BENDER LAW OFFICES

May 23, 2005

VIA CERTIFIED MAIL

Stephen L. Johnson
US EPA Administrator
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Petition Pursuant to 42 U.S.C. § 7661d(b)(2) regarding the Wisconsin Department of Administration's UW-Madison Walnut Street Heating Plant, I.D. No. 113134230, Title V Permit No. 113134230-P10

Dear Administrator Johnson,

Please find enclosed the Sierra Club's petition to object to the proposed Title V permit issued by the Wisconsin Department of Natural Resources for the Walnut Street Heating Plant located on the University of Wisconsin-Madison campus.

The permit agency, Wisconsin Department of Natural Resources, as well as the permittee have been copied on the petition.

If you have any questions about this permit, please do not hesitate to contact me.

Sincerely,

David C. Bender

cc (via certified mail):
P. Scott Hassett
Secretary Wisconsin Dept. of Natural Resources

Secretary, Wisconsin Department of Administration

Jay Ehrfurth
State Power Plant Engineer
Wisconsin Department of Administration
Marc J. Marotta

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Madison, WI 53703
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ORIGINAL

BEFORE THE ADMINISTRATOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of the Proposed Operating Permit for
WISCONSIN DEPARTMENT OF ADMINSTRATION-
UW-MADISON to operate the WALNUT STREET HEATING PLANT located in Madison, Wisconsin

I.D. No. 113134230

Permit No. 113134230-P10

Proposed by the Wisconsin Department of Natural Resources

PETITION REQUESTING THAT THE ADMINISTRATOR OBJECT TO ISSUANCE OF THE PROPOSED TITLE V OPERATING PERMIT FOR THE UNIVERSITY OF WISCONSIN-MADISON WALNUT STREET HEATING PLANT

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On behalf of:

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Date: May 23, 2005

Pursuant to Clean Air Act § 505(b)(2) and 40 CFR § 70.8(d), the Sierra Club hereby petitions the Administrator ("the Administrator") of the United States Environmental Protection Agency ("U.S. EPA") to object to proposed Title V Operating Permit for the UW-Madison Walnut Street Heating Plant (hereinafter "Permit). A copy of the Permit is attached as Exhibit A. The permit was proposed to U.S. EPA by the Wisconsin Department of Natural Resources (hereinafter "DNR"). Sierra Club provided comments to the Wisconsin Department of Natural Resources on the draft permit. Some comments were provided in writing, others were provided orally at a public hearing. A true and accurate copy of Sierra Club's written comments is attached at Exhibit B. DNR summarized and responded to public comments, including oral comments. A copy of DNR's summary and responses is attached as Exhibit C.

This petition is filed within sixty days following the end of U.S. EPA's 45-day review period as required by Clean Air Act § 505(b)(2). The Administrator must grant or deny this petition within sixty days after it is filed.

If the U.S. EPA Administrator determines that this permit does not comply with the requirements of the Clean Air Act ("CAA") or 40 C.F.R. Part 70, he must object to issuance of the permit. See 40 C.F.R. § 70.8(c)(1) ("The [U.S. EPA] Administrator will object to the issuance of any permit determined by the Administrator not to be in compliance with applicable requirements or requirements of this part."). The Permit fails to comply with the applicable requirements in a number of ways. First, it fails to include monitoring requirements that meet the provisions of 40 C.F.R. § 70.6(a)(3)(i). Second, it contains provisions that violate the credible evidence rules. 42 U.S.C. § 7413; 62 Fed. Reg. 8314; 40 C.F.R. § 51.212; 40 C.F.R. § 52.23. Third, it fails to include all applicable and federally enforceable limits. 40 C.F.R. § 70.6. For all of these reasons, the permit is not in compliance with the applicable federal requirements and the Administrator must object to it.

I. THE ADMINISTRATOR MUST OBJECT TO THE PERMIT BECAUSE IT FAILS TO INCLUDE CONDITIONS THAT MEET THE LEGAL REQUIREMENTS FOR MONITORING.

The necessary monitoring is strictly regulated by 40 C.F.R. § 70.6(a)(3)(i), which states that

> Each permit shall contain the following requirements with respect to monitoring: (A) All monitoring and analysis procedures or test methods required under applicable monitoring and testing requirements, including part 64 of this chapter and any other procedures and methods that may be promulgated pursuant to sections 114(a)(3) or 504(b) of the Act. . . . (B) Where the applicable requirement does not require periodic testing or instrumental or noninstrumental monitoring (which may consist of recordkeeping designed to serve as monitoring), periodic monitoring sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the permit . . . .

