise its 1997 National Ambient Air Quality Standard (NAAQS) for $PM_{2.5}$ to a level that is nearly twice as stringent as the 1997 standard.

Very fine particles classified as $PM_{2.5}$ are "produced chiefly by combustion processes and by atmospheric reactions of various gaseous pollutants," and they "can remain suspended in the atmosphere for days to weeks and be transported many thousands of kilometers."[25] Widespread dispersion of $PM_{2.5}$ poses a major human health threat because these particles "contain[] microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems," in both the human respiratory and cardio-vascular systems.[26]

[25] National Ambient Air Quality Standards for Particulate Matter; Proposed Rule, 71 Fed. Reg. 2,619, 2,625 (Jan. 17, 2006).
[26] EPA, Particulate Matter, "Health and Welfare," http://www.epa.gov/oar/particlepollution/health.html (last checked October 18, 2008)

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Even short-term exposure to $PM_{2.5}$ causes asthma (especially in children), other respiratory illnesses, heart attacks, and premature death (especially in people with heart or lung disease).[27]

Fine particulate matter also causes serious environmental effects, ranging from lowered visibility and regional haze, to long range environmental degradation of water, soil and ecosystem resources. *See* Environmental Protection Agency, Particulate Matter—Health Environment.[28] Because of their size, fine particulates can travel in the air over long distances, causing widespread environmental and health effects to areas remote from the emission source – including other states.

B. The National Ambient Air Quality Standards For $PM_{2.5}$.

The magnitude of the human health threat posed by $PM_{2.5}$ recently prompted EPA to strengthen federal regulation of $PM_{2.5}$ under the Clean Air Act. In 1997, EPA set primary health-based National Ambient Air Quality Standards for $PM_{2.5}$. However, by 2005, many newly completed studies on $PM_{2.5}$ -related sickness and mortality had convinced staff scientists at EPA that "thousands of premature deaths" and "similarly substantial numbers of incidences of hospital admissions, emergency room visits, aggravation of asthma and other respiratory symptoms, and increased cardiac-related risk" would occur nationally even when the 1997 $PM_{2.5}$ NAAQS were met.[29] In 2006, EPA therefore revised the 24-hour NAAQS for $PM_{2.5}$ to be nearly twice as stringent as the original 1997 NAAQS.[30]

C. The Clean Air Act BACT Requirements Apply to $PM_{2.5}$ Emissions From the Plant.

$PM_{2.5}$ is a pollutant for which NAAQS have been established and subsequently revised in response to severe and well-documented public health concerns. As such, $PM_{2.5}$ is indisputably a "pollutant subject to regulation under th[e] CAA." 42 U.S.C. § 7475(a)(4); see also 40 C.F.R. 52.21(b)(50) (expressly defining regulated pollutants for purposes of the Prevention of Significant Deterioration ("PSD") program to include "[a]ny pollutant for which a national ambient air quality standard has been promulgated").

Accordingly, EPA has acknowledged that "[t]he obligation to implement PSD is triggered upon the effective date of the NAAQS."[31] Indeed, EPA is proposing to rely on BACT emission limits to help achieve attainment of the $PM_{2.5}$ NAAQS across the country.[32]

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[27] See id.; see also 71 Fed. Reg. at 2,627-49 (reviewing extensive scientific literature documenting health problems caused by PM2.5 exposure); National Ambient Air Quality Standards for Particulate Matter, Final Rule, 71 Fed. Reg. 6,144, 6,151-52 (Oct. 17, 2006) (same).

[28] EPA, Particulate Matter: Health and Environment, January 17, 2008.

[29] 71 Fed. Reg. at 2,643.

[30] See 71 Fed. Reg. 6,144 (changing the 24-hour PM2.5 standard from 65 micrograms per cubic meter ("µg/m3") to 35 µg/m3).

[31] Rule to Implement the Fine Particle National Ambient Air Quality Standards, Notice of Proposed Rulemaking, 70 Fed. Reg. 65,984, 66,043 (Nov. 1, 2005).

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Nevertheless, the proposed air quality permit for the Plant contains no BACT analysis or limitation for the facility's $PM_{2.5}$ emissions. *See* Statement of Basis. As explained in the attached decision of the Montana Board of Environmental Review regarding the proposed Highwood Generating Station in Central Montana, the Clean Air Act requires permitting authorities to establish BACT-determined emissions limits specifically for emissions of $PM_{2.5}$. To comply with clear requirements of the Clean Air Act, the Department must require a BACT analysis for $PM_{2.5}$ and incorporate BACT-determined $PM_{2.5}$ emissions limits into the permit for the Plant. In addition, to ensure meaningful opportunity for public participation, the Department must make a subsequent $PM_{2.5}$ BACT analysis available for public review before any final air quality permit issues.

D. A PM_{10} Analysis Does Not Suffice for $PM_{2.5}$

Louisiana is a "SIP-approved state" for the purposes of PSD. The Department and Nucor, however, have completely ignored $PM_{2.5}$ as a PSD-regulated pollutant**.** Specifically, the permit application analysis does not even quantify $PM_{2.5}$ nor does it identify the Plant as a source of "significant" emissions either for direct $PM_{2.5}$ or by virtue of "significance thresholds" for its precursors NO_X, SO_2, and VOC. The Statement of Basis does not even make mention of the intent to use PM_{10} as a surrogate for $PM_{2.5}$ nor does it compare PM_{10} emission rates to the 24-hr and annual $PM_{2.5}$ NAAQS.

Use of PM_{10} to calculate $PM_{2.5}$ would not suffice because the modeled PM_{10} emissions, and would-be modeled $PM_{2.5}$ emissions, are severely underestimated by not including the condensable portion of PM as required by Louisiana air regulations. They do not account for the secondary formation due to chemical conversion of precursors such as NOx and SO_2. Condensable PM and secondary chemical conversion may double the $PM_{2.5}$ impacts modeled with filterable PM alone. The modeled impacts do not demonstrate that there is no adverse impact to the NAAQS as indicated in the statement of basis and the draft permit.

According to the analysis contained in the Memorandum from Alexander Sagady & Assoc. to EPA Region 6 (Nov. 18, 2008), attached as Exhibit 2, the Plant's emissions will cause an increase in the ambient $PM_{2.5}$ air pollution over pre-existing background concentrations leading to violations of $PM_{2.5}$ NAAQS violations. Since this draft PSD permit authorizes emission that would certainly interfere with attainment and maintenance of the $PM_{2.5}$ NAAQS, the Department should deny the permit because it would violate 42 U.S.C. § 7475(a)(3), 40 C.F.R. § 52.21(d)(2); 40 C.F.R. § 52.21(k), LAC 33:III.509.D and LAC 33:III.509.K.

VI. THE DEPARTMENT MUST REQUIRE NUCOR TO CONSIDER FUGITIVE SOURCES.

The Louisiana SIP requires the Department to comply with 40 C.F.R. Part 51, Appendix W (*see* LAC 33:III.509.L). Section 5.2.2(d) and 8.1.1 of Appendix W require use of fugitive

[32] See Prevention of Significant Deterioration (PSD) for Particulate Matter Less Than 2.5 Micrometers (PM2.5) Increments, Significant Impact Levels (SIL), and Significant Monitoring Concentrations (SMC), Proposed Rule, 72 Fed. Reg. 54,112 (September 21, 2007).

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emissions in air quality models through use of area and volume sources to describe fugitive emission. The 1990 New Source Review Workshop Manual, Prevention of Significant Deterioration and Nonattainment Area Permitting assumes that fugitive emissions of PM_{10} will be included in all air quality impact analyses. *See* § II.B.3.

The Department approved an air quality modeling protocol submitted by Nucor that allowed the facility's air quality modeling demonstration to exclude all fugitive emissions from Nucor from air quality modeling demonstration requirements. As such, the Department failed to properly apply PSD program requirements and this mistake will cause an understatement of PM_{10} ambient air quality impacts from the Plant.

The Department must therefore find Nucor's air quality modeling demonstration unacceptable and its application incomplete.

VII. THE PROPOSED PERMITS UNLAWFULLY EXCLUDE STARTUP, SHUTDOWN, AND MALFUNCTION PERIODS FROM EMISSIONS LIMITS.

Startup and shutdown periods are considered part of normal operation by EPA for BACT analysis.[33] BACT applies for all normal operating time periods. Although a different numerical value or different averaging time may apply during these periods as BACT, they should not be excluded from BACT.

The draft permit effectively creates an illegal blanket exception to BACT requirements for periods of startup, shutdown, and malfunction. *See* Specific Requirements (exempts certain compliance requirements for emission limitations, work practice standards, and operational maintenance requirements "during periods of startup, shutdown, and malfunction as defined in 40 CFR 63.2). "BACT requirements cannot be waived or otherwise ignored during periods of startup and shutdown." *In re Tallmadge Generating Station,* PSD Appeal No. 12-12, at 24 (E.A.B. 2003). PSD permits "may not contain blanket exemptions allowing emissions in excess of BACT limits during startup and shutdown." *Id*. at 25. Setting a separate emissions limit during SSM periods requires an on-the-record determination "of the specific reasons for conclusion of infeasibility" of BACT limit compliance. *Id.* at 27. This discussion must include a description of "design, control, methodological, or other changes [that] are appropriate for inclusion in the permit to minimize the authorized excess emissions during startup and shutdown." *Id.* PSD permits may impose separate emissions requirements during times of SSM, but they may not completely eliminate emissions requirements.

Additionally, the Department must explain and correct the maximum pound per hour emission limit for SO_2 for the Coke Battery Process Area (RLP 0012 cok-211) which is more than the tons per year SO_2 emission limit for the same point. *See* Emission Rates for Criteria Pollutants, showing 1392.11 SO_2 max lb/hr and 1342.62 tons/yr for Coke Battery Process Area.

VIII. THE PROPOSED PERMITS AND THE DEPARTMENT'S ACTIONS CONSTITUTE ENVIRONMENTAL *IN*JUSTICE.

[33] "Policy on Excess Emission During Startup, Shutdown, Maintenance, and Malfunction" from Kathleen M. Bennett (Sept. 28, 1982 and Feb. 15, 1983).

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The Department is required to carry out its responsibilities in a nondiscriminatory manner in accordance with the requirements of Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. §§ 2000d to 2000d-7 (Title VI), EPA's implementing regulations at 40 C.F.R. Part 7, and the Agreement Between The Louisiana Department of Environmental Quality and the United State Environmental Protection Agency (Jan. 18, 2005). The Department has violated the basic tenet of environmental justice by failing to require Nucor to republish its public notice so that it actually puts the people living near the proposed site on notice of the Plant and the associated pollutants. As discussed above, Nucor's notice fails to do this. It provides no notice at all. The Department has violated Title VI, 40 C.F.R. Part 7, and its Agreement with EPA by allowing this permit proceeding to continue without requiring notice to the affected community (largely African-American). The Department cannot begin to comply with its responsibilities to ensure environmental justice unless it requires Nucor to republish a valid notice and allow a new opportunity for a hearing and public comment.

In addition, the Department must take into consideration cumulative adverse health and environmental impacts on the affected community from the multiple pollution sources in the area when making its permit decisions. The Department must detail its analysis and reasoning on this issue and take into consideration any findings of the Mississippi River Corridor Task Force (established by Executive Order MJF 98-01). Furthermore, since the proposed site for the Plant encompasses the same site identified by Shintech for its PVC facility, the Department must update and consider the demographic analysis of the area compiled by EPA when EPA investigated a complaint against the Department for violating Title VI and 40 C.F.R. Part 7. *See* Title VI Admin. Complaint Re: Louisiana Department of Environmental Quality, Permit for Proposed Shintech Facility, Summary Documentation of Draft Revised Demographic Analysis (April 1998), attached as Exhibit 5.

CONCLUSION

For the reasons set forth above, we ask the Department to deny the proposed PSD permit and proposed Title V permit for Nucor's planned Plant. If you have any questions or would like any further information, do not hesitate to contact us.

Commenters reserve the right to supplement these comments and rely on comments submitted by others in this or any future proceeding regarding the proposed permits.

Sincerely,

Corinne Van Dalen, Staff Attorney
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6329 Freret Street
New Orleans, Louisiana 70118

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Phone (504) 865-8814
Fax (504) 862-8721
On behalf of Louisiana Environmental Action Network, Sierra Club Delta Chapter, and O'Neil Couvillion.

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Exibit 1

TULANE ENVIRONMENTAL LAW CLINIC

November 17, 2008

VIA Email and U.S. Mail
Ms. Soumaya Ghosn
Louisiana Department of Environmental Quality
P.O. Box 4313
Baton Rouge, LA 70821
Soumaya.ghosn@la.gov

Re: **Notice of Insufficient NUCOR Public Notice**
Consolidated Environmental Management, Inc., Nucor Steel Louisiana Facility
AI No. 157847; Permit Nos. 2560-00281-V0 and PSD-LA-740
Activity No. PER20080001 and PER20080002

Dear Ms. Ghosn,

I am writing on behalf of Louisiana Environmental Action Network and Sierra Club Delta Chapter to notify you that the public notice issued on the proposed air permits for Consolidated Environmental Management, Inc., Nucor Steel Louisiana Facility (~~"~~Nucor") is legally and substantially deficient and inaccurate. For that reason, which I discuss in more detail below, the Louisiana Department of Environmental Quality should require Nucor to re-publish its notice on these permits in a manner that complies with the applicable laws.

Louisiana regulation requires Nucor to place a notice of its initial Part 70 air permit in a local newspaper and in the official state journal. LAC 33:III.531. The regulation provides: ~~"~~Such advertisement *shall* identify the name and *physical location* of the affected facility." Id. (emphasis added). However, the Nucor public notice fails to identify the physical location of the proposed facility. See Nucor Public Notice, attached as Exhibit A. Rather, the public notice describes a general area over 25 square miles in size as follows:

> ~~"~~The proposed facility is to be located on the south side of Highway LA-3125 and east of Highway, LA 70, Convent, St. James Parish."

Id.

First, Nucor's description is inaccurate. The company plans to build its facility in Romeville, not Convent, yet Nucor fails to mention this in its notice. See Nucor Pt. 70/PSD Application (5/8/08), vol. 1 of 3, figures 7-1 and 7-5, attached as Exhibit B and compare with maps of the area, attached as Exhibit C. The proposed site is located between Helvetia and

Exh. 1
LEAN/Sierra Club/Couvillion Cmmts on Nucor

Romeville Streets. Id. The Romeville Senior Center at 8188 Romeville Street abuts Nucor's proposed facility and Romeville Elementary School at 9156 Central School Street is less than a mile to the west of the facility. The town of Convent, on the other hand, is located approximately four miles from Nucor's proposed site. See id. Indeed, the towns of Welcome, Central, and White Hall are all closer to the proposed site than Convent. By failing to identify Romeville as the place where Nucor plans to build its facility (and identifying a place that is several miles away instead), Nucor failed to provide notice in accordance with LAC 33:III.531.

Second, not only does Nucor fail to identify the name of the town where it plans to build its facility, it fails to give any specific information regarding location. The notice fails to provide an address on LA Highway 44, it fails to provide geographical coordinates, it fails to provide a mile marker by which to find where the site abuts the Mississippi River, and it fails to give a common sense description—such as x miles downriver of the Sunshine Bridge, etc. Instead, the notice describes a 25-square-mile area without stating where in that area it plans to build its facility.

Third, Nucors inaccurately describes the northern boundary of the site as La. Hwy. 3125, when its site plan shows the site extending well above La. Hwy. 3125 through undeveloped swamp to the St. James Canal which flows to the Blind River, designated as Wild and Scenic by the state. See Nucor Pt. 70/PSD Application (5/8/08), vol. 1 of 3, figure 7-1, attached as Exhibit B.

Nucor's notice provides no notice at all. It fails to achieve the most basic purpose of the required public notice – that is letting the public know where it plans to locate its new facility. As such, LDEQ should require Nucor to re-publish its notice identifying with accuracy the location of its proposed facility, and providing at least 30 days for public comment and 30 days in advance of a public hearing on the permits at issue as mandated by LAC 33:III.531.

Sincerely,

Corinne Van Dalen, Supervising Attorney
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Counsel for Louisiana Environmental Action Network and Sierra Club Louisiana Delta Chapter

Cc:

Cheryl Nolan, cheryl.nolan@la.gov
Bryan Johnston, bryan.johnston@la.gov

Public Notice

PUBLIC HEARING AND REQUEST FOR PUBLIC COMMENTS ON PROPOSED INITIAL PART 70 AIR OPERATING AND PREVENTION OF SIGNIFICANT DETERIORATION (PSD)PERMITS AND ENVIRONMENTAL ASSESSMENT STATEMENT (EAS)

CONSOLIDATED ENVIRONMENTAL MANAGEMENT, INC./NUCOR STEEL LOUISIANA AI Number 157847

VIEW ATTACHMENTS FOLLOWING PUBLIC NOTICE

The LDEQ, Office of Environmental Services, is accepting written comments on an intial Part 70 air operating and Prevention of Significant Deterioration (PSD) permit s and the Environmental Assessment Statement (EAS) for Consolidated Environmental Management, Inc , 1915 Rexford Rd. Charlotte, NC 28211 for the Nucor Steel Louisiana facility . **The proposed facility is to be located on the south side of Highway LA-3125 and east of Highway LA 70, Convent, St. James Parish.**

The hearing will be held on Thursday, November 20, 2008, beginning at 6:00 p.m. at the St. James Parish Courthouse, Courtroom A, 5800 LA Highway 44, Convent, LA. During the hearing, all interested persons will have an opportunity to comment on the proposed permit.

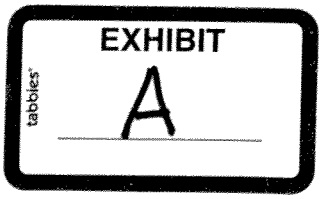
Consolidated Environmental Management, Inc., requested an initial Part 70 air operating and Prevention of Significant Deterioration (PSD) permits for a greenfield pig iron facility.

The facility proposes to construct a greenfield pig iron facility that will use the blast furnace process to produce high quality pig iron. The facility has requested a permit shield for Subpart L. [40 CFR 63.303 (d)(2)].

This permit was processed as an expedited permit in accordance with LAC 33:I.Chapter 18.