Furthermore, 40 C.F.R. § 70.6(c)(1) states that "All part 70 permits shall contain . . . testing, monitoring, reporting, and recordkeeping requirements sufficient to assure compliance with the terms and conditions of the permit." CAA § 504 and 40 C.F.R. § 70.6(a)(3) require that permits indicate the frequency at which testing shall take place. Because these conditions fail to meet the applicable requirements of both the Clean Air Act and the Code of Federal Regulations, the Administrator must object to the proposed permit.

A. The Particulate Matter Monitoring for B20 and B21 Is Deficient.

There are insufficient monitoring requirements for particulate matter emissions from the two 186.5 MMBtu/hour boilers (B20 and B21). The Permit limits particulate matter emissions from the boilers to 0.10 lb/MMBtu. Pursuant to Wis. Admin. Code § NR 415.06(2)(c), this limit applies to all emissions from stack S11. The permit relies upon a single monitoring requirement to ensure compliance with this limit: that the facility "not burn fuels other than natural gas and distillate fuel oils." See Permit § I.A.1.b.(1). According to a footnote in the permit, "This restriction will ensure that the facility can meet the allowable limit since at the maximum heat input capacity the emissions are less than this limit." See Permit fn. 1. This assumption, that fuel restrictions necessarily achieves compliance, is insufficient to assure compliance, fails to meet the standards of Part 70, and violates the Wisconsin State Implementation Plan, 40 C.F.R. § 52.2569, *et seq.* (hereinafter "SIP").

The Wisconsin SIP requires the following compliance demonstration methods for particulate matter:

> **(1)** NONFUGITIVE PARTICULATE EMISSIONS. The owner or operator of a source shall use Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H, 5I or 17 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), and when required, Method 202 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to determine compliance with a nonfugitive particulate emission limitation.
>
> **(1m)** NONFUGITIVE PM10 PARTICULATE EMISSIONS. The owner or operator of a source shall use Method 201 or 201A in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to determine compliance with a nonfugitive PM_{10} particulate emission limitation.

Wis. Admin. Code § NR 439.06(1) and (1m). Neither option is required as a monitoring/compliance method in the Permit for the Walnut Street Heating Plant.

Additionally, it should be noted that no stack test at all is required for particulate matter emissions from the two 186.5 MMBtu/hour boilers. See Permit § I.A.1.b. Nevertheless, the DNR states that "USEPA Method 5, including backhalf condensibles, shall be used" whenever there is stack testing. See Permit § I.A.1.c.(1). Therefore, it appears that DNR admits that periodic stack testing of total particulate matter (filterable and condensible) is appropriate, but does not require it in the permit.

B. The Visible Emissions Monitoring For B20 and B21 Is Deficient.

There are insufficient monitoring requirements for visible emissions from the two 186.5 MMBtu/hour boilers (B20 and B21). The only required monitoring for visible emissions is, by reference to another section of the permit, that the source only burn natural gas or distillate fuel oils. See Permit § I.A.2.b.(1). This is insufficient monitoring for visible emissions. DNR asserts, again in a footnote, that burning natural gas or fuel oil is sufficient. Specifically, footnote 2 of the permit states:

> Since the facility is restricted to clean burning fuels, it is unlikely that the facility will exceed the limit so long as no other fuels are burned, therefore these requirements are sufficient.

A presumed, "likely" compliance method does not satisfy the monitoring requirement in Part 70. A Title V permit must require sufficient monitoring to assure compliance. CAA § 504 and 40 C.F.R. § 70.6(a)(3). Even assuming that visible emissions from natural gas would not exceed 20% opacity, that assumption cannot hold for unspecified fuel oil. This is especially true for periods of startup and shutdown (which are not excluded from the limit), when oil-fired units can regularly exceed 20% opacity. Moreover, DNR has no historical data upon which to base its assumption about visible emission compliance.

The Wisconsin SIP requires one of the following monitoring methods for visible emissions:

1. Method 9 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13).

2. Install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B or 40 CFR part 75, Appendices A to I, incorporated by reference in s. NR 484.04 (21) and (27), and follow a quality control and quality assurance plan for the monitor which has been approved by the department.

Wis. Admin. Code § NR 439.06(9)(a); 40 C.F.R. § 52.2570(c)(98)(i). DNR's failure to require one of these two monitoring options violates Wisconsin's SIP. The Permit also notes that Method 9 is appropriate for visible emissions compliance demonstration. Permit § I.A.2.c. However, the permit fails to require testing as a "compliance demonstration" method. Permit § I.A.2.b.

It is also important to note that the stack through which the two 186.5 MMBtu/hour boilers (B20 and B21) will emit is equipped with a Continuous Emission Monitor. See Permit § I.B.5.b. However, this COMS is only designated as the compliance demonstration for the 357 MMBtu/hour boiler (B22). Id. Since there is already a COMS in place to measure visible emissions from the stack shared by all three boilers, the COMS should be required as the monitoring method for all three boilers. This would also correct the violation of Wis. Admin. Code § NR 439.06(9).

C. The Permit Fails to Require Periodic Stack Testing.

The Permit is also deficient because it fails to require stack testing. There are several references to the appropriate testing methodology throughout the permit, but the Permit does not require a stack test. See e.g. Permit § I.A.1.c., I.A.3.c.(1), I.D.1. For example, the permit states that USEPA Method 6 is appropriate for stack testing for SO2 emissions, Permit § I.A.3.c.(1), but only requires fuel certification for SO2 compliance. Permit § I.A.3.b. Stack testing is required to assure compliance under Part 70. Stack testing is also required under Wisconsin's SIP because the UW-Madison campus has an emission point with allowable emissions above 25 TPY of SO2 and 100 TYP of PM. See Wis. Admin. Code § NR 439.075(2)(a).

D. Particulate Matter Monitoring for B22 Is Deficient.

There are insufficient monitoring requirements for particulate matter emissions from the 357 MMBtu/hour boiler (B22). The Permit limits particulate matter emissions from B22 to 0.05 lb/MMBtu, as well as limiting PM emissions from all boilers to 0.10 lb/MMBtu. Permit § I.B.1.a.(1); Wis. Admin. Code § NR 415.06(2)(c) and 440.19(3)(a). The permit relies upon a single monitoring requirement to ensure compliance with this limit: that the facility "not burn fuels other than natural gas and distillate fuel oils." See Permit § I.B.1.b.(1). According to a footnote in the permit, "[t]his restriction will ensure that the facility can meet the allowable limit since at the maximum heat input capacity the emissions are less than this limit." See Permit fn. 7. This presumed compliance is insufficient to and fails to satisfy the monitoring requirements of Title V and Part 70.

The Wisconsin SIP requires the following compliance demonstration methods for particulate matter:

> **(1)** NONFUGITIVE PARTICULATE EMISSIONS. The owner or operator of a source shall use Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H, 5I or 17 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13), and when required, Method 202 in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to determine compliance with a nonfugitive particulate emission limitation.
>
> **(1m)** NONFUGITIVE PM10 PARTICULATE EMISSIONS. The owner or operator of a source shall use Method 201 or 201A in 40 CFR part 51, Appendix M, incorporated by reference in s. NR 484.04 (9), to determine compliance with a nonfugitive PM_{10} particulate emission limitation.

Wis. Admin. Code § NR 439.06(1) and (1m); *see also* Wis. Admin. Code § NR 439.075(2)(a). Neither of these monitoring options is required in the Title V permit for the Walnut Street Heating Plant.

Additionally, it should be noted that no stack test at all is required for particulate matter emissions from the 357 MMBtu/hour boilers. See Permit § I.B.1.b. Nevertheless, the DNR states that "USEPA Method 5, including backhalf condensibles, shall be used" whenever there is

stack testing. See Permit § I.B.1.c.(3). Therefore, it appears that DNR agrees that periodic stack testing of total particulate matter (filterable and condensible) is appropriate, but does not require it in the permit. *See also* Wis. Admin. Code § NR 439.075(2)(a) (requiring periodic stack testing).

E. The SO2 Monitoring for B22 Is Deficient.

The Permit requires the Walnut Street Heating Plant to demonstrate compliance with the SO2 limit for the 357 MMBtu/hour boiler by "obtain[ing] and maintain[ing] a certification of the sulfur content in each shipment of the distillate fuel oil from the supplier." Permit § I.B.2.b.(1). This is insufficient monitoring because it fails to comply with the requirements of Part 70 and the Wisconsin SIP.

The Wisconsin SIP provides the following options for SO2 monitoring:

> (a) Perform compliance emission testing following Method 6, 6A, 6B, 6C or 8 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04 (13).
>
> (b) Install, calibrate, maintain and operate a continuous emission monitor that meets the applicable performance specifications in 40 CFR part 60, Appendix B or, for affected units, the performance specifications in 40 CFR part 75, Appendices A to I, incorporated by reference in s. NR 484.04 (21) and (27). The owner or operator of the source shall submit a quality control and quality assurance plan for approval by the department. The monitor shall follow the plan, as approved by the department.
>
> (c) Perform periodic fuel sampling and analysis of fossil and nonfossil fuels using the methods and procedures specified in s. NR 439.08.