Estimated emissions in tons per year are as follows:

Pollutant	Emissions in tons per year
PM_{10}	1,627.05
SO_2	5,009.74
NO_X	4,049.88
CO	29,406.15
VOC	403.14



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Lead	0.375
[1]Toxic VOC included in Totals	82.44
[1]Toxic Non-VOC compounds	24.78

[1] Toxic compounds include the following compounds that are above the Minimum Emission Rate (MER) listed in LAC 33:IIIChapter 51. Table 51.1and 51.2: Ammonia – 20.69 tpy, Arsenic and compounds – 0.124 tpy, Cadmium and compounds – 0.11 tpy, Copper and compounds – 0.260 tpy, Mercury and compounds – 0.260 tpy, Zinc and compounds – 2.458 tpy, Acrolein – 0.18 tpy, Acrylonitrile – 0.79 tpy, Benzene – 56.05 tpy, Hydrofluoric Acid – 0.07 tpy, Methylene Chloride – 1.32tpy, Polynuclear Aromatic Hydrocarbons – 5.21 tpy, Phenol – 11.73 tpy

Neither the project nor the general commercial, residential, industrial, or other growth associated with it is expected to have a significant adverse impact on soil, vegetation, visibility, or air quality in the area of the facility or any Class I area. Because the maximum modeled PM/PM_{10}, SO_2, and NO_X, impacts exceeded its/their respective modeling significance level s, a determination of increment consumption was required, and the results are summarized in the following table. Modeling demonstrates compliance with the allowable Class II PSD increments.

Pollutant	Averaging Period	Increment Consumption ($\mu g/m^3$)	Allowable Class II PSD Increment ($\mu g/m^3$)
PM_{10}	24-hour	8	30
SO_2	3-hour	25	512
	24-hour	5	91
	Annual	2	20
NO_X	Annual	2.5	25

A technical review of the working draft of the proposed permit was submitted to the facility representative and the LDEQ Surveillance Division. Any remarks received during the technical review will be addressed in the "Worksheet for Technical Review of Working Draft of Proposed Permit". **All remarks received by LDEQ** are included in the record that is available for public review.

All interested persons will be afforded the opportunity to comment on the proposed initial Part 70 air operating and Prevention of Significant Deterioration (PSD) permits and EAS.

The EAS submitted by the applicant addresses avoidance of potential and real environmental effects, balancing of social and economic benefits against environmental impact costs, and alternative sites, projects, and mitigative measures.

Written comments, written requests for a public hearing or written requests for notification of the final decision regarding this permit action may be submitted to Ms. Soumaya Ghosn at LDEQ, Public Participation Group, P.O. Box 4313 , Baton Rouge, LA 70821-4313 . **Written comments and/or written requests must be received by 12:30 p.m., Monday, November 24, 2008.** Written comments will be considered prior to a final permit decision.

The proposed initial Part 70 air operating and Prevention of Significant Deterioration (PSD) permits, applications, statement of basis, EAS (response to "IT" Questions), additional information submittals

and Emission Inventory Questionaires are available for review at the LDEQ, Public Records Center, Room 127, 602 North 5th Street, Baton Rouge, LA. Viewing hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday (except holidays). **The available information can also be accessed electronically on the Electronic Document Management System (EDMS) on the DEQ public website at www.deq.louisiana.gov**.

An additional copy may be reviewed at St James Public Library, 1879 West Main Street, Lutcher LA.

Inquiries or requests for additional information regarding this permit action should be directed to Kermit Wittenburg , LDEQ, Air Permits Division, P.O. Box 4313, Baton Rouge, LA 70821-4313, phone (225) 219- 3100 .

Individuals with a disability, who need an accommodation in order to participate in the public hearing, should contact Ms. Barbara Mason at the above address or by phone at (225) 219-3280.

Persons wishing to be included on the LDEQ permit public notice mailing list or for other public participation related questions should contact the Public Participation Group in writing at LDEQ, P.O. Box 4313, Baton Rouge, LA 70821-4313, by email at **deqmaillistrequest@la.gov** or contact the LDEQ Customer Service Center at (225) 219-LDEQ (219-5337).

Permit public notices including electronic access to the proposed permit and statement of basis can be viewed at the LDEQ permits public notice webpage at **www.deq.louisiana.gov/apps/pubNotice/default.asp** and general information related to the public participation in permitting activities can be viewed at **www.deq.louisiana.gov/portal/tabid/2198/Default.aspx**.

Alternatively, individuals may elect to receive the permit public notices via email by subscribing to the LDEQ permits public notice List Server at http://www.doa.louisiana.gov/oes/listservpage/ldeq_pn_listserv.htm.

All correspondence should specify AI Number 157847 , Permit Number 2560-00281-V0 and PSD-LA-740, and Activity Number PER20080001 and PER20080002.

Publication dates: October 15, 2008 - The Enterprise
October 16, 2008 - The News Examiner
The Advocate

Attachments:

Proposed Permit
PSD Permit
Statement of Basis

Exh. 1

Thursday, October 16, 2008 ■ The Advocate

PER request
AI#157847 original to IOA
PER20080002 cc copy to PPG / Barbara Mason

PUBLIC NOTICE
LOUISIANA DEPARTMENT OF ENVIRONMENTAL QUALITY (LDEQ)
CONSOLIDATED ENVIRONMENTAL MANAGEMENT, INC
NUCOR STEEL LOUISIANA

PUBLIC HEARING AND REQUEST FOR PUBLIC COMMENTS ON PROPOSED INITIAL PART 70 AIR OPERATING AND PREVENTION OF SIGNIFICANT DETERIORATION (PSD) PERMITS AND ENVIRONMENTAL ASSESSMENT STATEMENT (EAS)

The LDEQ, Office of Environmental Services, is accepting written comments on an initial Part 70 air operating and Prevention of Significant Deterioration (PSD) permits and the Environmental Assessment Statement (EAS) for Consolidated Environmental Management, Inc, 1915 Rexford Rd. Charlotte, NC 28211 for the Nucor Steel Louisiana facility. **The proposed facility is to be located on the south side of Highway LA-3125 and east of Highway LA 70, Convent, St. James Parish.**

The hearing will be held on Thursday, November 20, 2008, beginning at 6:00 p.m. at the St. James Parish Courthouse, Courtroom A, 5800 LA Highway 44, Convent, LA. During the hearing, all interested persons will have an opportunity to comment on the proposed permit.

Consolidated Environmental Management, Inc., requested an initial Part 70 air operating and Prevention of Significant Deterioration (PSD) permits for a greenfield pig iron facility.

The facility proposes to construct a greenfield pig iron facility that will use the blast furnace process to produce high quality pig iron. The facility has requested a permit shield for Subpart L. [40 CFR 63.303(d)(2)].

This permit was processed as an expedited permit in accordance with LAC 33:I.Chapter 18.

Estimated emissions in tons per year are as follows:

Pollutant	Emissions in tons per year
PM_{10}	1,627.05
SO_2	5,009.74
NO_x	4,049.88
CO	29,406.15
VOC	403.14
Lead	0.375
†Toxic VOC included in Totals	82.44
†Toxic Non-VOC compounds	24.78

†Toxic compounds include the following compounds that are above the Minimum Emission Rate (MER) listed in LAC 33:IIIChapter 51. Table 51.1and 51.2: Ammonia - 20.69 tpy, Arsenic and compounds - 0.124 tpy, Cadmium and compounds - 0.11 tpy, Copper and compounds - 0.260 tpy, Mercury and compounds - 0.260 tpy, Zinc and compounds - 2.458 tpy, Acrolein - 0.18 tpy, Acrylonitrile - 0.79 tpy, Benzene - 56.05 tpy, Hydrofluoric Acid - 0.07 tpy, Methylene Chloride - 1.32tpy, Polynuclear Aromatic Hydrocarbons - 5.21 tpy, Phenol - 11.73 tpy

Neither the project nor the general commercial, residential, industrial, or other growth associated with it is expected to have a significant adverse impact on soil, vegetation, visibility, or air quality in the area of the facility or any Class I area. Because the maximum modeled PM/PM10, SO2, and NOX, impacts exceeded its/their respective modeling significance levels, a determination of increment consumption was required, and the results are summarized in the following table. Modeling demonstrates compliance with the allowable Class II PSD increments.

Pollutant	Averaging Period	Increment Consumption ($\mu g/m^3$)	Allowable Class II PSD Increment ($\mu g/m^3$)
PM_{10}	24-hour	8	30
SO_2	3-hour	25	512
	24-hour	5	91
	Annual	2	20
NO_x	Annual	2.5	25

A technical review of the working draft of the proposed permit was submitted to the facility representative and the LDEQ Surveillance Division. Any remarks received during the technical review will be addressed in the "Worksheet for Technical Review of Working Draft of Proposed Permit". All remarks received by LDEQ are included in the record that is available for public review.

All interested persons will be afforded the opportunity to comment on the proposed initial Part 70 air operating and Prevention of Significant Deterioration (PSD) permits and EAS.

The EAS submitted by the applicant addresses avoidance of potential and real environmental effects, balancing of social and economic benefits against environmental impact costs, and alternative sites, projects, and mitigative measures.

Written comments, written requests for a public hearing or written requests for notification of the final decision regarding this permit action may be submitted to Ms. Soumaya Ghosn at LDEQ, Public Participation Group, P.O. Box 4313, Baton Rouge, LA 70821-4313. **Written comments and/or written requests must be received by 12:30 p.m., Monday, November 24, 2008.** Written comments will be considered prior to a final permit decision.

The proposed initial Part 70 air operating and Prevention of Significant Deterioration (PSD) permits, applications, statement of basis, EAS (response to "IT" Questions), additional information submittals and Emission Inventory Questionaires and available for review at the LDEQ, Public Records Center, Room 127, 602 North 5th Street, Baton Rouge, LA. Viewing hours are from 8:00 a.m. to 4:30 p.m., Monday through Friday (except holidays). **The available information can also be accessed electronically on the Electronic Document Management System (EDMS) on the DEQ public website at www.deq.louisiana.gov.**

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Permit public notices including electronic access to the proposed permit and statement of basis can be viewed at the LDEQ permits public notice webpage at www.deq.louisiana.gov/apps/pubNotice/default.asp and general information related to the public participation in permitting activities can be viewed at www.deq.louisiana.gov/portal/tabid/2198/Default.aspx.

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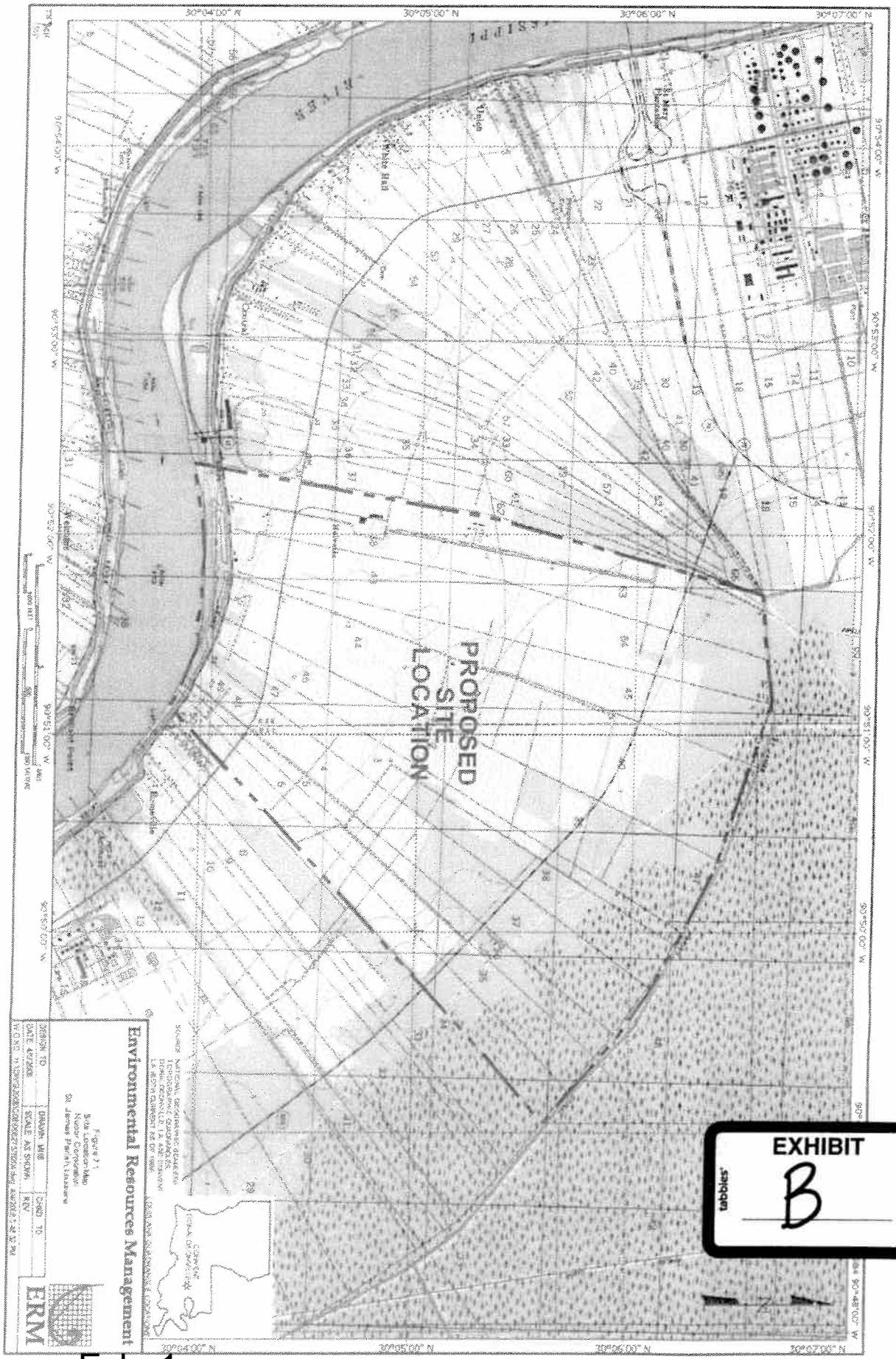
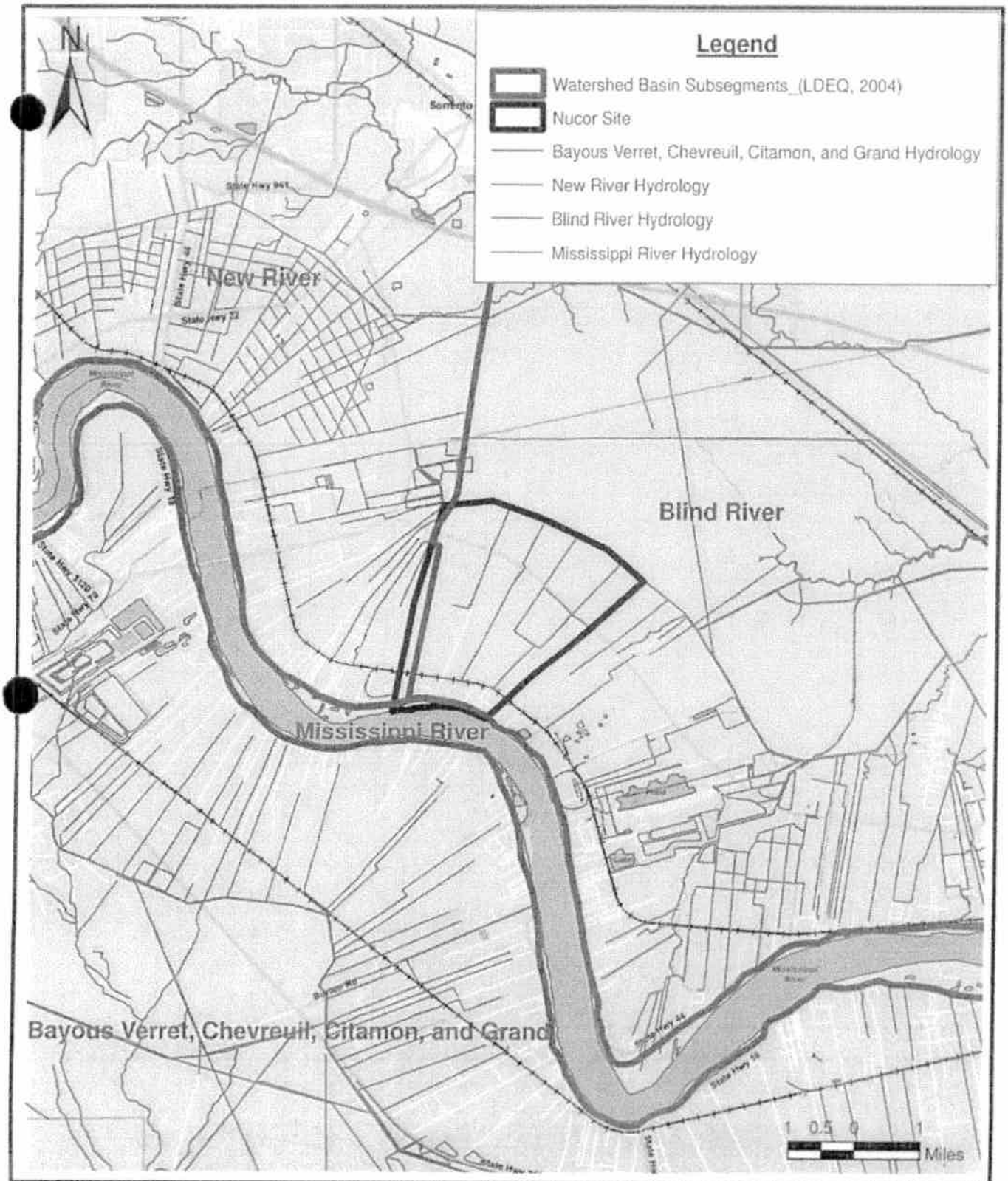
All correspondence should specify AI Number 157847, Permit Number 2560-00281-V0 and PSD-LA-740, and Activity Number PER20080001 and PER20080002.

3976460-oct 16-1t

Exh. 1
LEAN/Sierra Club/Couvillion Cmmts on Nucor



Exh. 1
LEAN/Sierra Club/Couvillion Cmmts on Nucor



Environmental Resources Management

DESIGN:	SRK	DRAWN:	SRK	CHKD:	CMH
DATE:	02/19/08	SCALE:	AS SHOWN	REVISION:	0

W.O.NO.: I:\Nucor\GIS\projects\surface_hydrology.mxd

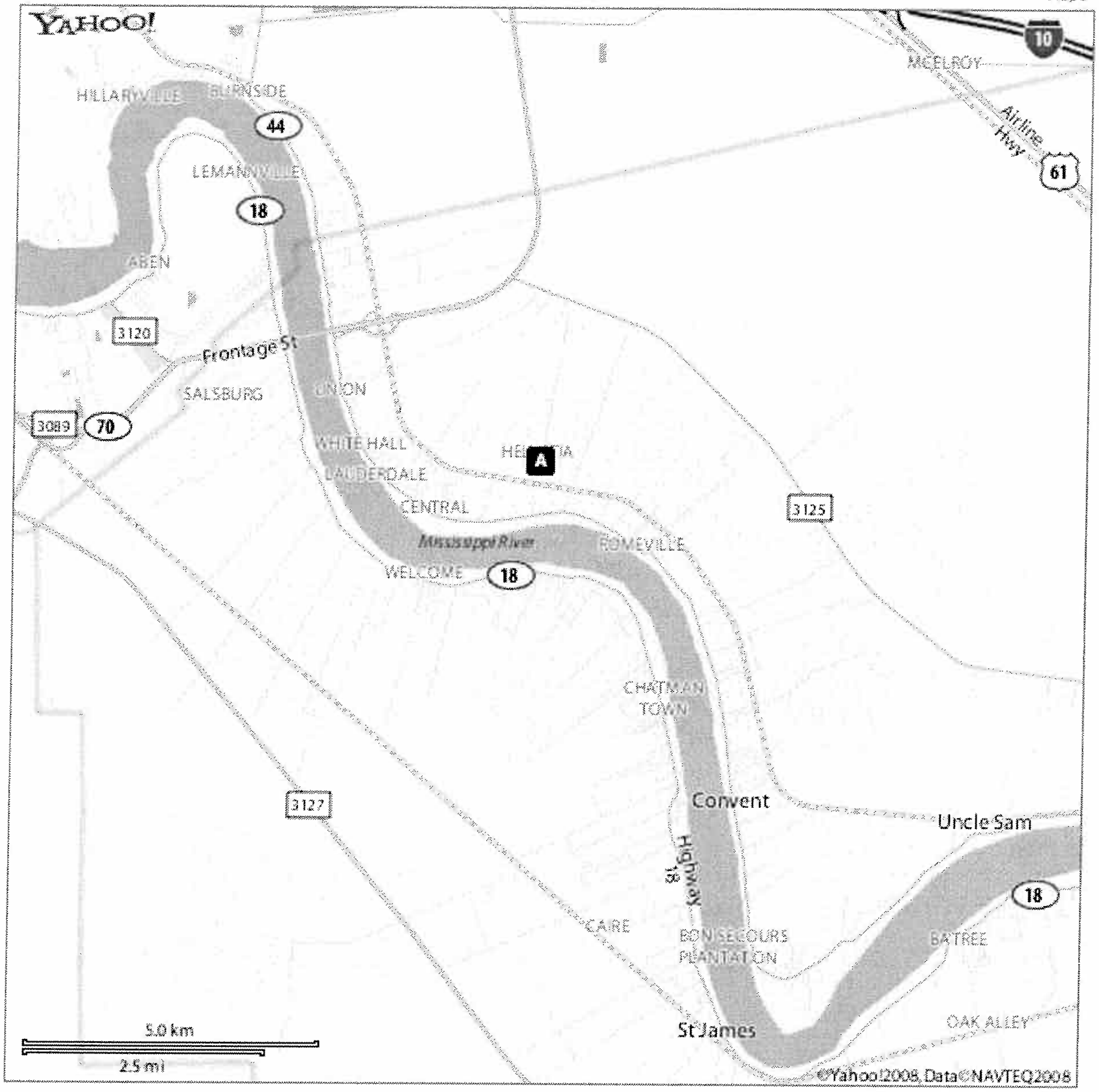
Figure 7-5
Surface Hydrology
Nucor Corporation
St. James Parish, Louisiana

ERM

Exh. 1
LEAN/Sierra Club/Couvillion Cmmts on Nucor

Map of Helvetia, LA 70723

YAHOO! LOCAL Maps



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.

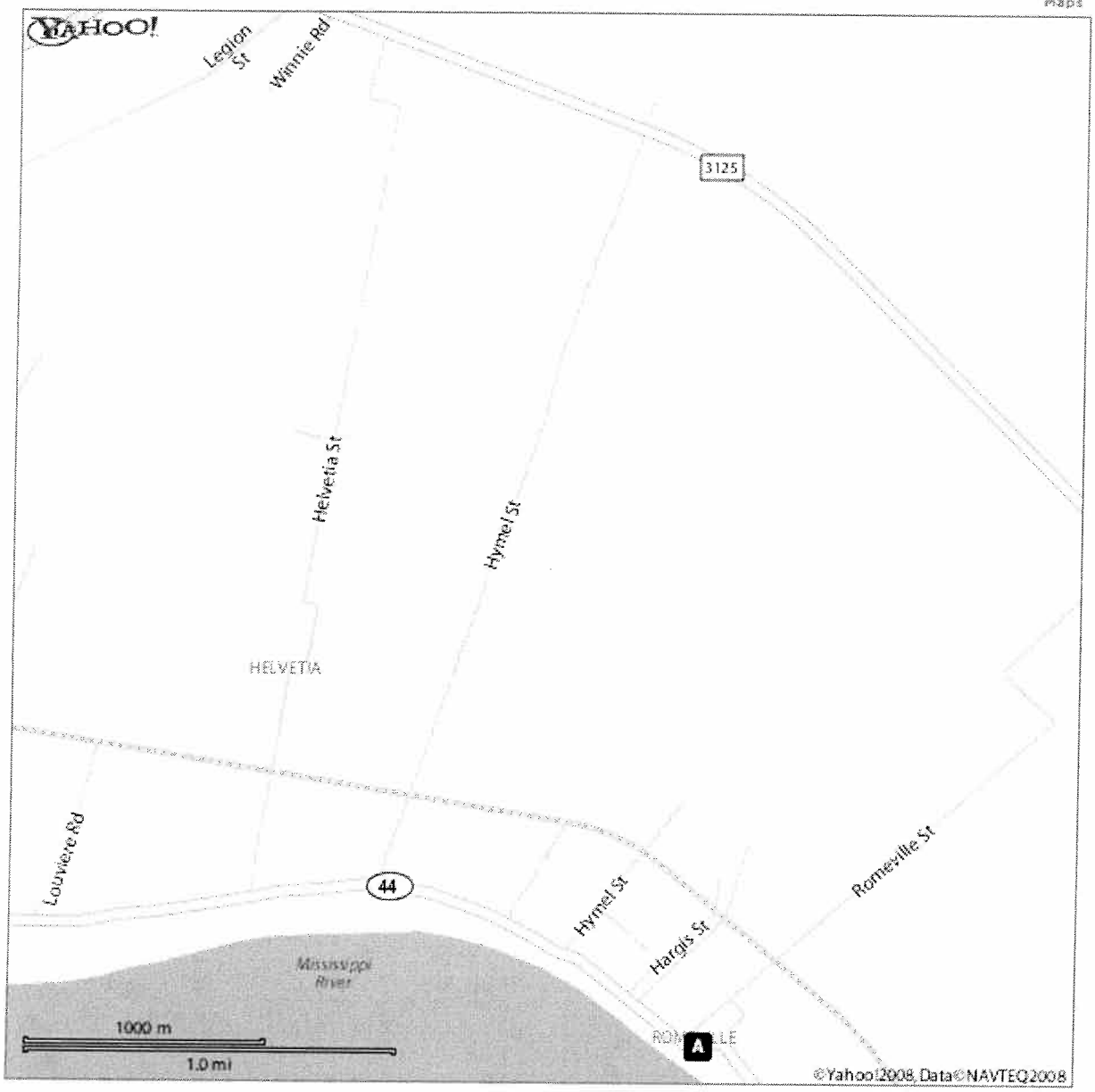
EXHIBIT C

tabbies

Exh. 1
LEAN/Sierra Club/Couvillion Cmmts on Nucor

Map of Romeville, LA 70723

YAHOO! LOCAL Maps



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.

Alexander J. Sagady & Associates

657 Spartan Avenue, East Lansing, MI 48823-3624
(517) 332-6971 ajs@sagady.com http://www.sagady.com

November 18, 2008

TO: Shannon Snyder - EPA-VI-Multimedia-LA Permits
Erik Snyder, Adina Wiley, Thomas Diggs - EPA-VI-Multimedia-Regional Modeling Contacts

From: Alexander J. Sagady, Environmental Consultant to
Concerned Citizens for Clean Air (CCCA)

RE: Nucor Steel - Convent, LA Draft LDEQ PSD Permit

I am environmental consultant to Concerned Citizens for Clean Air (CCCA), a community-labor-environmental citizen group concerned about air pollution in Louisiana.

I am presently reviewing the Nucor PSD application file to prepare for submitting comments by the November 24, 2008 deadline. Although I have not finalized my comments, it is apparent that the subject facility has not shown, and cannot show compliance with the PM 2.5 NAAQS and the Applicant's submittals contain other problems as outlined below.

The Nucor Facility Will Jeopardize Attainment and Maintenance of the PM 2.5 NAAQS

The Nucor Application and the LDEQ Statement of Basis contain no reviews of existing or future PM 2.5 air quality with construction of the facility.

A review of the matter indicates a virtual certainty that the subject facility will cause an increase in ambient PM 2.5 air pollution over pre-existing background concentrations leading to predicted PM 2.5 NAAQS violations.

Under such circumstances, the Nucor facility cannot be permitted as a PSD facility under Clean Air Act PSD provisions. It must instead be permitted under 40 C.F.R. Part 51, Appendix S. No such review has taken place.

Looking at candidate air quality monitoring data, Attachment #1 shows the Nucor proposed site and the locations of the nearest PM 2.5 air quality monitoring sites. Only a single site on the west side of the New Orleans metropolitan area at Kenner was used in that directional sector.

Attachment #2 shows the last 5 years of PM 2.5 air quality data obtained from EPA's Air Data site for the 8 monitoring sites and 10 PM 2.5 air quality monitors closest to the proposed Nucor site. Also shown is the 5 year average values and the maximum value.

Attachment #3 shows the monitoring site locations in relation to the proposed Nucor site and shows the 2003-2007 air quality monitoring data three running annual averages, 2003-2005, 2004-2006 and 2005-2007.

Attachment #4 shows the relationship between the regional monitoring sites in question and point sources of either PM 2.5 or PM 10 at 50 tons/year or greater.

There are no "nearby" PM 2.5 air quality monitors to the proposed Nucor site. The closest monitor to the Nucor site is the St. Gabriel -Iberville site at 16 miles away. However, this site is likely heavily impacted by location emission sources unique to that area. Three sites to the NNW in or near Baton Rouge are all heavily impacted by unique local sources and PM 2.5 area sources from the urbanized area. The Bellview Rd - Iberville monitor is 29 miles WNW of the Nucor site and is spaced a little farther away from some of the sources in the area. This monitor is also well suited for detecting long range transport from the Houston-Beaumont area, being upwind of most Nucor site area sources.

The Bellview Rd monitor is thus a candidate background monitoring site for use a regional monitor for background determination for the Nucor site as though the Nucor site is an isolated site.[1] This site shows a maximum 3 year block average of 11.16 ug/M3 for three year annual averages and 27.83 ug/M3 for three year average of the annual 98th percentile value on the 24 hour average sample time. This means there is only 3.84 ug/M3 (annual average) and 7.17 ug/M3 (24 hour average) of additional ambient impact from a new or modified source allowed on the annual average under Clean Air Act Prevention of Significant Deterioration requirements.

Attachment #5 shows the PM 10 maximum predicted PM 10 modeled concentrations under three different process emission scenarios. The maximum predicted annual PM 10 concentration due to the facility alone ranges from 3.0 ug/M3 to 4.0 ug/M3. The maximum predicted 24 hour PM 10 concentration due to the facility alone ranges from 15.4 ug/M3 to 25.2 ug/M3.

Nucor's air quality modeling doesn't consider fugitive emission sources; only stack emissions were modeled under the air modeling protocol. As a result, the stack emissions of PM 10 will numerically exceed, but still be fairly close to the expected PM 2.5 quantified emissions. Neither Nucor, nor LDEQ quantified PM 2.5 emissions.

For the 24 hour averaging time, if numerical emissions of PM 2.5 are at least nominally 60% overall of the claimed PM 10 emission rates, the addition of 9.2 ug/M3 PM 2.5 ambient impact (from 60% of the smallest PM 10 predicted 24 hour impact) when added to background will exceed the 24 hour PM 2.5 NAAQS. Ultimately, PM 2.5 will be a larger proportion of existing PM 10 emissions than the 60% factor used for estimation purposes.

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[1] It appears that the Nucor site should actually be considered as a multiple source site and background should be determined according to the Appendix W Section 8 procedures for multi-source sites. However, the author is unable to provide such analysis under the scope of this memorandum.

Even the annual PM 2.5 NAAQS may be in jeopardy under some conditions given the annual average background the maximum annual PM 10 impact claimed.

EPA's policy of using PM 10 NAAQS and PSD increment consumption demonstrations as a surrogate of PM 2.5 NAAQS compliance cannot be deemed acceptable in the present Nucor case because of the elevated PM 2.5 background. Simply demonstrating there will be no PM 10 NAAQS violation doesn't provide any assurance at all that the PM 2.5 NAAQS will not be exceeded with the construction of the Nucor facility. When a Draft PSD permit authorizing emissions would interfere with attainment and maintenance of the PM 2.5 NAAQS, issuance of such a PSD permit would violate 42 U.S.C. §7475(a)(3), 40 C.F.R. §52.21(d)(2); 40 C.F.R. §52.21(k), LAC 33:III.509.D and LAC 33:III.509.K.

Other Matters

No Modeling of Fugitive PM 10 Emissions

The approved State Implementation Plan for Lousiana requires LDEQ compliance with 40 C.F.R. Part 51 - Appendix W (see LAC 33:III.509.L). Section 5.2.2(d) and 8.1.1 of Appendix W clearly contemplate use of fugitive emissions in air quality models through use of area and volume sources to describe fugitive emissions. The 1990 Workbook assumes that fugitive emissions of PM 10 will be included in all air quality impact analysis.[2]

LDEQ approved an air quality modeling protocol submitted by Nucor that allowed the facility's air quality modeling demonstration to exclude all fugitive emissions from Nucor from air quality modeling demonstration requirements. Such an exclusion is a major PSD program implementation error by Louisiana that will cause understatement of PM 10 ambient air quality impacts.

The failure to consider fugitive emissions of PM 10 renders the air quality modeling demonstration unacceptable and the Nucor application incomplete and not-approvable.

Inappropriate PM 10, SO2 and NOX Background Determination

Nucor used the monitoring data and sites shown in Attachment #6. These monitoring sites are 26-32 miles away (for PM 10 and SO2, respectively) from the proposed Nucor site. These monitors cannot be deemed as "nearby" to the environment of the Nucor site. At best, these can be considered as regional monitoring sites within the meaning of Appendix W - Section 8.2.2(c).

However, Nucor took air quality data from this regional monitoring site and attempted to show rollbacks from such background data as per Appendix W - Section 8.2.2(b) as though the monitoring

[2] See Section II.B.3

sites selected shown in Attachment #6 were, in fact, "nearby" sites and as though the proposed Nucor site was an isolated single source site. In fact, the monitoring sites are not nearby and the Nucor Site is adjacent to other large industrial point source emitters.

As such, Nucor inappropriately used the Appendix W - Section 8.2.2(b) procedure to rollback ambient background data for PM 10, SO2 and NOX. The result in shown in Attachment #7 with zero background concentrations for most NO2 and SO2 NAAQS compliance test averaging times and years, and reduced PM 10 values as well. When the background monitoring sites selected are not nearby monitoring sites and when the proposed Nucor site is to be located in a multi-source area, use of the background rollback procedure of Appendix W - Section 8.2.2(b) constitutes impermissible error and inappropriate modeling/background determination procedure. Failure to properly determine SO2, PM 10 and NO2 background constitute error rendering the permit application incomplete and non-approvable.

Finally, we cannot verify from available materials that the Section 8.2.2(b) rollback procedure was properly carried out on an hour by hour basis for the five years of data.

Background Data is Not the Most Recent Available

Attachment #6 shows the data years for the selected background air quality monitoring site. In general, data from years 2001-2005 were used. Such data is not acceptable because more recent data from 2003 to 2007 is available. The most recent background monitoring data should be used and there is no need or desirability to use the same years as the modeling uses for meteorological data.

No Receptors at Fenceline to Public Road

Although the air quality dispersion modeling protocol indicated that modeling receptors would be used on the public road to the site, the actual air quality modeling report does not show any receptors on the public road. See Attachment #8.

In addition, it doesn't appear that Nucor intends on installing any process equipment north of the road. There is no indication in the application that the area north of the site property extending into the marsh will be fenced. In fact, the Applicant states there will be no construction or operational activities in the flood area in this north property segment.[3] Receptors must be placed on all property to which the public has access. Unless the Applicant installs a fence through the marsh on the north section of the site property as part of a federally enforceable permit provision, receptors should be placed in a dense grid throughout the site property area north of the public road through the site.

[3] See Section 7.5.4 of the original application, p. 7-50

Nothing Addresses Modeled NAAQS Violations

The air quality modeling identified NAAQS and PSD increment violations, but the Applicant claimed that all of the new Nucor PSD source contributions to such violations were insignificant.

The 2005 Federal Register notice for final publication of Appendix W indicates:

> "Where dispersion modeling predicts a violation of a NAAQS or PSD increment within the impact area but it is determined that the proposed source will not have a significant impact (i.e., will not be above de minimis levels) at the point and time of the modeled violation, then the permit may be issued immediately, **but the State must take appropriate actions to remedy the violations within a timely manner**." (emphasis added)

Nothing in the public notice, Draft Permit or Statement of Basis indicates such actions to remedy the violations.

When an Air Quality Modeling Demonstration Shows Violations of a NAAQS, Sources Must Not Be Allowed the Full Measure PSD Increment Consumption Ceilings

The Applicant's air quality modeling demonstration predicts ambient PM 10 and SO2 concentrations well above the NAAQS for these pollutants. While Nucor made a showing on PSD increment violations and the Nucor contributions to these modeled concentrations, there was no indication that provided the maximum increased air quality degradation short of the PSD increment consumption maximum limitations for receptors where an air quality standard violation is provided. The allowable increase in air quality degradation will be less than the values provided for maximum PSD increment consumption at receptors showing NAAQS violations or concentrations below the NAAQS by amounts less than the published PSD increment consumption ceiling, and may be zero in some cases (or at least less than the significance level of emissions)..