Wis. Admin. Code § NR 439.06(2). Pursuant to the SIP, fuel sampling is a permissible monitoring option. However, when fuel sampling is used as the monitoring method, the procedures in Wis. Admin. Code § NR 439.08 must be complied with. Those requirements include the following for liquid fossil fuels:

> (a) *Liquid fossil fuel sampling.* Liquid fossil fuel sampling shall be performed according to ASTM D4057-95, Standard Practice for Manual Sampling of Petroleum and Petroleum Products, or ASTM D4177-95, Standard Practice for Automatic Sampling of Petroleum and Petroleum Products, incorporated by reference in s. NR 484.10 (51) and (52).
>
> (b) *Sulfur content in liquid fossil fuel.* The sulfur content of a liquid fossil fuel sample shall be determined according to ASTM D129-00, Standard Test Method for Sulfur in Petroleum Products (General Bomb Method), ASTM D1552-01, Standard Test Method for Sulfur in Petroleum Products (High-Temperature Method), or ASTM D4294-02, Standard Test Method

for Sulfur in Petroleum Products by Energy-Dispersive X-ray Fluorescence Spectroscopy, incorporated by reference in s. NR 484.10 (3), (25) and (54).

(c) *Heat content in liquid fossil fuel.* The heat content of a liquid fossil fuel sample shall be determined according to ASTM D240-02, Standard Test Method for Heat of Combustion of Liquid Hydrocarbon Fuels by a Bomb Calorimeter, incorporated by reference in s. NR 484.10 (4).

Wis. Admin. Code § NR 439.08(2). The monitoring requirements in the permit are deficient because the Permit fails to require these sampling methods. Moreover, the Permit is deficient because the permittee cannot ensure compliance with NR 439.08 when it relies on a third-party supplier to conduct fuel sampling.

F. The Monitoring Requirements for the Emergency Generator Are Deficient.

The Permit limits emissions from a 1250 kW Emergency Generator (B01). See Permit § I.C. However, for the same reasons that the monitoring requirements are deficient for B20-B22, the monitoring requirements are deficient for B01. Specifically, the permit presumes compliance with visible emissions and particulate matter limits due solely to the fact that it is limited to burning fuel oil. See Permit §§ I.C.2.b. and I.C.3.b.

II. THE ADMINISTRATOR MUST OBJECT TO THE PERMIT BECAUSE IT CONTAINS CONDITIONS THAT VIOLATE THE REQUIREMENTS RELATED TO CREDIBLE EVIDENCE.

The U.S. EPA has the authority to bring enforcement actions "on the basis *of any information available* to the Administrator." 42 U.S.C. § 7413 (emphasis added). This has been interpreted to mean any "credible evidence" that a court would accept. U.S. EPA Region 9 Title V Permit Review Guidelines, Sept. 9 1999, p. III-46. U.S. EPA has stated that this means that "any credible evidence can be used to show a violation of or, conversely, demonstrate compliance with an emissions limit." Id. Permit language may not exclude the use of any data that may provide credible evidence. Id. The U.S. EPA has viewed permit conditions providing enumerated compliance test methods as tacitly excluding the use of other data to demonstrate compliance or noncompliance. This tacit exclusion violates the credible evidence rule. "The permit must specify the source's obligations for monitoring in a way that does not establish an exclusive link between the test method and the emissions limit." Id.

The proposed Title V permit for the Walnut Street Heating Plant contains numerous conditions which violate the credible evidence rule. In general, these conditions violate the rule because they specify certain types of data to be used to determine compliance. "Permit language may not [s]pecify that only certain types of data may be used to determine compliance." Id. Identifying such data is not necessary according to the U.S. EPA. "In general, the permit should simply tell the source what it must do . . . It is not necessary to say that a term assures compliance or that an activity is required to assure compliance." Id. at III-47. See also Credible

Evidence Revisions, 62 Fed. Reg. 8314; 40 C.F.R. § 51.212; 40 C.F.R. § 52.23. The Administrator must object to the proposed permit because the following conditions in the permit unacceptably limit credible evidence in violation of 42 U.S.C. § 7413.

The Walnut Street Heating Plant permit divide requirements into separate columns for (1) pollutant; (2) numeric limit; (3) compliance demonstration method; and (4) compliance demonstration, monitoring and reporting. See e.g. Permit § I.A.1.a. through c. The Preamble to the Permit states that the "Compliance Demonstration" provisions (column "c" throughout the Permit) lists the methods that "may be used to demonstrate compliance with the associated emission limit or work practice standard." See Permit at p. 2. This provision also states that the enumerated compliance demonstration methods "contains limits on the parameters or other mechanisms that will be monitored periodically to ensure compliance with the limitations." See Permit at p. 3. This provision impermissibly enumerates the evidence to be used to determine compliance. Because this language has the potential to be interpreted as limiting the evidence that can be used to enforce the Permit's limits it violates the credible evidence rule.

The Permit further defines "Compliance Demonstration." (The permit defines this term twice see pp. 2-3). The second definition states that the "Compliance Demonstration" column of the permit "contains monitoring and testing requirements and methods to demonstrate compliance with the conditions." This provision appears to limit the "methods to demonstrate compliance" to only those listed in the specific column of the Permit. Again, this violates the credible evidence rule.