Failure to Conduct a Proper Review of Mercury for Soils Impact Determination

Under 40 C.F.R. §52.21(o), a PSD permit application must submit additional impact information, including the effect of source operation on soils.

The public notice indicates 0.26 tons/year (512 pounds) of mercury emissions. Table 6-4 of the Application shows a total of 0.54 tons/year (1080 pounds) of mercury emissions.

The Applicant has conducted no review of the impact of mercury emissions on soils in the vicinity of the proposed facility. There is no multipathway human health and ecological risk assessment that has been provided in the application. The wetland soils in particular to the north of the site are likely to be the most heavily impacted by wet and dry mercury deposition from this facility. The occurrence of slack waters adjacent to this mercury source is the kind of mercury environmental fate

and transport situation that can be expected to indicate the potential for fish and shellfish contamination in adjacent wetland areas.

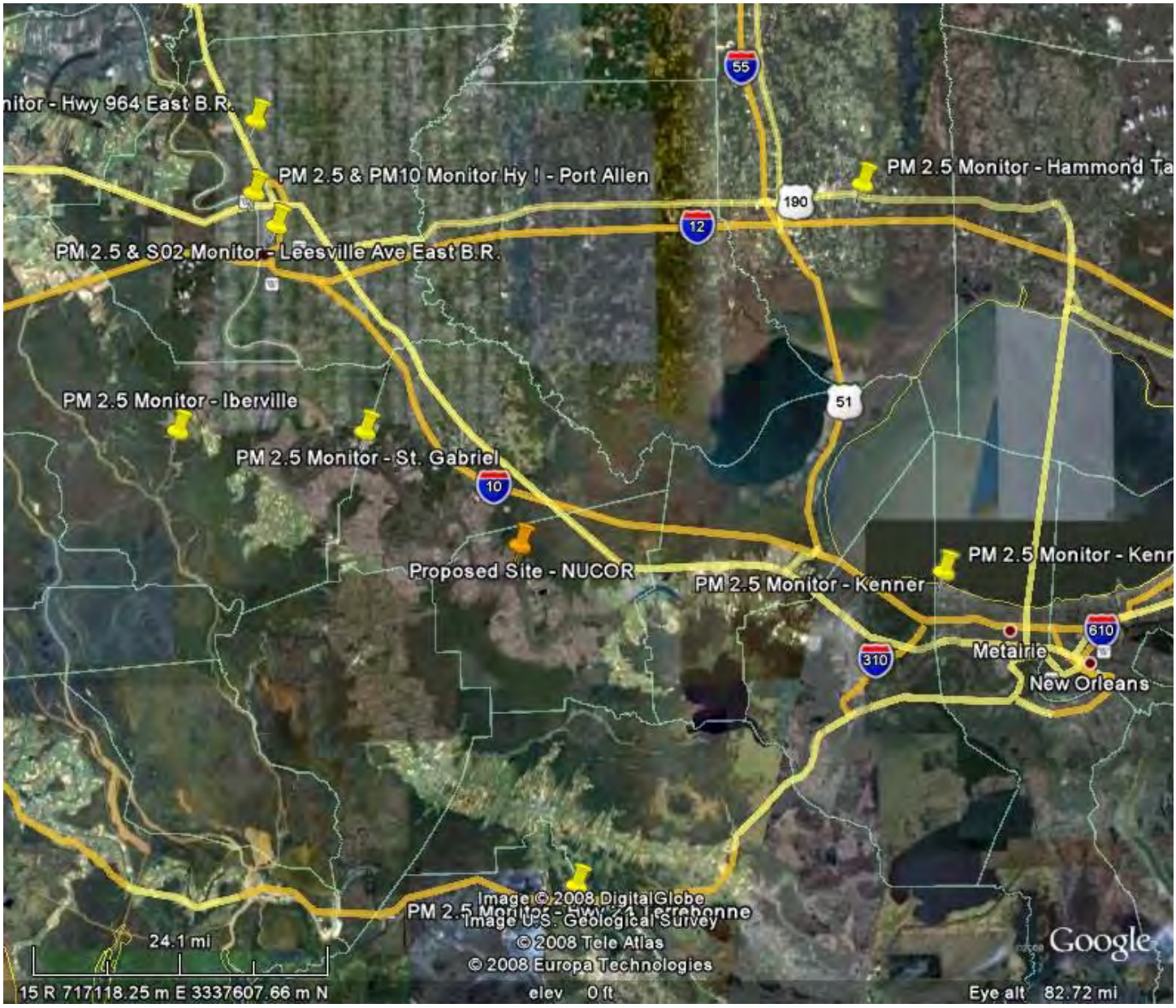
No mercury emission controls have been reviewed for the subject facility. Other jurisdictions, such as Ohio, have provided for mercury emission controls for non-recovery coke ovens in recent decisions.

The proposed Nucor location is adjacent to the Maurepas Marsh which contains segments of the Blind River and Amite River listed for mercury water quality impairment in the latest, year 2006 report of LDEQ under Section 303(d) of the Clean Water Act. Nothing in the permit application addresses this pre-existing environmental problem near the Nucor site.

The Air Quality Modeling Fails to Provide Adequate Documentation on Other Sources

Nothing in the air quality modeling demonstrations show the names of nearby facilities being modeled.

Attachment #1



Exh. 2
LEAN/Sierra Club/Couvillion Cmmts on Nucor

Attachment #2

PM 2.5 Monitoring Results for Current Monitoring Sites Closest to Nucor Site								
		2007	2006	2005	2004	2003	Maximur	5 year Average
St. Gabriel - Iberville	annual	12.17	12.86	13.90	12.20	12.15	13.90	12.66
	24- Hour 98th percentile	25.7	29.8	28.1	30.2	27.6	30.2	28.28
Belleview Rd - Ibervile	annual	10.28	11.52	11.69	9.92	10.97	11.69	10.88
	24- Hour 98th percentile	20.1	32.4	24.8	26.3	23.4	32.4	25.40
W Temple - Kenner Mon #1	annual	10.34	11.88	12.15	11.05	11.16	12.15	11.32
	24- Hour 98th percentile	22.5	29	29.1	25.8	24.2	29.1	26.12
Hammond - Tangipahoa Mon	annual	11.25	12.61	13.39	10.48	10.80	13.39	11.71
	24- Hour 98th percentile	26.3	27.6	**35.2**	28.2	23	35.2	28.06
Hammond - Tangipahoa Mon	annual	10.83	13.28	14.62	10.27	11.70	14.62	12.14
	24- Hour 98th percentile	21.7	28.2	34.7	25.2	23.7	34.7	26.70
Hwy 24 - Terrebonne	annual	9.62	11.65	11.18	9.68	10.88	11.65	10.60
	24- Hour 98th percentile	23	28	28.3	25.7	24.2	28.3	25.84
Hwy 1 Pt Allen-West B.R.	annual	12.96	14.39	13.71	12.83	13.06	14.39	13.39
	24- Hour 98th percentile	25.3	31.5	29.6	28.4	27.9	31.5	28.54
Leesville - East B. R. - Mon. #1	annual	11.87	14.20	13.91	12.55	13.15	14.2	13.14
	24- Hour 98th percentile	24.4	33.8	29.4	28.5	27.1	33.8	28.64
Leesville - East B. R. Mon #2	annual	13.29	13.79	**15.66**	12.28	13.69	15.66	13.74
	24- Hour 98th percentile	34.4	26.3	30.1	28.8	27.4	34.4	29.40
Hwy 964 - East B. R.	annual	10.57	12.77	13.05	10.72	12.06	13.05	11.83
	24- Hour 98th percentile	20.2	24.9	27.3	26.3	24.8	27.3	24.70

Exh. 2
LEAN/Sierra Club/Couvillion Cmmts on Nucor

Attachment #3

PM 2.5 Monitoring Site Location and Monitored NAAQS Compliance Review						
			Three year averages as per definition of National Ambient Air Quality Standards			
Monitor Site	**Location Relative to Nucor Site**	**Averaging Period**	**2005-2007**	**2004-2006**	**2003-2005**	**Maximum 3 Yr Block Average**
St. Gabriel - Iberville	16 Miles NW	**annual**	12.98	12.99	12.75	12.99
		24- Hour 98th percentile	27.87	29.37	28.63	29.37
Belleview Rd - Ibervile	29 Miles WNW	**annual**	11.16	11.04	10.86	11.16
		24- Hour 98th percentile	25.77	27.83	24.83	27.83
W Temple - Kenner Mon #1	35 Miles E	**annual**	11.46	11.69	11.45	11.69
		24- Hour 98th percentile	26.87	27.97	26.37	27.97
Hammond - Tangipahoa Mon #1	40 Miles NE	**annual**	12.42	12.16	11.56	12.42
		24- Hour 98th percentile	29.70	30.33	28.80	30.33
Hammond - Tangipahoa Mon #2	40 Miles NE	**annual**	12.91	12.72	12.20	12.91
		24- Hour 98th percentile	28.20	29.37	27.87	29.37
Hwy 24 - Terrebonne	28 Miles S	**annual**	10.82	10.84	10.58	10.84
		24- Hour 98th percentile	26.43	27.33	26.07	27.33
Hwy 1 Pt Allen- West B.R.	26 Miles NNW	**annual**	13.69	13.64	13.20	13.69
		24- Hour 98th percentile	28.80	29.83	28.63	29.83
Leesville - East B. R. - Mon. #1	32 Miles NNW	**annual**	13.33	13.55	13.20	13.55
		24- Hour 98th percentile	29.20	30.57	28.33	30.57
Leesville - East B. R. Mon #2	32 Miles NNW	**annual**	14.25	13.91	13.88	14.25
		24- Hour 98th percentile	30.27	28.40	28.77	30.27
Hwy 964 - East B. R.	40 Miles NNW	**annual**	12.13	12.18	11.94	12.18
		24- Hour 98th percentile	24.13	26.17	26.13	26.17

Exh. 2
LEAN/Sierra Club/Couvillion Cmmts on Nucor

Attachment #4

AirData Facility/Monitor Locator Map - Criteria Air Pollutants
Generated on Sunday, November 16, 2008

AirData

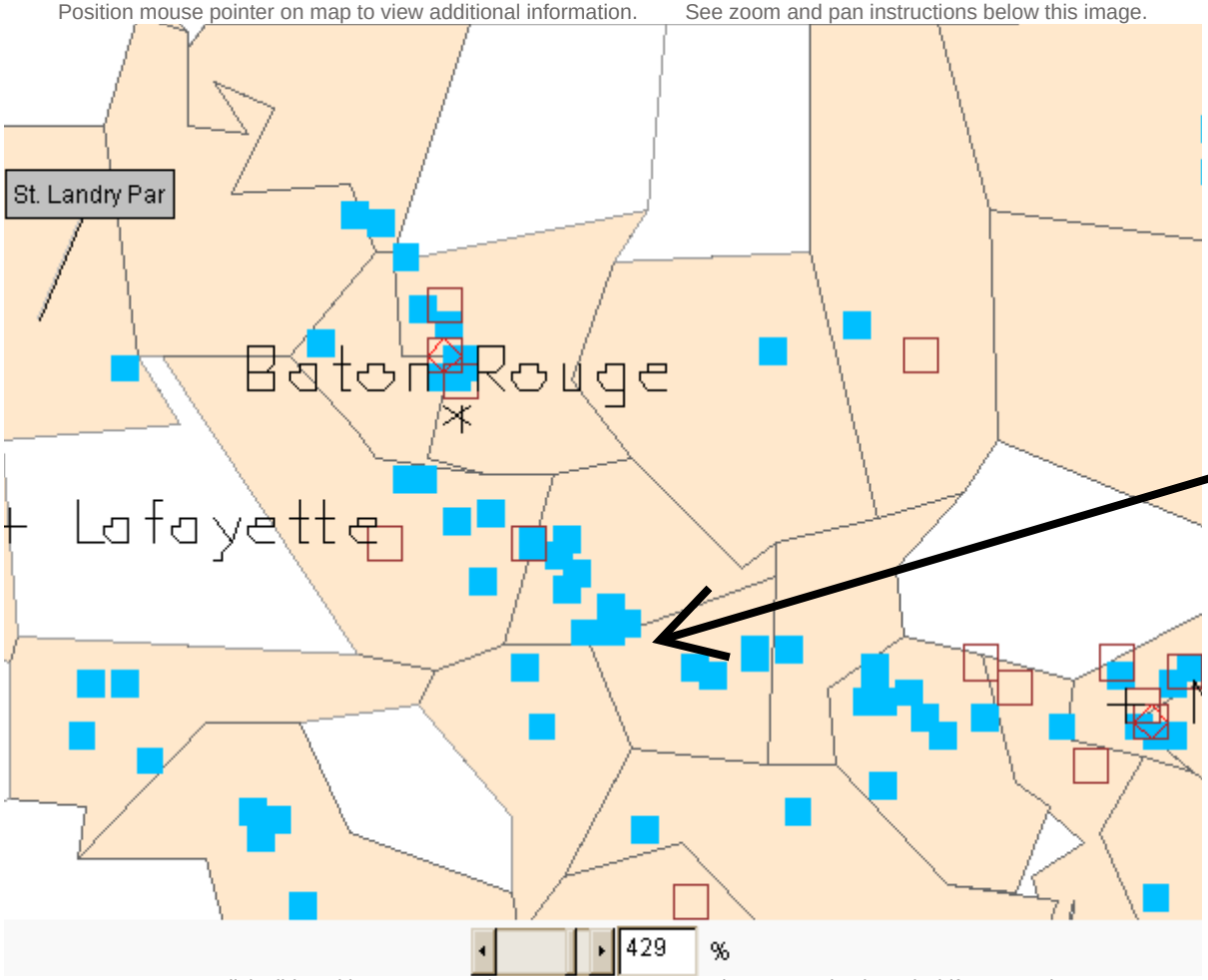
Facility / Monitor Locator Map - Criteria Air Pollutants

Geographic Area: Louisiana
Monitor Pollutant: Particulate (size < 2.5 micrometers) or Particulate (size < 10 micrometers)
Monitor Status: Reported data in 2007
Emissions Pollutant: Particulate (size < 2.5 micrometers) or Particulate (size < 10 micrometers) emissions above 50 tons
Emissions Year: 2002
Geographic Features: City locations

Total Emissions from selected facilities:
PM2.5: 24,486 tons in 2002 (2.8% of US total)
PM10: 32,980 tons in 2002 (2.7% of US total)

116 Facilities and 30 Monitors selected
See Disclaimer

Position mouse pointer on map to view additional information. See zoom and pan instructions below this image.



To ZOOM: Click slider with mouse, type in zoom percentage number, or use keyboard Shift + arrow keys.
To PAN: Click and drag image with mouse, or use keyboard arrow keys.

Download Image Download Data View Data

Exh. 2
LEAN/Sierra Club/Couvillion Cmmts on Nucor

Attachment #5

TABLE 6-7

MAXIMUM PREDICTED PM_{10} CONCENTRATIONS DUE TO THE PROPOSED PIG IRON PLANT

AVERAGING PERIOD	DATA PERIOD			RECEPTOR LOCATION (KILOMETERS)		MAXIMUM PREDICTED CONCENTRATION ($\mu g/m^3$)	SIGNIFICANT IMPACT INCREMENT ($\mu g/m^3$)
	YEAR	DATE	HOUR	EAST	NORTH		
Annual	2001	--	--	705.412	3330.067	3.4	1
	2002	--	--	705.366	3329.776	3.5	
	2003	--	--	705.273	3329.193	2.6	
	2004	--	--	705.273	3329.193	3.2	
	2005	--	--	705.879	3328.225	3.0	
24-Hour Highest	2001	1/19	24	707.632	3328.295	17.2	5
	2002	9/13	24	705.258	3329.096	15.4	
	2003	3/16	24	705.150	3328.416	16.0	
	2004	3/27	24	705.412	3330.067	17.1	
	2005	1/4	24	705.335	3329.581	18.6	

TABLE 6-7a

MAXIMUM PREDICTED PM_{10} CONCENTRATIONS DUE TO THE PROPOSED PIG IRON PLANT

AVERAGING PERIOD	DATA PERIOD			RECEPTOR LOCATION (KILOMETERS)		MAXIMUM PREDICTED CONCENTRATION ($\mu g/m^3$)	SIGNIFICANT IMPACT INCREMENT ($\mu g/m^3$)
	YEAR	DATE	HOUR	EAST	NORTH		
Annual	2001	--	--	705.412	3330.067	3.3	1
	2002	--	--	705.366	3329.776	3.3	
	2003	--	--	705.273	3329.193	2.6	
	2004	--	--	705.273	3329.193	3.2	
	2005	--	--	705.879	3328.225	3.0	
24-Hour Highest	2001	1/19	24	707.589	3328.226	17.9	5
	2002	12/5	24	706.711	3327.927	16.2	
	2003	3/16	24	705.150	3328.416	16.6	
	2004	1/1	24	705.289	3329.326	16.2	
	2005	1/4	24	705.289	3329.526	19.0	

TABLE 6-7b

MAXIMUM PREDICTED PM_{10} CONCENTRATIONS DUE TO THE PROPOSED PIG IRON PLANT

AVERAGING PERIOD	DATA PERIOD			RECEPTOR LOCATION (KILOMETERS)		MAXIMUM PREDICTED CONCENTRATION ($\mu g/m^3$)	SIGNIFICANT IMPACT INCREMENT ($\mu g/m^3$)
	YEAR	DATE	HOUR	EAST	NORTH		
Annual	2001	--	--	705.397	3329.970	4.2	1
	2002	--	--	705.366	3329.776	4.5	
	2003	--	--	705.273	3329.193	3.4	
	2004	--	--	705.273	3329.193	4.1	
	2005	--	--	705.879	3328.225	4.0	
24-Hour Highest	2001	12/5	24	705.507	3330.551	23.2	5
	2002	4/26	24	705.350	3329.678	20.9	
	2003	9/12	24	705.381	3329.873	21.2	
	2004	3/27	24	705.412	3330.067	23.5	
	2005	1/4	24	705.335	3329.581	25.2	

Attachment #6

6.2.2.2 *Meteorological Data*

Meteorological data used in the dispersion modeling analyses consisted of 5 years (2001-2005) of surface observations at the Baton Rouge Airport National Weather Service (NWS) station and coincident upper air data at the Lake Charles NWS station. These meteorological data were processed by LDEQ with the AERMET processor (version 07026) to create the necessary surface data and atmospheric profile data for use by AERMOD.

6.2.2.3 *Receptor Grids*

The receptor grid for the AERMOD dispersion modeling analyses was designed to identify the significant impact area and the maximum air quality impact due to the proposed plant. The grid consisted of 2,480 receptors extending to 12 kilometers from the plant. For SO_2, this grid was extended to identify the extent of the significant impact area. Since the plant has stack heights less than GEP stack height, building downwash will result in maximum predicted concentrations near the plant boundary. Receptors were closely spaced at 100 meter intervals along the property boundary and 100 meter spacing from the boundary to 1,000 meters. The complete receptor grid is shown in Figure 6-9. The plant emission sources are located a sufficient distance from the property boundary such that the building wake cavities are contained on-site (see Figure 6-10). Terrain elevations were processed using AERMAP (version 06341) using a resolution of 7.5 minutes. The receptors (40) representing the Breton NWR Class I area are illustrated in Figure 6-11.

6.2.2.4 *Background Concentrations*

The background concentrations representative of the plant site were determined from LDEQ's monitoring network for the period 2001 to 2005, corresponding to the meteorological database. The NAAQS compliance analyses use the adjusted background concentration to evaluate the influence of the surrounding industry on the measured concentrations. The adjusted background concentration is the monitored concentration minus the modeled concentration at the monitor. If the adjusted concentration is negative, then the concentration is set at zero. The monitors for SO_2, NO_2, and PM_{10} are listed below.

POLLUTANT	DATA YEAR	MONITOR
NO_2	2001	Highway 16, French Settlement - Livingston Parish
	2002-2005	1061-A Leesville Avenue - East Baton Rouge Parish
SO_2	2001-2005	1061-A Leesville Avenue - East Baton Rouge Parish
PM_{10}	2001-2005	Highway 1, Port Allen - West Baton Rouge Parish

The adjusted background concentrations for SO_2, NO_2, and PM_{10} are presented in Table 6-5. For CO, conservative unadjusted background concentrations were used based on the maximum concentration of the recent three year period, 2004 to 2006, for the CO monitor at 1061-A Leesville Avenue in Baton Rouge. The

measured concentrations and the assigned background concentration (in bold type) are provided in the table below.

AVERAGING PERIOD	CONCENTRATION ($\mu g/m^3$)		
	2004	2005	2006
1-Hour	4,351	3,550	5,038
8-Hour	3,092	2,404	3,779

The background concentrations will be summed with the maximum predicted concentrations for comparison with the NAAQS.

6.2.3 *Methodology for Air Quality Modeling*

Model simulations for short-term and annual-average SO_2, CO, PM_{10}, and NO_2 emissions were performed with the AERMOD dispersion model using the 5-year meteorological database. For each pollutant, the modeling results were used to identify the extent of the significant impact area of the proposed plant. If the proposed plant did not have a significant air quality impact for a particular pollutant (see the significant impact increments in Table 6-1), then additional dispersion modeling analyses with other major emission sources were not required. This was the case for CO. For SO_2, NO_2, and PM_{10}, additional modeling was conducted for the Nucor plant emission sources in combination with other major emission sources to compare with applicable PSD increments and NAAQS.

The NO_2 significant impact analyses followed the two-tiered screening approach recommended by USEPA to obtain annual average NO_2 concentrations from point sources. This screening approach, as presented in USEPA's "*Guideline on Air Quality Models*", is described below:

Initial Screen: Use an appropriate Gaussian model to estimate the maximum annual average concentration and assume a total conversion of NO to NO_2. If the concentration exceeds the PSD increment or NAAQS for NO_2, proceed to the second level screen.

Second Level Screen: Multiply the NO_x concentration by an empirically derived NO_2/NO_x value of 0.75. An annual NO_2/NO_x ratio differing from 0.75 may be used if it can be shown that such a ratio is based on data likely to be representative of the location(s) where maximum annual impact from the individual source under review occurs.

6.2.4 *PSD Class I Analyses*

Federal Class I Areas are places of special national or regional value from a natural, scenic, recreational, or historic perspective. These areas were established as part of the PSD regulations included in the 1977 Clean Air Act Amendments. Federal Class I Areas are afforded the highest degree of protection among the types of areas classified under the PSD regulations.

Attachment #7

TABLE 6-5

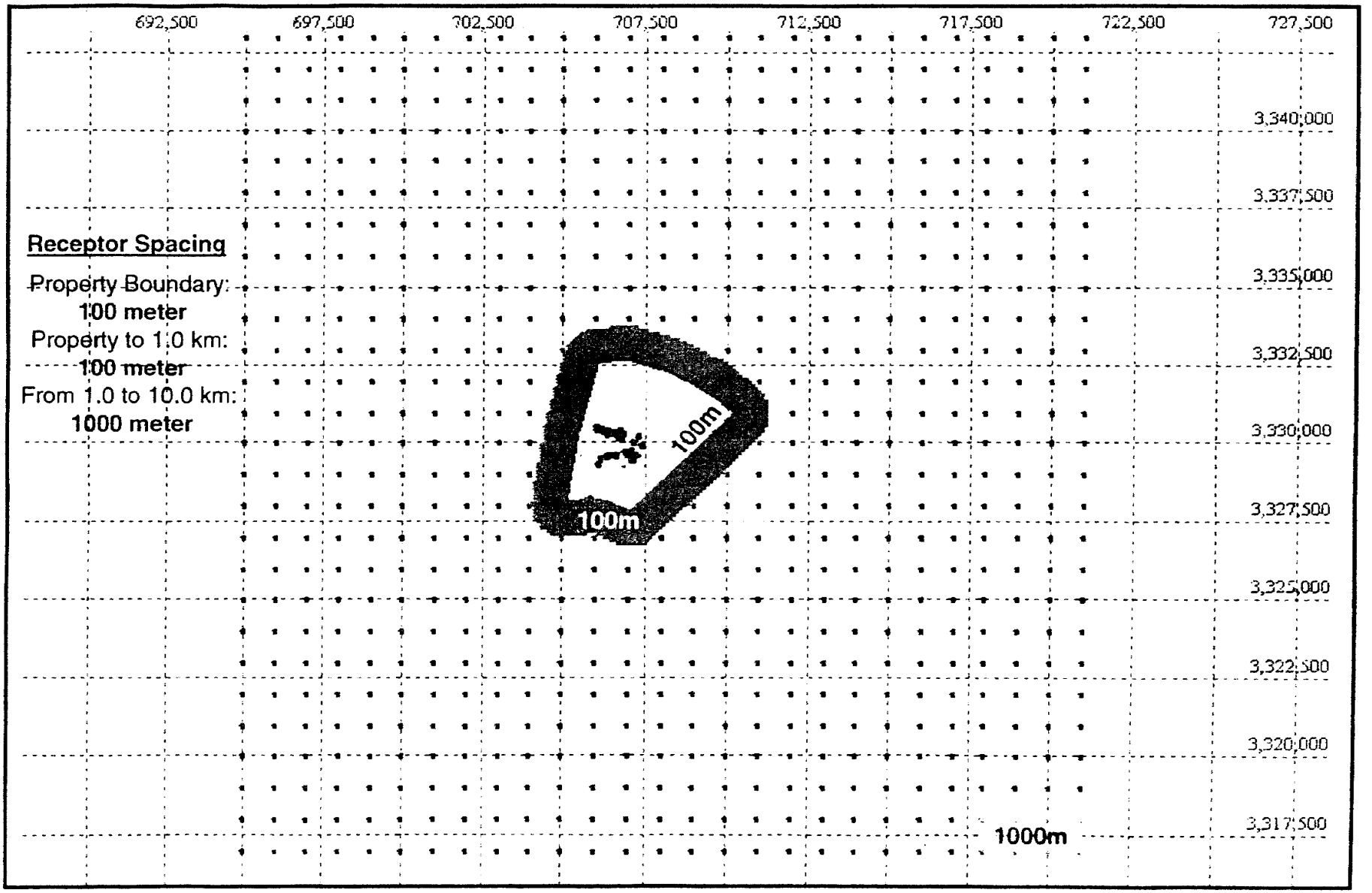
ADJUSTED BACKGROUND CONCENTRATIONS

POLLUTANT/ AVERAGING PERIOD	YEAR	MEASURED CONCENTRATION ($\mu g/m^3$)	MAXIMUM PREDICTED CONCENTRATION ($\mu g/m^3$)	ADJUSTED CONCENTRATION ($\mu g/m^3$)
NO_2 Annual	2001	7.5	20.5	0
	2002	9.4	20.5	0
	2003	9.4	20.7	0
	2004	7.5	18.8	0
	2005	16.9	39.3	0
SO_2 Annual	2001	10.5	14.5	0
	2002	7.9	18.3	0
	2003	10.5	14.9	0
	2004	10.5	14.5	0
	2005	13.1	18.4	0
SO_2 24 Hour	2001	57.6	45.3	12.3
	2002	44.5	62.5	0
	2003	34.1	62.7	0
	2004	49.8	73.1	0
	2005	44.5	86.0	0
SO_2 3 Hour	2001	157.2	191.1	0
	2002	115.3	181.2	0
	2003	91.7	199.5	0
	2004	154.6	271.5	0
	2005	123.1	257.1	0
PM_{10} Annual	2001	33	7.2	25.8
	2002	26	8.4	17.6
	2003	31	6.1	24.9
	2004	31	6.0	25.0
	2005	34	5.6	28.4
PM_{10} 24 Hour	2001	61	34.9	26.1
	2002	69	42.4	26.6
	2003	53	41.0	8.0
	2004	64	31.0	33.0
	2005	72	25.2	46.8

Exh. 2
LEAN/Sierra Club/Couvillion Cmmts on Nucor

Attachment #8

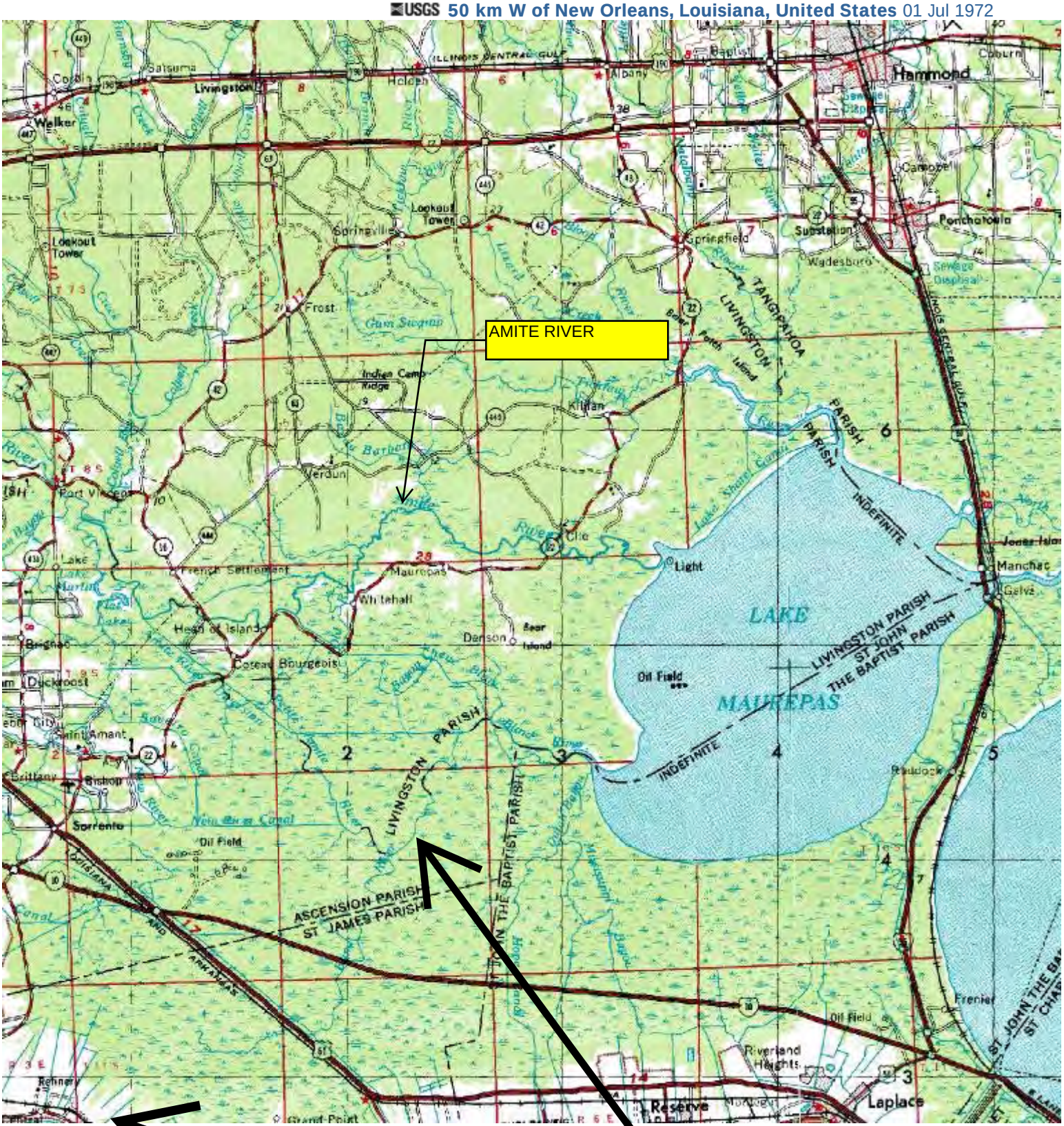
Figure 6-9
Receptor Grid for Air Quality Impact Analysis



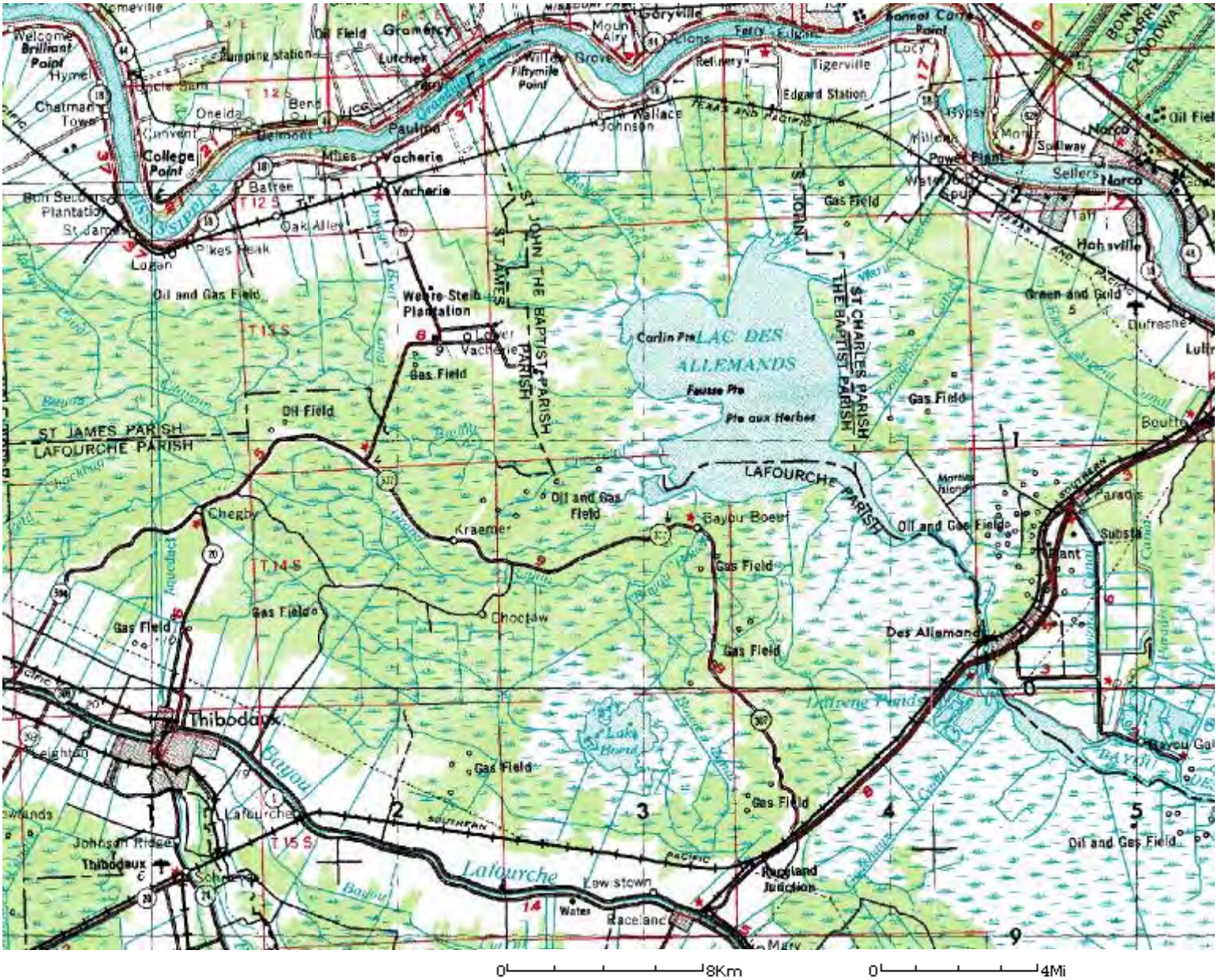
2480 Receptors

Attachment #9

USGS **50 km W of New Orleans, Louisiana, United States** 01 Jul 1972



Exh. 2
LEAN/Sierra Club/Couvillion Cmmts on Nucor



Exh. 2
LEAN/Sierra Club/Couvillion Cmmts on Nucor

Blind River (St. John the Baptist, St. James)	Mercury	Advisory fish consumption	Women of childbearing age and children less than seven years of age should consume no more than ONE MEAL PER MONTH of bowfin (choupique, grinnel) from the advisory area. Other adults and children seven years of age or older should consume no more than FOUR MEALS PER MONTH of bowfin (choupique, grinnel) from the advisory area. Unless the fish species is specifically addressed in the details of the advisory, please limit consumption of all species in an advisory area to FOUR MEALS PER MONTH.	25 miles- From origin to Lake Maurepas	Issued: 04/27/98 Revised: 5/29/03
Bogue Chitto River (Washington, St. Tammany)	Mercury	Advisory fish consumption	Women of childbearing age and children less than seven years of age should consume no more than ONE MEAL PER MONTH of bass (all species) or bowfin (choupique, grinnel) combined from the advisory area. Other adults and children seven years of age and older should consume no more than FOUR MEALS PER MONTH of bass (all species) or bowfin (choupique, grinnel) combined from the advisory area. Unless the fish species is specifically addressed in the details of the advisory, please limit consumption of all species in an advisory area to FOUR MEALS PER MONTH.	35 miles- From the MS/LA state line to the Pearl River Navigation Canal	Issued: 8/96 Revised: 5/29/03

Exh. 2
LEAN/Sierra Club/Couvillion Cmmts on Nucor

Amite River Drainage Basin (East Feliciana, St. Helena, East Baton Rouge, Livingston, and Ascension)	Mercury	Advisory fish consumption	Women of childbearing age and children less than seven years of age should consume no more than ONE MEAL PER MONTH of largemouth bass, spotted bass, bigmouth buffalo, white crappie, freshwater drum, or bowfin (choupique, grinnel) from the advisory area. Other adults and children seven years of age and older should consume no more than FOUR MEALS PER MONTH of largemouth bass, spotted bass, bigmouth buffalo, white crappie, freshwater drum, or bowfin (choupique, grinnel) from the advisory area. Unless the fish species is specifically addressed in the details of the advisory, please limit consumption of all species in an advisory area to FOUR MEALS PER MONTH.	Amite River from the Mississippi State Line to its confluence with Lake Maurepas. Includes Colyell Creek, the Amite River Diversion Canal, and the Petite Amite River.	Issued: 7/1/04

Reading File

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

June 22, 2007

Jeffrey A. Weeks
Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301

Subject: Draft Environmental Impact Statement for the White Pine Energy Station Project, Nevada [CEQ# 20070151]

Dear Mr. Weeks:

The U.S. Environmental Protection Agency (EPA) has reviewed the Bureau of Land Management's (BLM) Draft Environmental Impact Statement (DEIS) for the White Pine Energy Station Project. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act (CAA).