Additionally, the Permit defines the "Reference Test Methods, Recordkeeping, and Monitoring" as "Specific USEPA Reference test methods or other approved test methods will be contained in this area and are the methods that must be used whenever testing is required." See Permit at p. 3. This provision limits the evidence to be used to demonstrate compliance and therefore violates the credible evidence rule.

The Permit does contain a vague reference to the "credible evidence" rule, but that reference is insufficient to ensure that credible evidence can be used to enforce the Permit's limits by USEPA, DNR and citizens. The Permit states:

> Notwithstanding the compliance determination methods which the owner or operator of a source is authorized to use under ch. NR 439, Wis. Admin. Code, the Department may use any relevant information or appropriate method to determine a source's compliance with applicable emission limits.

Permit at p. 3. There are two significant problems with this apparent attempt to comply with the credible evidence rule:

1) The sentence refers to the compliance demonstration methods in Wis. Admin. Code ch. 439, rather than those in the permit. It appears that DNR meant to say that "notwithstanding the provisions of this permit, any relevant information may be used to enforce applicable permit limits." In other words, the provision

allowing DNR to use any evidence despite NR 439 does not cure the restrictive evidence provisions in the permit.

2) The provision states that "the Department may use any relevant information..." This implies that USEPA and citizens may not use "any relevant information" to enforce the permit.

Additionally, the permit contains other violations of the credible evidence rule, including but not limited to:

- Section I.A.2.b.(1) provides that "the requirement in I.A.1.b.(1) shall serve as the periodic compliance demonstration for the opacity limit." By establishing an exclusive link between the test method and emissions limit, the condition unacceptably limits credible evidence.

- Section I.A.3.b.(3) and (4) provide that "the facility shall determine [compliance with SO2 limits]... using the following calculations..." and that "the monthly sulfur dioxide emissions... shall... determine the average sulfur dioxide emissions." By establishing an exclusive link between the test methods and emissions limits, these conditions unacceptably limits credible evidence.

- Section I.B.2.b.(1) similarly violates the credible evidence rule by stating that "the permittee shall" take certain steps to "demonstrate compliance."

- Sections I.B.3.b.(2)(c), I.B.3.b.(3), I.B.3.b.(4), I.B.5.b.(1), I.C.2.b.(1), and I.C.3.b.(1) also purport to limit the evidence to be used to show compliance with NOx limits by using the word "shall" when referring to compliance methods to be used.

III. THE ADMINISTRATOR MUST OBJECT TO THE PERMIT BECAUSE IT CONTAINS CONDITIONS THAT VIOLATE U.S. EPA POLICY REQUIRING A PERMIT TO BE PRACTICALLY ENFORCEABLE.

The proposed Walnut Street Heating Plant Title V permit contains numerous conditions which are not practically enforceable. This is a violation of U.S. EPA policy regarding practical enforceability and, consequently, the Administrator must object to the permit. For a permit condition to be enforceable, the permit must leave no doubt as to exactly what the facility must do to comply with the condition. U.S. EPA Region 9 Title V Permit Review Guidelines, Sept. 9 1999, p. III-46.

> A permit is enforceable as a practical matter (or practically enforceable) if permit conditions establish a clear legal obligation for the source [and] allow compliance to be verified. Providing the source with clear information goes beyond identifying the applicable requirement. It is also important that permit conditions be unambiguous and do not contain language which may intentionally or unintentionally prevent enforcement.

Id.

A permit condition is not practically enforceable if it references documents, procedures, instructions, etc., that are described in a manner that is insufficient to allow such items and the content thereof to be specifically, finally and conclusively identified. U.S. EPA Region 9 Title V Permit Review Guidelines, Sept. 9 1999, p. III-46. Further, "specific numbers must be incorporated into the permit rather than a reference to a document which may not include clear requirements." Id. at III-52. Terminology such as "reasonable precautions" or "best engineering practices" must be defined. Id. at III-52, III-53. As noted above, for a permit condition to be enforceable, the permit must leave no doubt as to exactly what the facility must do to comply with the condition. Id.

The permit is not practically enforceable by citizens because it does not require the documents necessary to determine compliance to be publicly available at the DNR's offices. For example, the Permit requires the source to demonstrate compliance with sulfur dioxide limits by obtaining fuel sulfur content certifications from fuel vendors. See e.g. Permit § I.B.2.b.(1). However, the permittee is only required to maintain these records, not to send them to the DNR. Because these documents are not kept with the Permit documents and other compliance-related documents at the DNR offices, the public does not have easy access to the data necessary to determine compliance.

Additionally, if DNR grants the permittee permission to submit summary excess emission reports, pursuant to Permit § I.D.3.a.(2), the public will not have the information otherwise required in full excess emission reports. See Permit § I.D.3.a.(1)(b). This information is necessary to determine compliance with permit limits, especially in cases where the permit allows exceedances during startup and shutdown. 40 C.F.R. § 70.6(a)(3)(ii) and (iii). Therefore, the permit will not be practically enforceable. Moreover, the decision to require or waive the full excess emission report requirement grants DNR too much discretion. See U.S. EPA Region 9 Title V Permit Review Guidelines, Sept. 9 1999, III-49. Such agency discretion also allows the source to negotiate the condition "off permit" and bypass the permitting process requirements and procedures. Id. Consequently, the following conditions are not practically enforceable and, therefore, the Administrator must object to the permit.

IV. THE ADMINISTRATOR MUST OBJECT TO THE PERMIT BECAUSE IT FAILS TO APPLY SOURCE-WIDE LIMITS TO EVERY EMISSION UNIT AT THE SOURCE AND ILLEGALLY MAKES THE LIMIT NOT FEDERALLY ENFORCEABLE.

The entire University of Wisconsin-Madison campus is a single major source under Part 70. This includes the Walnut Street Heating Plant, the Charter Street Heating Plant, a new Co-generation facility, and other sources spread throughout the campus. The campus is subject to a 1.50 lb/MMBtu SO2 limit. See Permit § I.A.3.a.(1). However, this source-wide limit is only included in the section of the Permit applicable to B20 and B21. Id. The limit should be included in a section of the permit applicable to the entire facility (as well as in a Title V permit for all other emission units on the UW Madison campus). Alternately, this limit should be

applied to each source in the permit, i.e., in the section applicable to B22 in addition to the section applicable to B20 and B21.

Additionally, the permit limit in I.A.3.a.(1) is followed by an asterisk, " * ". The permit states that this connotes a term that is not federally enforceable. See Permit at p. 2 ("[a]n Asterisk "*" throughout this document denotes legal authority, limitations and conditions which are not federally enforceable.") This is an illegal limitation of federal enforcement. See *Notice of Deficiency for Clean Air Act Operating Permit Program in Wisconsin*, Environmental Protection Agency, 69 Fed. Reg. 10167, 10170-71 (March 4, 2004) ("All terms and conditions of a permit issued pursuant to a program approved into a state's SIP are federally enforceable.")

V. CONCLUSION

For the foregoing reasons, the permit fails to meet federal requirements in numerous ways. These deficiencies require that the Administrator object to issuance of the permit pursuant to 40 C.F.R. § 70.8(c)(1).

Dated in Madison, Wisconsin this 3rd day of May, 2005.

BENDER LAW OFFICES

David C. Bender
Wis. Bar No. 1046012

SIERRA CLUB

Bruce E. Nilles
Wis. Bar No. 1026351

BEFORE THE ADMINISTRATOR

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of the Proposed Operating Permit for

WISCONSIN DEPARTMENT OF ADMINSTRATION-
UW-MADISON to operate the WALNUT STREET HEATING PLANT located in Madison, Wisconsin

I.D. No. 113134230
Permit No. 113134230-P10

Proposed by the Wisconsin Department of Natural Resources

CERTIFICATE OF SERVICE

STATE OF WISCONSIN)
) ss
COUNTY OF DANE)

I make this statement under oath and based on personal knowledge. On this day I caused to be served upon the following persons a copy of Sierra Club's Petition to the United States Environmental Protection Agency *In the Matter of the Proposed Operating Permit for Wisconsin Department of Administration/ UW-Madison to operate the Walnut Street Heating Plant located in Madison, Wisconsin* via Certified Mail, Return Receipt Requested:

Stephen L. Johnson
US EPA Administrator
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

P. Scott Hassett
Wisconsin Dept. of Natural Resources Secretary
101 S Webster St
PO Box 7921
Madison, WI 53707-7921

Jay Ehrfurth
State Power Plant Engineer
Wisconsin Department of Administration
101 E Wilson St 7th Floor
Madison, WI 53702

Marc J. Marotta
Secretary, Wisconsin Department of Administration
101 E Wilson St 10TH Floor
Madison, WI 53702

Dated : 5/27/15

David C. Bender

Signed and sworn to before me
This 3rd day of May, 2005.

Notary Public, State of Wisconsin
My commission: 12 permanent.

BENDER LAW OFFICES

May 24, 2005

VIA U.S. MAIL

Stephen L. Johnson
US EPA Administrator
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: Petition Pursuant to 42 U.S.C. § 7661d(b)(2) regarding the Wisconsin Department of Administration's UW-Madison Walnut Street Heating Plant, I.D. No. 113134230, Title V Permit No. 113134230-P10

Dear Administrator Johnson,

Please find enclosed the Exhibits to Sierra Club's petition to object to the proposed Title V permit issued by the Wisconsin Department of Natural Resources for the Walnut Street Heating Plant located on the University of Wisconsin-Madison campus, which was filed via certified mail yesterday. It appears that these exhibits may not have been attached to the petition for some or all of the service copies. A copy is being sent to all recipients of the petition. I apologize for any inconvenience.