The proposed project includes the construction of the White Pine Energy Station, development of a well field in the Steptoe Valley Hydrographic Basin to meet the water needs of the plant, construction of a rail spur to supply coal, electric transmission facilities, electric distribution line, access roads, and additional construction sites. The White Pine Energy Station would consist of an approximately 1,590-megawatt (MW) coal-fired electric power generating plant using hybrid cooling systems, and containing up to three units. The proposed power plant site would encompass approximately 1,281 acres, including an onsite solid waste disposal facility for the disposal of coal combustion by-products and material collected by the pollution control equipment. Under separate cover, EPA has sent comments on the draft air permit (March 8, 2007) to the Nevada Bureau of Air Pollution Control for this project.

EPA recognizes the complexity of the proposed project and advocates an energy development approach which assures a long-term, sustainable balance between available energy supplies, energy demand, and protection of ecosystems and human health. EPA believes that the goals of providing additional energy supplies, aggressive energy conservation, and diversification of energy supply sources should be carefully balanced.

We have several concerns about the environmental impacts of the proposed project, as well as a lack of critical information in the DEIS. As such, we have rated this DEIS as EO-2, Environmental Objections – Insufficient Information (See attached "Summary of EPA Rating System"). An "EO" signifies that EPA's review of the DEIS has identified potential significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may involve substantial changes to the project. A "2" rating signifies that the DEIS does not contain sufficient information for EPA to fully assess

environmental impacts that should be avoided in order to fully protect the environment. In particular, we are concerned about the potential impact to approximately 440 acres of waters, including wetlands. We understand that this acreage has not been jurisdictionally delineated by the U.S. Army Corps of Engineers (Corps). However, impacts of this magnitude, especially within an arid ecosystem, are of significant environmental concern. We are also concerned about the impacts resulting from ground water withdrawal, air quality impacts from the operation of the proposed plant, including potential mercury emissions, and the general lack of mitigation described in the DEIS.

We recommend that EPA, the Corps, BLM, and the project proponent meet at the earliest possible convenience to: 1) discuss the extent of jurisdictional waters on the project site and the direct, indirect/secondary impacts which would occur as a result of the proposed project; 2) identify opportunities to avoid and minimize impacts to waters of the U.S.; 3) review the process for identifying the Least Environmentally Damaging Practicable Alternative (LEDPA); and 4) outline the requirements of a compensatory mitigation plan. The Final Environmental Impact Statement (FEIS) should provide additional information on wetland impacts, including a demonstration of the LEDPA and mitigation of those impacts. The FEIS should also include a discussion of potential impacts from mercury emissions and proposed mitigation. Overall, the FEIS should include a robust discussion of all mitigation measures proposed for the project, and these should be summarized in the Executive Summary.

We are glad to have had the opportunity to discuss this project with you in brief today and look forward to working with you to resolve our concerns. Please send one hard copy of the FEIS and one CD ROM copy to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 972-3846 or Ann McPherson, the lead reviewer for this project, at (415) 972-3545 or at mcpherson.ann@epa.gov.

Sincerely,

Nova Blazej, Manager
Environmental Review Office

Enclosures: Summary of EPA Rating Definitions
Detailed Comments

Cc: Col. Alex C. Dornstauder, U.S. Army Corps of Engineers
Kevin Roukey, U.S. Army Corps of Engineers
Michael Elges, Nevada Division of Environmental Protection
Matthew DeBurle, Nevada Bureau of Air Pollution Control
John Bunyak, National Park Service
Cindy Nielson, National Park Service
Curt Dimmick, National Park Service
Tracy Taylor, State of Nevada Water Resources State Engineer

US EPA DETAILED COMMENTS ON THE SCOPING NOTICE FOR THE DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR THE WHITE PINE ENERGY STATION PROJECT, WHITE PINE COUNTY, NEVADA, JUNE 22, 2007

Project Description

White Pine Energy Associates, LLC, (WPEA) has proposed to construct, own, operate, and maintain an approximately 1,590–megawatt (MW) coal-fired electric power generating plant in White Pine County in eastern Nevada. The power plant would be located on lands managed by the Ely Field Office of the U.S. Department of the Interior Bureau of Land Management (BLM). The site for the Proposed Action is the Steptoe Valley, approximately 34 miles north of Ely. An alternative power plant site (Alternative 1) also in Steptoe Valley is approximately 12 miles south of the Proposed Action power plant site. Features associated with both alternatives include: electric transmission facilities, water supply system, electric distribution line, rail spur, access roads, and additional construction sites.

Purpose and Need:

According to the Draft Environmental Impact Statement (DEIS), the purpose of the White Pine Energy Station is to supply reliable, low-cost electricity in an environmentally responsible manner to meet baseload energy needs in Nevada and the western United States, and to bring economic benefits to White Pine County, Nevada (pg. 1-2). To achieve this purpose, the DEIS states that the White Pine Energy Station must: 1) utilize commercially proven and reliable technology; 2) be cost-effective; 3) be located in proximity to infrastructure and water supplies in White Pine County; 4) put water rights held by White Pine county for energy production in Steptoe Valley to a beneficial use in producing energy; and 5) provide traffic for the Nevada Northern Railway (NNR).

The DEIS states that the Energy Information Administration (2006) forecasts the need for approximately 24,000 MW of new power generation in the western United States by 2015 and the new coal-fired generation facilities will supply 5,700 MW of this need (pg. 1-2; pg. 1-3). Five coal-burning plants have been proposed for Nevada alone, including: the White Pine Energy Station (1,590 MW), Toquop Energy Power Project (750 MW), Ely Energy Center (1,500 MW), Newmont Nevada Energy project (200 MW), and the Granite Fox project (1,450 MW). The combined power that would be generated from these five proposed power plants in Nevada exceeds 5,400 MW.

While the DEIS states that the purpose of the proposed project is to meet baseload energy needs in Nevada and the Western United States, there is no discussion of the broader context of energy demand in these markets. The purpose of the project is to meet inter- and intra-state demand for energy. This should be explicitly discussed in the Final Environmental Impact Statement (FEIS).

Recommendation:
The FEIS should discuss the proposed project in the context of the larger energy market that this project would serve. The FEIS should identify the potential purchases of power and provide a description of how the power would be bought, sold, and used so that the reader can better evaluate the tradeoffs between resource protection and power generation.

Recommendation:
If the potential purchasers of power include California utilities, the FEIS should address the issue of compliance with the new "greenhouse gas emissions performance standard" as adopted by the California Public Utilities Commission (CPUC) on January 25, 2007. California utilities are barred from buying electricity from most coal-fired power plants unless specific standards are met, effective February 1, 2007.

Recommendation:
EPA is concerned that the density of new coal-burning plants proposed in Nevada is in excess of the demonstrated need for energy throughout the Western States. The FEIS should more clearly describe how the overall need for the power in the Western States has been determined. The FEIS should also describe how the energy planning process for the Western States will ensure that individual states or regions do not carry an undue burden of power generation.

Alternatives Analysis:

CEQ Regulations for implementing NEPA (40 CFR, Parts 1500 - 1508) state that the alternatives section of an EIS should "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly describe the reasons for their having been eliminated" (40 CFR, part 1502.14). Six key criteria were developed to evaluate the feasibility of alternative energy technologies: 1) capable of providing approximately 1,590 MW of reliable baseload power generation capacity; 2) environmentally permittable; 3) cost effectiveness relative to pulverized coal; 4) commercially proven and reliable; 5) place water held by White Pine County for power production in Steptoe Valley to beneficial use for power production; and 6) provide traffic for NNR.

The DEIS presents only two alternatives and a no-action scenario. The two alternatives are virtually identical except for location, and provide very little range of options for decision makers to evaluate the proposed project. The DEIS does identify several alternatives which were eliminated from further evaluation because they did not meet the purpose and need. While the DEIS included a discussion of some of the reasons for their elimination, there was not a clear set of quantitative criteria identified which were used to screen all alternatives in a similar manner. For example, no criteria outlining a cut-off point for financial feasibility/profit margin, minimal plant efficiency rates, level of air, water or habitat impacts were provided. Also, it is unclear how unquantified environmental impacts (such as a reduction of air pollutants, reduced ash disposal, or reduced water use) may have been considered in the economic analysis. Each

alternative was described and a qualitative reason for elimination was provided, based on the six key criteria identified previously.

Recommendation:
The FEIS should provide a clear discussion of the reasons for the elimination of alternatives which are not evaluated in detail and provide a clear set of quantitative criteria to screen all alternatives. The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g., acres of wetlands impacted, tons per year of emissions produced, etc.). For example, the FEIS should include a matrix that rates each of the alternatives on each of the selection criteria. Quantitative values should be included wherever practicable.

Recommendation:
In reviewing the DEIS, some alternatives seem to have been eliminated solely because they do not *maximize* the economic benefits. Since maximizing economic benefit is not clearly identified as part of the purpose and need or evaluation criteria for this project, it appears some reasonable alternatives may have been prematurely eliminated. Clearly identify the economic criteria used for analyzing alternatives. As appropriate, fully consider alternatives previously rejected in the earlier analysis.

Coal gasification was considered in the comparison of alternative power generating technologies (pg. 2-66). The DEIS includes a preliminary evaluation of Integrated Gasification Combined Cycle (IGCC) coal combustion technology but concludes that: 1) IGCC would not provide adequate baseload power generation; 2) IGCC is not yet commercially proven, reliable, and available in a time frame to support the proposed project; and 3) IGCC would cost more than a conventional coal plant (pgs. 2-80 through 2-82). EPA understands that IGCC technology offers potential reductions in air pollutant emissions and greenhouses gas emissions; requires less water; and produces less ash requiring disposal. It is not clear if these benefits have been considered in the cost-benefits analysis of the various alternatives. The CEQ Regulations for implementing NEPA indicate that unquantified environmental impacts and values should be considered (40 CFR 1502.23).

Recommendation:
The FEIS should explain how such unquantified environmental impacts and values have been considered in the cost-benefit analysis, in particular for IGCC technology.

Recommendation:
The FEIS should clarify if the incentives in Title XVII of the Energy Policy Act of 2005 (42 U.S.C. 16511-16514) to facilitate deployment of innovative technology such as IGCC were considered in the cost-benefit analysis.

The Ely Energy Center is a proposed project that is described in greater detail in the Cumulative Impacts section of the DEIS (pg. 4-262 through 263). This proposed coal-fired power facility would be located in close proximity to the White Pine Energy Station (approximately 18 miles north of Ely or 50 miles north of Ely, depending on the selection of the

alternative) and constructed in two phases. Phase 1 would include constructing two, 750-MW units that use pulverized coal technologies. Phase 2 would include constructing two 500-MW integrated gasification combined-cycle (IGCC) generating units.

Recommendation:
EPA questions whether the project proponent for the White Pine Energy Station considered a two phase process, similar to the Ely Energy Center, where IGCC might be considered in a second phase of development. This should be discussed in the FEIS.

Recommendation:
EPA recommends that the project proponent consider developing a new alternative that incorporates phased development of IGCC, or modifying the existing alternatives, to provide the plant with enough physical space so that any future modifications associated with carbon dioxide capture equipment could be implemented within the existing area.

The DEIS states that conservation/energy efficiency cannot be proposed by WPEA, and it is not an action the BLM or federal government can take in lieu of reaching a decision regarding implementation of the proposed project. Therefore, conservation/energy efficiency cannot be considered as an alternative to the proposed project (pg. 2-84).

All reasonable alternatives that fulfill the purpose of the project's purpose and need should be evaluated in detail, including alternatives outside the legal jurisdiction of the BLM and beyond the scope of what Congress may have approved or funded (Council on Environmental Quality's (CEQ) Forty Questions[1], #2a and #2b). The more alternatives considered, the greater the possibility of avoiding significant impacts. "*In determining a reasonable range of alternatives, the focus is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical and feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.*" (CEQ Forty Questions, #2a)

Additionally, "*Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies.* Section 1500.1(a)." (CEQ Forty Questions, #2b)

Recommendation:
The FEIS should be revised to state: 1) that increased requirements for energy efficiency is an action that local, state, and the federal government can undertake to meet the purpose and need of supplying energy to the Western States, and 2) the FEIS needs to explain why this is, or is not, a "reasonable" alternative for this project.

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[1]Forty Most Asked Questions Concerning CEQ's NEPA Regulations, 40 CFR Parts 1500-1508, Federal Register, Vol. 46, No. 55, March 23, 1981.

Recommendation:
Increased energy efficiency offers an attractive, cost-effective alternative to building new power plants, and in some cases, even to generating electricity from existing power plants. The FEIS should discuss on-going and planned energy conservation programs undertaken by power distributors and how energy conservation may affect the need for this project.

The DEIS states that the Proposed Action would put to use beneficial ground use water rights granted to White Pine County by the Nevada State Engineer in Steptoe Valley for energy production purposes. If these rights are not put to beneficial use, White Pine County is at risk of having the rights withdrawn by the State Engineer (pg. 1-3). As stated earlier, one of the criteria identified in the DEIS that was used to evaluate the feasibility of the different alternatives is the ability of the project to use this allocation of water. Additionally, the DEIS states that one of the six key criteria used to evaluate alternative power generating technologies is to provide traffic for the NNR.

Recommendation:
The FEIS should clearly describe why these two screening criteria are appropriate in the context of this project and other competing resource needs. Water in the West is becoming an increasingly valuable commodity, especially in light of widespread drought conditions. The alternatives analysis should consider ways to maximize water conservation, as well as other economic benefits that could be derived from conserved water, such as sale of water rights to other uses. The FEIS should also clearly describe why providing traffic for the NNR is an appropriate screening criterion. EPA is concerned that this criterion may unnecessarily constrain the reasonable range of alternatives.

The DEIS states that geothermal power is not available in White Pine County in sufficient capacity to meet the project purpose and need and that geothermal power does not meet most of the six project purpose and need criteria, nor does it meet the overall purpose and need of the proposed Station (pg. 2-71). Geothermal resources are found extensively in the Western United States, particularly in California and Nevada. In 2006, the Geothermal Taskforce of the Western Governor's Association estimated that Nevada could install an additional 1,488 MW of geothermal power economically by 2015, and estimated potential by 2025 as high as 2,895 MW from identified resource areas. Geothermal resources should be an attractive alternative to utilities because they are baseload renewable energy sources.

Recommendation:
For the purpose of public disclosure, EPA recommends that the FEIS include additional discussion on the potential for development of geothermal resources in Nevada outside of White Pine County.

Water Resources

Clean Water Act Section 404

EPA is very concerned about the potential impact to approximately 440 acres of waters, including wetlands (pg. 3-59). We understand that this acreage has not been jurisdictionally delineated by the U.S. Army Corps of Engineers (Corps). However, impacts of this magnitude, especially within an arid ecosystem, are of significant environmental concern. We recommend that EPA, the Corps, BLM, and the project proponent meet at the earliest possible convenience to 1) discuss the extent of jurisdictional waters on the project site and the direct, indirect/secondary impacts which would occur as a result of the proposed project; 2) identify opportunities to avoid and minimize impacts to waters of the U.S.; 3) review the process for identifying the Least Environmentally Damaging Practicable Alternative (LEDPA); and 4) outline the requirements of a compensatory mitigation plan.

Pursuant to Section 404 of the Clean Water Act (40 CFF 230), only the LEDPA can be permitted. Identification of the LEDPA is achieved by performing an alternatives analysis that estimates the direct, secondary, and cumulative impacts to jurisdictional waters resulting from each alternative considered. Project alternatives that are not practicable and do not meet the project purpose are eliminated. The LEDPA is the remaining alternative with the fewest impacts to aquatic resources, so long as it does not have other significant adverse environmental consequences. When an analysis is correctly structured, the applicant or the permitting authority can be assured that no discharge other than the practicable alternative with the least adverse impact on the aquatic ecosystem has been selected (40 CFR 230.10(a)). In addition, the applicant must clearly demonstrate that alternatives that do not result in the discharge of dredged or fill material in aquatic sites are either not practicable, or have other significant adverse environmental consequences.