Sincerely,

David C. Bender

cc (via certified mail):

P. Scott Hassett
Secretary Wisconsin Dept. of Natural Resources

Marc J. Marotta
Secretary, Wisconsin Department of Administration

Jay Ehrfurth
State Power Plant Engineer
Wisconsin Department of Administration

354 WEST MAIN STREET
MADISON, WI 53703
608.442.3585
BENDER@MAINSTREETJUSTICE.COM

EXHIBIT A

AIR POLLUTION CONTROL OPERATION PERMIT

EI FACILITY NO. 113134230 PERMIT NO. 113134230-P10

TYPE: Operation Permit, Part-70 Source

In compliance with the provisions of Chapter 285, Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code,

Name of Source: Wisconsin DOA - UW-Madison Walnut Street Heating Plant

Street Address: Walnut St.
Madison, Dane County

Responsible Official, & Title: Jay Ehrfurth, State Power Plant Engineer

is authorized to operate a heating plant to provide cooling/heating for the University of Wisconsin - Madison buildings in conformity with the conditions herein.

THIS OPERATION PERMIT EXPIRES April 11, 2010
RENEWAL APPLICATION MUST BE SUBMITTED AT LEAST 6 MONTHS, BUT NOT MORE THAN 18 MONTHS, PRIOR TO THIS EXPIRATION DATE [s. NR 407.09(1)(b)1, Wis. Adm. Code].

No permittee may continue operation of a source after the operation permit expires, unless the permittee submits a timely and complete application for renewal of the permit [s. 285.66(3), Wis. Stats. and NR 407.04(2), Wis. Adm. Code].

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements and other terms and conditions set forth in Parts I and II hereof.

Dated at Madison, Wisconsin, April 11, 2005.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By TJR /s/
Thomas Roushar
Air Management Program Supervisor
South Central Region

Preamble

An Asterisk "*" throughout this document denotes legal authority, limitations and conditions which are not federally enforceable.

The following permits, orders, etc. are adopted, under ss. 285.65(3), Wis. Stats., NR 406.11(1)(c) and (d), NR 407.09(2)(d) and NR 407.15(3) and (4), Wis. Adm. Code, by Permit 113134230-P10 which then becomes the primary enforceable document: 113134230-P01, 98-POY-099 and 98-POY-099-OP

Operation (CONOP) Permits Issued in Conjunction with Permit 113134230-P10 under s. 285.62(7)(b), Wis. Stats.: 98-POY-099-OP

Stack and Process Index

Stack	**S11/Process B20:**	**Industrial Gas/Fuel Oil Boiler - 186.5 mmBtu/hour; Installed 1976.**
	S11/Process B21:	**Industrial Gas/Fuel Oil Boiler - 186.5 mmBtu/hour; Installed 1976.**
	S11/Process B22:	**Industrial Gas/Fuel Oil Boiler - 357 mmBtu/hour; Installed 1999.**
Stack	**S01/Process B01:**	**1250 kW Emergency Generator; Installed 1999.**

Insignificant Sources

Maintenance of Grounds, Equipment, and Buildings
Demineralization and Oxygen Scavenging of Water for Boilers
Boiler, Turbine, and HVAC System Maintenance
Internal Combustion Engines Used for Warehouse and Material Transfer
Janitorial Services
Office Activities
Convenience Water Heating
Convenience Space Heating (<5 mmBtu/hr)

Permit Shield - Unless precluded by the Administrator of the USEPA, compliance with all emission limitations in this operation permit is considered to be compliance with all emission limitations established under ss. 285.01 to 285.87, Wis. Stats., and emission limitations under the federal clean air act, that are applicable to the source if the permit includes the applicable limitation or if the Department determines that the emission limitations do not apply. The following emission limitations were reviewed in the analysis and preliminary determination and were determined not to apply to this stationary source:

The construction date of January, 1976 and/or the maximum heat input capacity of 186.5 mmBtu/hr exempts each of the boilers B21 and B22 from the NSPS requirements in ss. NR 440.19, NR 440.20, NR 440.205 and NR 440.207, Wis. Adm. Code.

NESHAP (MACT) for reciprocating engines does not apply to existing emergency generators.

Part I -- The headings for the areas in the permit are defined below. The legal authority for these limitations or methods follows them in [brackets].

Pollutant -- This area will note which pollutant is being regulated by the permit.

Limitations -- This area will list all applicable emission limitations that apply to the source, including case-by-case limitations such as Latest Available Control Techniques (LACT), Best Available Control Technology (BACT), or Lowest Achievable Emission Rate (LAER). It will also list any voluntary restrictions on hours of operation, raw material use, or production rate requested by the permittee to limit potential to emit.