Based on information provided in the DEIS, a total of 441.3 acres were determined to be potentially jurisdictional waters (pg. 3-59). This includes 240.3 acres of wetlands and six drainages totaling 19.3 acres of waters. Approximately 126.5 acres of wetlands were associated with the Proposed Action Right-of-Way (ROWs) and buffers while 113.8 acres of wetlands were associated with the Alternative 1 ROWs and buffers. The wetlands consist of wet meadow, alkali meadow, and rabbitbrush meadow. In total, 122 drainages were identified in the field. These drainages included 61 ephemeral, 54 swales, 6 intermittent, and one perennial.

According to the DEIS, implementation of either the Proposed Action or Alternative 1 would have the same or similar environmental consequences with respect to surface water resources (pg. 4-9). Both station construction and operation could affect surface water. Permanent, temporary and secondary/indirect impacts to waters would occur from construction of the power plant, substations, access roads, transmission and distribution lines and footings, water supply wellfield, and rail spur. However, it is difficult to discern the extent of impacts to waters based on information provided in the DEIS.

Appendix B discloses the extent of unverified waters in the study area, but potential impacts are not adequately and concisely disclosed in the DEIS. Although Table 4.5-1 estimates impacts on vegetation communities, it does not disclose the extent of impact to other waters or assess the secondary/indirect impacts to wetlands or springs as a result of groundwater drawdown (pg. 4-33). The DEIS discusses adversely affecting 42 drainages that drain into Steptoe Valley from Schell Creek Range, but the extent of the impact is unclear in the document.

Pursuant to the Guidelines, the applicant bears the burden of clearly demonstrating that the preferred alternative is the LEDPA that achieves the overall project purpose, while not causing or contributing to significant degradation of the aquatic ecosystem. At this time, the alternatives analysis in the DEIS does not demonstrate compliance with the 404 (b)(1) Guidelines. EPA offers the following recommendations to help facilitate compliance of the project with the Section 404 Guidelines:

Recommendation:
EPA, the Corps, BLM, and the project proponent should meet at the earliest possible convenience to: 1) discuss the extent of jurisdictional waters on the project site and the direct, indirect/secondary impacts which would occur as a result of the proposed project; 2) identify opportunities to avoid and minimize impacts to waters of the U.S.; 3) review the process for identifying the Least Environmentally Damaging Practicable Alternative (LEDPA); and 4) outline the requirements of a compensatory mitigation plan.

Recommendation:
Based on direction provided through the interagency meeting, the FEIS should include an evaluation of the project alternatives in order to demonstrate the project's compliance with the 404(b) (1) Guidelines and authorization of LEDPA. The alternatives analysis should include a reasonable range of alternatives that meet the project purpose while avoiding and minimizing damage to waters of the United States, including wetlands (waters). If, under the proposed project, dredged or fill material would be discharged into waters of the U.S., the FEIS should discuss alternatives to avoid those discharges.

Recommendation:
The FEIS should describe the status of consultations with the Corps regarding a CWA Section 404 permit, and how the Proposed Action meets 404 (b)(1) Guidelines which require that projects first avoid, then minimize, and finally mitigate any impacts to waters of the U.S., including wetlands and other special aquatic sites.

Recommendation:
The applicant should provide a table and clear narrative on the direct, indirect/secondary and temporary impacts to waters, including wetlands, in the FEIS. This includes an estimate of the extent of adverse impact (acreage) on the springs as a result of groundwater pumping.

Recommendation:
The FEIS should include more information regarding functions of ephemeral washes and the locations of the ephemeral washes. Natural washes perform a diversity of hydrologic and biogeochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and are adapted to the unique conditions of these systems.

Pursuant to the 404 Guidelines, the applicant must mitigate for unavoidable impacts to waters. Based on a review of the DEIS, it appears the applicant does not propose to mitigate for impacts to waters, including wetlands.

Recommendation:
Based on this information provided in the DEIS, the applicant should prepare a compensatory mitigation plan for impacts to waters, including wetlands. This plan will identify how the mitigation will be managed and funded in perpetuity. This mitigation plan should also include a more comprehensive plant to mitigate for adverse effects of groundwater pumping on springs, including wetlands.

Clean Water Act Section 303(d)

The CWA requires States to develop a list of impaired waters that do not meet water quality standards, establish priority rankings, and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality.

Recommendation:
The FEIS should provide information on CWA Section 303(d) impaired waters in the project area, if any, and efforts to develop and revise TMDLs. The FEIS should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

Groundwater Resources

The perennial yield of the Steptoe Valley Hydrographic Basin has been established by the Nevada Department of Conservation and Natural Resources to be 70,000 acre-feet per year (pg. 3-48). The amount of committed resources is 78,531 acre-feet per year, which exceeds the perennial yield by 8,531 acre-feet per year (pg. 3-48). The rights to the 5,000 acre-feet per year of ground water that would be pumped for the proposed station were granted in 1983 when the total amount of water appropriated in Steptoe Valley was less than 48,000 acre-feet per year. The water rights that would be used for the proposed Station were appropriated before the basin became overcommitted.

The DEIS states that the total amount of groundwater pumped from the Steptoe Valley Hydrographic Area in 2000 was estimated to be 6,360 acre-feet per year. Of this, approximately 3,560 acre-feet per year went to irrigation and stock watering uses, and 2,800 acre-feet per year went for municipal use. Estimates of historical use exceed 20,000 acre-feet per year (pg. 3-47).

Recommendation:
The FEIS should clearly depict reasonably foreseeable direct, indirect, and cumulative impacts to groundwater resources. The FEIS should address what would happen should the groundwater resources in the basin become overextended due to additional growth, continued drought, and the utilization of existing water rights in the basin.

The DEIS states that a ground water monitoring and reporting program will be implemented to determine if there are unanticipated effects from Station pumping on ground water levels or in flow rates and water levels of nearby springs (pg. 4-20). A brief description of the ground water monitoring program is included in Appendix I. Under the proposed Action, ground water from basin-fill aquifers in Steptoe Valley could result in localized ground water level declines between 2 and 6 feet deep. According to the DEIS, WPEA will modify their pumping strategy to mitigate the potential for impacts; however it is unknown whether all potential impacts could be avoided (pg. 4-264).

Given the potential for adverse impacts from pumping groundwater, it is important that all monitoring and mitigation information be provided to the public and decision makers. The Proposed Action would permanently eliminate a total of 1,516 acres of wildlife habitat and temporarily disturb an additional 395 acres of habitat. In the arid Great Basin, wetland habitat and the springs are critically important for several special status species that rely on water sources and wetland vegetation communities. According to the DEIS, no mitigation measures for vegetation, wildlife and aquatic resources, noxious weeds, or threatened, endangered, and sensitive species are anticipated to be necessary beyond the five measures listed on page 4-60. One of the measures includes the contribution of $150,000 dollars to a mitigation fund that will allow the BLM/Nevada Department of Wildlife to fund wildlife habitat restoration work for project–related habitat disturbances.

Recommendation:
EPA recommends that the ground water monitoring program be clearly defined and include a mitigation section for water resources. The ground water monitoring plan should describe the location of the monitoring wells and discuss contingency actions in the event of detection of contamination. The monitoring program should also assess the impacts to vegetation, wildlife, and aquatic resources. Funds to implement the monitoring program should be established and monitoring should be conducted on a regular basis. The FEIS should include a commitment to the monitoring program and funding for the program.

Recommendation:
The FEIS should include additional mitigation for impacts related to ground water withdrawal. Modifying the pumping strategy may help to minimize effects associated

with ground water withdrawal; however, it is unknown at this time whether all potential impacts can be avoided. The monitoring program should include actions that will be taken if data indicate impacts to springs or other resources. If specific impacts or mitigation measures cannot be identified at this point, the groundwater monitoring plan should include a commitment that if monitoring indicates there are impacts associated with the White Pine Energy Station, then WPEA will take actions necessary to fully correct and/or mitigate those impacts.

The DEIS states that an onsite solid waste disposal facility would be constructed and operated for the disposal of coal combustion byproducts including fly ash, bottom ash, economizer ash, scrubber byproducts and coal rejects, and other inert, non-hazardous industrial wastes. An evaporation pond with a surface area of up to 75 acres would also be constructed.

Recommendation:
EPA recommends additional mitigation measures for protection of the aquifer underlying the proposed ash disposal and evaporation pond sites, including installing monitoring wells near or beneath the sites and sampling these wells on a regular basis.

Air Quality

Operating Permit to Construct (Prevention of Significant Deterioration Major Source Permit)

New major stationary sources of air pollution and major modifications to sources are required by the Clean Air Act (CAA) to obtain an air pollution permit before commencing construction. This process is called new source review (NSR) and is required whether the major source or modification is planned for an area where the NAAQS are exceeded (nonattainment areas) or an area where air quality is acceptable (attainment and unclassifiable areas). Permits for sources in attainment areas are referred to as *Prevention of Significant Air Quality Deterioration* (PSD) permits. Since the White Pine Energy Station is located in an attainment area, a PSD permit is required for construction of the project. EPA granted full delegation of the PSD program to the Nevada Division of Environmental Protection (NDEP) on October 19, 2004.

The DEIS states that the NDEP and EPA have the responsibility for assessment of Station impacts and specification of any mitigating actions deemed necessary to protect air quality as part of the PSD permitting process (pg. 4-119).

Recommendation:
EPA delegated PSD to NDEP in October 2004. While EPA has an oversight role, NDEP is the permitting authority and bears the sole responsibility of evaluating impacts. This statement should be revised in the FEIS.

The DEIS provides scant detail on emissions, air pollution control devices, and Best Available Control Technology (BACT) emission limits. For a new major source, the PSD regulations (40 CFR 52.21) require application of BACT. The extent of the discussion is included on pgs. 4-88 through 4-90. The proposed control technologies for the pulverized coal

boilers are summarized in table 4.6-3; maximum estimated emission of criteria air pollutants from the Station are shown in table 4.6-4.

Recommendation:
The FEIS should address the range of emission control technologies that were evaluated for use at the facility in order to achieve BACT, and discuss the factors and process that are being used to select the appropriate technology.

Recommendation:
The FEIS should discuss the PSD increments applicable to air quality in the project area. PSD increments exist for sulfur dioxide (SO_2), particulates (PM_{10}), and oxides of nitrogen (NOx). The FEIS should discuss impacts to air quality and PSD increments from estimated emissions, considering the effects from all aspects of the project.

A facility must apply for and obtain a permit prior to commencement of construction under the PSD program. EPA reviewed the proposed "Operating Permit to Construct" for the White Pine Energy Station and submitted detailed comments on March 8, 2007. EPA offered several recommendations to the Nevada Bureau of Air Pollution Control (BAPC) in that letter. These recommendations are summarized below (*a - f*). Please refer to the original letter for additional details.

a. Recommendation:
EPA recommends that the BAPC provide an on-record justification for selecting dry scrubbing as BACT controls for SO_2 rather than wet scrubbing. The BACT analysis should more completely compare specific emission limits and control technologies selected as BACT for pulverized coal boilers in other PSD permits recently issued or proposed nationwide, together with a detailed rationale for eliminating the top ranked control on the basis of energy, environmental, or economic considerations.

b. Recommendation:
EPA recommends that the BAPC consider lowering the NOx BACT emission limit to 0.06 pounds per million British Thermal Units, 24-hour average (lb/MMBTU), which is what EPA has proposed for the Desert Rock permit. The NOx BACT emission limit in the draft permit is 0.07 lb/MMBTU, 24-hour average. The BAPC should evaluate whether the lower BACT emission limits could be achieved; identify any differences that would support a higher limit; and consider including provisions that would allow for a shakedown period after the facility commences operation to determine whether a lower BACT limit is achievable.

c. Recommendation:
EPA recommends that the BAPC determine whether an additional Class II visibility impact analysis is needed to corroborate the CALPUFF modeling the applicant has provided.

d. Recommendation:

EPA recommends that the BAPC document the emission inventory the applicant used in its cumulative Class I increment analysis.

e. Recommendation:
EPA recommends a tiered approach to the BACT limits for NOx, carbon monoxide (CO), and SO_2, with both short term lb/hr (one or three hours) and long term lb/MMBTU (24-hr) averages. Such limits would reinforce the source's obligation to operate its control devices properly at all times and would assure compliance with the 3-hour (SO_2) and 1-hour and 8-hour CO National Ambient Air Quality Standards (NAAQS). Without short term limits, the source could be in compliance with its 24-hour limits, while a short term peak in CO or SO_2 emissions could cause an exceedance of the short term NAAQS.

f. Recommendation:
EPA recommends that the final permit include enforceable definitions for start-ups and shut-downs; consider limiting the duration of each startup to 16 hours; and consider limiting the frequency of occurrence of the startup periods.

In general, EPA recommends that these issues be discussed in greater detail within the context of the FEIS, as the EIS is the appropriate venue for disclosing this information.

Visibility and Acid Deposition

The National Park Service (NPS) submitted comments on the PSD Permit Application Regarding Class I Impacts which are summarized in the DEIS on pgs. 4-114 through 4-115. The NPS expressed the following concerns: 1) visibility at Great Basin National Park would be significantly affected by the emissions from the Station alone; 2) sulfur deposition exceeds the NPS Deposition Analysis Threshold at Zion National Park; 3) sulfur and nitrogen deposition exceeds the NPS Deposition Analysis Threshold (DAT) at Great Basin National Park, with potential impacts to aquatic and terrestrial ecosystems; and 4) the impacts upon visibility in Great Basin National Park are significant. The DEIS states that there are two areas of concern: 1) predicted impacts on visibility within Jarbidge Wilderness Area and Zion National Park during conditions that have historically occurred for a small fraction of the time; and 2) visibility and acid deposition impacts within the Great Basin National Park.

The DEIS only states that the NDEP issued a draft air permit in December 2006 and required no further mitigation of visibility impacts as part of that permit (pg. 4-119). Additional discussion on these impacts is not evident in the DEIS.

Recommendation:
EPA is concerned about the potential for acid deposition and visibility impairment at Great Basin National Park, Jarbidge Wilderness Area, and Zion National Park. EPA recommends that BLM work directly with the NPS in resolving these concerns. This issue should be addressed in greater detail in the FEIS and mitigation measures should be proposed, as appropriate.

Mercury Emissions

The DEIS contains little information on mercury emissions. Mercury is listed in table 4.6-3 and table 4.6-8 (pg. 4-90; pg. 4-97). Coal-fired power plants are the largest remaining source of mercury emissions in the country (http://www.epa.gov/air/mercuryrule/basic.htm). When coal is burned to generate electricity, mercury in the coal is released into the atmosphere. Airborne mercury emissions can be deposited locally or travel hundreds of miles, depending on the form in which it is emitted, the height at which it is released, and atmospheric conditions. Mercury generally falls out in rainfall, especially in urban areas where smog is a problem, and then enters streams, lakes, reservoirs, and oceans. Once mercury enters water, biological processes transform it to methyl mercury, a highly toxic form of mercury that bioaccumulates in fish and in other animals that eat fish. Human exposure to mercury occurs primarily through consumption of contaminated fish and shellfish.

Wyoming coal has a low chlorine content that causes mercury emissions to exist in an insoluble elemental form. Power plants burning Wyoming coal can obtain only 25% or less capture of mercury in their scrubbers, as compared to power plants burning eastern coal, which can get 80-90 % mercury capture in their scrubbers.

In March 2005, EPA promulgated the first national standards (Clean Air Mercury Rule - CAMR) for mercury emissions from coal-fired electric power plants. In July 2006, EPA finalized its new mercury rule and called for a nationwide reduction of mercury emissions in two stages. The first stage calls for a ~25% reduction by 2010 as a co-benefit of an existing rule calling for new scrubbers to reduce acid rain. Additional reductions are not required until 2018. Under a "cap and trade program" utilities can buy emission credits from other utilities in lieu of installing state-of-the-art mercury removal equipment. Nevada has developed the Nevada Clean Air Mercury Rule State Plan to comply with EPA's CAMR. Under the Clean Air Mercury Rule, Nevada was allocated a budget of 570 pounds of mercury per year from 2010 to 2017. From 2018 on, Nevada's budget is 224 pounds per year.

Recommendation:
The FEIS should disclose the pounds of mercury emitted annually from the proposed project; include a discussion of how emission controls will reduce impacts from mercury; include a discussion of appropriate mercury emission limit(s); and summarize conclusions about mercury emissions to the atmosphere and subsequent deposition. The FEIS should indicate the amount of mercury estimated in the coal.

Recommendation:
The FEIS should clearly express the impacts of airborne mercury to surface waters and associated biota. The FEIS should indicate that piscivorous (fish-eating) birds and mammals are particularly at risk form mercury emissions. This risk is likely to be greatest in areas that receive high levels of mercury deposition, although local and regional factors can substantially impact the amount of total mercury that is translocated from watersheds to waterbodies and undergoes chemical transformation to the methylated species.

Greenhouse Gas Emissions

The California Public Utilities Commission (CPUC) adopted an interim *Greenhouse Gas Emissions Performance Standard* on January 25, 2007 in an effort to help mitigate climate change. The standard mandates that that new plants produce gas emissions no higher than those from a combined cycle natural gas turbine and calls for an "emissions performance level" of 1,100 pounds of carbon dioxide per megawatt hour. The standard is aimed at coal-fired power stations operating outside California and exporting electricity to the state of California. California utilities are barred from buying electricity from most coal-fired power plants unless specific standards are met, effective February 1, 2007.

Recommendation:
As stated previously, EPA recommends that the FEIS identify the potential purchasers of power. If the potential purchasers of power include California utilities, then the FEIS should address the issue of compliance with the new "*Greenhouse Gas Emissions Performance Standard*" as adopted by CPUC.

Global warming is caused by emissions of carbon dioxide and other heat-trapping gases. The DEIS compares greenhouse gas emission rates from three emission sources: 1) the White Pine Energy Station (Proposed Action), 2) a subcritical pulverized coal fired boiler, and 3) a combined cycle gas fired power plant (table 4.6-31). The White Pine Energy Station is expected to emit approximately 20 million tons per year (tons/year) of carbon dioxide (pg. 4-119).

Recommendation:
The FEIS should discuss carbon capture and sequestration and other means of capture and storage of carbon dioxide as a component of the proposed alternatives.

Construction Emissions Mitigation

Appendix A describes Best Management Practices (BMP) that would be implemented to minimize or avoid the potential for impacting air quality. EPA recommends an evaluation of the following measures to reduce construction emissions of criteria air pollutants and hazardous air pollutants (air toxics). The FEIS should include a *Construction Emissions Mitigation Plan* to reduce construction emissions and commit to the use of these measures during construction, as appropriate.

- Reduce emissions of diesel particulate matter (DPM) and other air pollutants by using particle traps and other technological or operational methods. Control technologies such as traps control approximately 80 percent of DPM. Specialized catalytic converters (oxidation catalysts) control approximately 20 percent of DPM, 40 percent of carbon monoxide emissions, and 50 percent of hydrocarbon emissions.
- Ensure that diesel-powered construction equipment is properly tuned and maintained, and shut off when not in direct use.
- Prohibit engine tampering to increase horsepower.

- Locate diesel engines, motors, and equipment as far as possible from residential areas and sensitive receptors (schools, daycare centers, and hospitals).
- Require low sulfur diesel fuel (<15 parts per million), if available.
- Reduce construction-related trips of workers and equipment, including trucks.
- Lease or buy newer, cleaner equipment (1996 or newer model), using a minimum of 75 percent of the equipment's total horsepower.
- Use engine types such as electric, liquefied gas, hydrogen fuel cells, and/or alternative diesel formulations.
- Work with the local air pollution control district(s) to implement the strongest mitigation for reducing construction emissions.

Cumulative Impacts

Cumulative impacts are discussed in Section 4.19. Eleven projects were considered in the cumulative impact analysis (pgs. 4-259 through 4-263) including the Ely Energy Center, which would be located approximately 15 miles south or 15 miles north of the White Pine Energy Station. Depending on the location of the Ely Energy Center well-field relative to the White Pine Energy Station well-field, the potential exists for cumulative effects on ground water resources, including impacts to spring discharges (pg. 4-265). The DEIS acknowledges that reduced flows and water levels may affect plant species associated with spring environments (pg. 4-266). Further analysis is precluded because of the lack of additional information on the Ely Energy Center.

Recommendation:
The FEIS should contain a more detailed discussion on the potential impacts associated with ground water withdrawal in conjunction with the Ely Energy Station, including potential mitigation measures and identification of the entities that would be responsible for implementing those mitigation measures.

Hazardous Materials and Hazardous Waste

Coal Combustion Products (CCPs)

Coal combustion products (CCPs) are the byproducts generated from burning coal in coal-fired power plants. These byproducts include fly ash, bottom ash, boiler slag, and flue gas desulfurization (FGD) gypsum. EPA promotes the beneficial reuse of CCPs through its Coal Combustion Products Partnership (C2P2), a voluntary program to reuse CCPs in commercial applications to divert waste and save natural resources. Additional information about C2P2 can be found at http://www.epa.gov/epaoswer/osw/conserve/c2p2/index.htm. CCP reuse can mitigate potential negative effects of placing all CCPs in landfills and/or mines, while simultaneously encouraging economic benefits. Specifically, we recommend the following items for inclusion in the FEIS:

Recommendation:
EPA recommends that the FEIS discuss reuse options for coal fly ash and flue gas desulfurization (FGD) gypsum products. These CCPs are widely utilized in commercial applications and there are industry specifications regarding their reuse.

Recommendation:
EPA recommends that the FEIS discuss potential modifications to air pollution control devices/configurations in order to increase the marketability of coal fly ash and FGD gypsum. Modifications could include reducing the size of coal particles entering the boiler to decrease carbon content in the ash such that it will meet the American Society of Testing and Materials (ASTM) standards in Portland Cement Concrete, or installing a forced-air oxidation system in the FGD scrubber to produce gypsum.

Recommendation:
EPA recommends that the FEIS incorporate a sampling plan to test CCPs according to standard ASTM and EPA methods once generation has begun.

Recommendation:
EPA recommends that WPEA conduct a marketing and research plan designed to identify potential end-users of the CCPs, including an exploration of potential transportation options.

EPA encourages participation in C2P2 program. For more information on CCP reuse and partnership opportunities, please contact Elise Hunter (415-972-3290) in the EPA Region 9 Waste Management Division.

Electric and Magnetic Fields

Electric and magnetic fields (EMFs) are associated with transmission lines and substations and can be associated with potential health risks. This topic was not addresses in the DEIS.

Recommendation:
The FEIS should fully describe and evaluate the potential impacts of EMFs associated with transmission lines and substations, and analyze potential health impacts of the project due to increased EMFs. The FEIS should include a summary of existing scientific evidence that may be relevant to evaluating the reasonably foreseeable impacts associated with EMFs (40 CFR 1502.22) to disclose this information to the public under NEPA.

Implementation of Adaptive Management Techniques for Mitigation Measures

Adaptive management is an iterative process that requires selecting and implementing management actions, monitoring, comparing results with management and project objectives, and using feedback to make future management decisions. The process recognizes the importance of continually improving management techniques through flexibility and adaptation instead of adhering rigidly to a standard set of management actions. Although adaptive management is not a new concept, it may be relatively new in its application to specific projects. As stated in a recent CEQ report, *Modernizing NEPA*, the effectiveness of adaptive management monitoring depends on a variety of factors including:

a) The ability to establish clear monitoring objectives;
b) Agreement on the impact thresholds being monitored;
c) The existence of a baseline or the ability to develop a baseline for the resources being monitored.
d) The ability to see the effects within an appropriate time frame after the action is taken;
e) The technical capabilities of the procedures and equipment used to identify and measure changes in the affected resources and the ability to analyze the changes;
f) The resources needed to perform the monitoring and respond to the results.

Recommendation:
EPA recommends that BLM/WPEA consider adopting a formal adaptive management plan to ensure the success of mitigation measures and to provide management flexibility to incorporate new research and information. Action alternatives would incorporate the principles of adaptive management by using monitoring and evaluation to determine if management actions were achieving objectives and adjusting actions accordingly. EPA recommends that BLM review the specific discussion on Adaptive Management in the NEPA Task Force Report to the Council on Environmental Quality on *Modernizing NEPA*.

Environmental Management System (EMS)

EMS is a management framework that provides a routine annual process for assessing environmental impacts and implementing continuous improvement measures to its environmental policy. Commitment to implement an EMS serves as effective mitigation for impacts resulting from project development and a vehicle for documenting ongoing monitoring of resources.

Recommendation:
EPA recommends that BLM/WPEA develop and implement an EMS at the proposed White Pine Energy Station.

For more information on the EMS program and partnership opportunities, please contact Larry Woods (415 972-3857) in the EPA Region 9 Communities and Ecosystems Division, Environmental Stewardship Team.

Miscellaneous Comments

The DEIS provides minimal description of the major power island components and air pollution control equipment and includes only one diagram of the schematics associated with the production process (fig. 2-4). The DEIS states that an alternative power plant cooling technology was considered but eliminated from detailed analysis because of potential impacts to ground water (pg. ES-7). It is difficult to evaluate whether or not the latest control technology is being utilized in the White Pine Energy Station due to the lack of detail in the DEIS.

Recommendation:
EPA recommends that the FEIS include additional detail and diagrams of the air pollution control equipment, cooling towers, and other major components.

The DEIS states that natural draft cooling towers will be used (pg. 2-7). In the original Proposed Action, conventional mechanical draft wet cooling towers were proposed with a total water usage of up to 25,000 acre-feet. WPEA modified the alternatives to include three generating units and a hybrid cooling system with a maximum water usage of up to 5,000 acre-feet annually, resulting in water usage reduction of approximately 80 percent (pg. 2-92).

Recommendation:
The FEIS should describe the hybrid cooling system in greater detail; clarify whether it is a dry cooling or a hybrid system; and describe whether the cooling water will be re-circulated in the plant.

Ambient air quality data for sulfur dioxide and nitrogen dioxide have been collected (pg. 3-113). Concentrations of sulfur dioxide and nitrogen dioxide are given in units of micrograms per cubic meter (ug/m^3) and then compared to the NAAQS, which are given in units of parts per million (ppm).

Recommendation:
The FEIS should include conversions for these units, so that the reader can compare the actual values with the NAAQS.

OhioEPA
State of Ohio Environmental Protection Agency

Fact Sheet

January 2008

Air Pollution Permit for FDS Coke Plant, Toledo

After careful review and consideration of new information and best available technology, Ohio EPA has issued a modified permit-to-install to regulate air emissions from the proposed FDS Coke Plant, L.L.C. (FDS) in Toledo. Ohio EPA believes that the permit will be protective of public health and the environment.

This is the third FDS air permit that has been issued since 2004. (Please see the box on page 2 for a more detailed chronology of the permitting history.) This modified permit is in response to an application submitted by FDS on June 22, 2007. The resulting permit is very similar to the September 20, 2005, permit. Differences include the addition of hydrogen chloride (HCl) emission limits (based on testing done at the Haverhill North Coke facility in Scioto County), the addition of a 90 percent mercury control limit and other miscellaneous changes.

Facility Location

The FDS Coke plant would be located in Oregon and Toledo on property owned by the Toledo-Lucas County Port Authority. The property is located west of Otter Creek Road, north of Millard Avenue, east of the Maumee River and south of Lake Erie.

Facility Description

FDS would consume approximately 2.06 million tons of wet coal per year to produce approximately 1.34 million tons of furnace coke per year. The plant would also produce an estimated 57,000 tons of nut coke and 43,000 tons of coke breeze per year.

FDS would be comprised of 168 non-recovery coke-making ovens constructed in two batteries (A & B). It would also recover heat from the coking process and produce steam to provide for a co-generation facility to produce electric power. A separate permit has been issued for the cooling tower associated with this process. The coke plant also includes coal handling, processing and transfer processes. Coke storage piles will be located inside, which will substantially improve air quality by eliminating an outdoor source of particulate emissions.

General Permit Conditions

The permit requires FDS to install air pollution control equipment to capture pollutants from coal handling, crushing, stamping, coking and cooling.

The permit sets emission limits for mercury, hydrogen chloride, particulates, sulfur dioxide, nitrogen oxides, carbon monoxide, lead, volatile organic compounds and hazardous air pollutants. Most of the emissions limits in this permit are more stringent than those in the 2004 permit. Sulfur dioxide and mercury emissions will be continuously monitored. Initial and periodic emissions testing is required, along with detailed recordkeeping and reporting.

Bypassing

Hot gasses from the coke ovens will be routed to boilers so the heat can be recovered. Ohio Department of Commerce boiler safety regulations require all boilers to be inspected annually by a third party. During those inspections, the gasses must bypass the boilers and be diverted to bypass vent stacks (bypassing the air pollution control equipment). Ohio EPA knows of no other coke plant in the world that is designed not to allow periodic bypassing. Ohio EPA's permit limits these bypasses in the FDS permit to eight days per year per stack. Even with limited bypassing, public health will be protected. However, as an added precaution, the permit requires the facility to leave room to build a redundant energy recovery system to eliminate bypassing air pollution control equipment during maintenance if, in the judgment of Ohio EPA's director, chronic excess bypassing has occurred and is likely to continue.

Mercury

The facility is required to use state-of-the-art mercury controls. Ninety percent of the mercury emissions are expected to be captured and not released to the environment. Ohio EPA also added a condition in the permit requiring FDS to study the effectiveness of the mercury controls.

Ohio EPA analyzed the anticipated mercury emissions and compared them to state and federal guidelines that are protective for acute (one-hour) or chronic (lifetime) exposure to mercury. The mercury limits in the permit are well below those that would cause health effects (less than one percent of the safe levels).

The permit sets an annual limit of 36 pounds of mercury emissions from the normal plant operation, plus no more than 15 pounds per year during bypasses. Ohio EPA does not have any reason to believe that the emissions of mercury from this facility are likely to cause any adverse health effects.

Because the carbon injection control device to be used has not been tested on coking plants, the achievable control efficiency is uncertain. Therefore, Ohio EPA added

language to the permit that allows FDS to request the mercury control efficiency and emission limit requirements be adjusted after the control system has been installed and optimized. These limits can be adjusted if it is shown that the equipment is operating as designed and the amount of mercury emitted will be protective of public health. This language is similar to language in the September 20, 2005, permit that allowed FDS to request an increase in mercury emissions after the control system was optimized.

For comparison purposes, the First Energy Bayshore plant is authorized to emit up to 198 pounds of mercury annually and the Detroit Edison plant is permitted to emit 780 pounds of mercury annually

Public Hearing

A public information session and hearing on the draft permit was held on December 6, 2007, in Oregon.

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FDS Air Permit Chronology	
June 14, 2004	Ohio EPA issued a permit-to-install (PTI #04-01360) to FDS Coke Plant, L.L.C. (FDS).
July 13, 2004	FDS, the Sierra Club and Village of Harbor View appealed the final permit to the Environmental Review Appeals Commission (ERAC).
September 20, 2005	Ohio EPA issued an administrative modification to the original 2004 PTI. The changes in the final permit were the result of negotiations between FDS and Ohio EPA to resolve the issues raised in the appeal, and of design improvements proposed by FDS.
October 10, 2005	The Village of Harbor View appealed the modified PTI to ERAC.
December 14, 2006	FDS requested a one-time,12-month extension of its original June 14, 2004, permit. Ohio EPA granted the request for the extension, making the PTI valid until December 14, 2007.
May 31, 2007	ERAC upheld Harbor View's appeal, ruling Ohio EPA did not have authority and jurisdiction to modify the PTI while the underlying appeal on the original PTI before ERAC remained an open and pending matter This ruling nullified the modified PTI issued in 2005.
June 22, 2007	Ohio EPA received an application from FDS to administratively modify the June 2004 permit again.
July 1, 2007	The Ohio legislature passed legislation that granted Ohio EPA authority to modify a PTI that is under appeal.
October 1, 2007	Authority to issue a new permit took effect.
October 30, 2007	Ohio EPA issued draft modified PTI (PTI #04-01360).
January 31, 2008	Ohio EPA issued modified PTI (PTI #04-01360).

Outline of major changes from the original PTI

Emissions Unit	06/14/04 PTI	Modified PTI	Comments
B901 Coke oven battery with charging and pushing operations	248 ovens in 4-battery configuration.	168 ovens in 2-battery configuration.	Battery relocated 500 feet west of 6/14/04 PTI location.
	47 tons coal/charge 5,640 tons coal/day 8 charges/hr.	67 tons/charge 5,897 tons coal/day 5 charges/hr.	Total annual coal and coke production remains the same. Charges/pushes reduced from 120 to 88 per day.
	48 hour coking time.	46 hour coking time.	
	No uncontrolled venting allowed.	Venting allowed for 8 days per year per vent stack - no more than one vent stack may be in operation at a time.	
	Charging and pushing cycle: 16 hrs/day.	Charging and pushing cycle: 24 hrs/day.	Reduces hourly tons charged from 376 to 337. Reduces hourly tons pushed from 263 to 240.75.
	Water cooled charging conveyor.	Flat coal carrier using stamped coal cake.	Reduces open oven door charging time and reduces PE/PM_{10} emissions.
	Charging multiclone at 45,000 cfm.	Charging baghouse at 3,000 cfm.	Provides greater assurance of the control of potentia PM_{10} or smaller particles.
	Pushing operation with loose coke.	Pushing operation with coke cake.	Reduces PE and PM_{10} emissions during charging and pushing.
	Pushing multiclone at 50,000 cfm.	Pushing baghouse at 9,500 cfm.	
	Additional Comments		
	Required activated carbon injection for mercury emission control.		
	Allowed FDS to request and Ohio EPA to grant increases in emission limits for mercury and lead, based on test results.		
	Revised total Hazardous Air Pollutant (HAP) emissions limitations/compliance methods based on using the allowable mercury emission limitations, rather than using the U.S. EPA emission factor (AP-42) mercury value.		
	Removed Ohio Administrative Code (OAC) rule 3745-23-06 rule applicability since the rule was vacated.		
	Removed specific Maximum Achievable Control Technology (MACT) language from Part II of the permit as recommended by the draft guidance on incorporating MACT into permits.		
	Modified III.5 Continuous Emissions Monitoring (CEM) language to remove extra 40 Code of Federal Regulations (CFR) 60.13 information not specifically contained in the terms and conditions. Some of these terms would have needed to be modified due to updates to 40 CFR 60.13 in 2006 and 2007. The permit already requires that FDS comply with the monitoring requirements of 40 CFR 60.13.		
	Added an operational restriction for maintaining the common battery tunnel at a minimum of 1400 degrees F along with associated monitoring, recordkeeping & reporting.		

Emissions Unit	06/14/04 PTI	Modified PTI	Comments
F001 Roadways and parking areas		Relocation of roadways.	
	NOTE: Revised date ofAP-42 reference (emissions factor remains the same)		
F002 coke storage piles	Outdoor coal and coke storage piles.	Relocation of coke storage piles. Not outdoor coal piles.	Coal piles will be located indoors and included in F004. Results in a substantial reduction of the estimated air impact of the open coke pile on the surrounding area.
	NOTE: Revised date ofAP-42 reference (emissions factor remains the same).		
F003 Coal unloading, crushing, screening, stamping, blending, storage, transfer andconveying		Relocation of equipment. Storage piles located indoors, addition of coal blending operations, addition of coal stamping station, change from baghouse control on coal crushing to cyclones vented indoors.	
	NOTE: Revised date ofAP-42 reference (emissions factor remains the same).		
F004 coke handling and processing		Relocation of equipment. Eliminate secondary coke screening. Change from baghouse on coke crushing/screening tower to cyclone vented indoors.	
	NOTE: Revised date ofAP-42 reference (emissions factor remains the same)		
P001 Quench tower	Quench tower for twobatteries.	Relocation of operation. Quench tower for one battery. Increase the maximum daily processing to 5,897 tons/day charge.	
	NOTE: Revised MACT references according to draf incorporation by reference policy		
P002 Quench tower	Quench tower for two batteries	Relocation of operation. Increase the maximum daily processing to 5,897 tons/day charge.	Quench tower for one battery.
	Revised MACT references according to draft incorporation by reference policy		
P003 Lime silo		Relocation of operation.	
	Revised date ofAP-42 reference (emissions factor remains the same).		
P004 Flue gas desulfurization dust silo controlled by fabric filtration		Relocation of operation.	
	Revised date ofAP-42 reference (emissions factor remains the same).		
PTI Emissions summary (tons/year unless specified)	PE 740 PM_{10} 283 SO_2 1,071 NOx 1,050 CO 306 Lead 0.13 VOC 94 HAPs 6.42 Mercury 36 lbs	PE 690 PM_{10} 249 SO_2 1,297 NOx 1,032 CO 2 85 Lead 0.20 VOC 90 *HAPs 115 Mercury 51 lbs	
	* Total HAPS include 109 tons/year of HCl emissions.		