Compliance Demonstration – The compliance demonstration methods outlined in this area may be used to demonstrate compliance with the associated emission limit or work practice standard listed

under the corresponding **Limitations** column. The compliance demonstration area contains limits on parameters or other mechanisms that will be monitored periodically to ensure compliance with the limitations. The requirement to test as well as initial and periodic test schedules, if testing is required, will be stated here. Notwithstanding the compliance determination methods which the owner or operator of a sources is authorized to use under ch. NR 439, Wis. Adm. Code, the Department may use any relevant information or appropriate method to determine a source's compliance with applicable emission limitations.

Reference Test Methods, Recordkeeping, and Monitoring -- Specific USEPA Reference test methods or other approved test methods will be contained in this area and are the methods that must be used whenever testing is required. A reference test method will be listed even if no testing is immediately required. Also included in this area are any recordkeeping requirements and their frequency and reporting requirements. Accuracy of monitoring equipment and frequency of monitoring shall meet, at a minimum, the requirements of ss. NR 439.055(2),(3) and (4), Wis. Adm. Code, as specified in Part II of this permit.

Condition Type -- This area will specify other conditions that are applicable to the entire facility that may not be tied to one specific pollutant.

Conditions -- Specific conditions usually applicable to the entire facility or compliance requirements.

Compliance Demonstration -- This area contains monitoring and testing requirements and methods to demonstrate compliance with the conditions.

PART II -- This section contains the general limitations that the permittee must abide by. These requirements are standard for most sources of air pollutants so they are included in this section with every permit.

PART I
APPLICABLE LIMITATIONS AND SPECIFIC CONDITIONS

A. **S11/B20:** Industrial Gas/Fuel Oil Boiler - 186.5 mmBtu/hour; Installed 1976.
S11/B21: Industrial Gas/Fuel Oil Boiler - 186.5 mmBtu/hour; Installed 1976.

POLLUTANT	a. LIMITATIONS	b. COMPLIANCE DEMONSTRATION	c. REFERENCE TEST METHODS, RECORDKEEPING AND MONITORING
1. Particulate Matter Emissions	(1) Emissions may not exceed 0.10 lb/mmBtu heat input from any stack. [s. NR 415.06(2)(c), Wis. Adm. Code]	(1) The facility may not burn fuels other than natural gas and distillate fuel oils. [1] [s. 285.63(1)(a), Wis. Stat.]	(1) Whenever compliance emissions testing is required, USEPA Method 5, including backhalf condensibles, shall be used. [s. NR 439.06(1), Wis. Adm. Code] (2) The facility shall keep weekly records of the fuels burned in each boiler during that week. [s. NR 439.04(1)(d), Wis. Adm. Code]
2. Visible Emissions	(1) 20% opacity [s. NR 431.05, Wis. Adm. Code]	(1) The requirement in I.A.1.b.(1) shall serve as periodic compliance demonstration for the opacity limit.[2] [s. NR 407.09(4)(a)3.b., Wis. Adm. Code]	(1) Whenever compliance emissions testing is required, USEPA Method 9 shall be used. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The requirements in I.A.1.c.(2) shall serve as recordkeeping & monitoring for the opacity limit. [2] [s. NR 407.09(1)(c)1.b., Wis. Adm. Code]

A. **S11/B20**: Industrial Gas/Fuel Oil Boiler - 186.5 mmBtu/hour; Installed 1976.
S11/B21: Industrial Gas/Fuel Oil Boiler - 186.5 mmBtu/hour; Installed 1976. **[CONTINUED]**

POLLUTANT	a. LIMITATIONS	b. COMPLIANCE DEMONSTRATION	c. REFERENCE TEST METHODS, RECORDKEEPING AND MONITORING
3. Sulfur Dioxide Emissions	(1) Emissions may not exceed 1.50 lb/mmBtu heat input annually from the source[3], to be determined over each 12 consecutive month period. [s. 285.43(1), Wis. Stat.] *	(1) The facility may not burn fuels other than natural gas and distillate fuel oils. [s. 285.63(1)(a), Wis. Stat.] (2) The facility shall obtain a fuel analysis or certification from the supplier for each shipment of distillate fuel oil, which shall include the sulfur content of the fuel, and the heat content in mmBtu per gallon. [s. NR 407.09(1)(c)1.b., Wis. Adm. Code] * (3) The facility shall determine the average SO_2 emissions for all sulfur containing fuels[4] used at the Walnut Street and Charter Street (113008390) heating plants, in lb SO_2/mmBtu, within 21 days of the end of each calendar month using the following calculations: (a) $SO_2 = \sum_{i=1}^{n} C_i M_i \div \sum_{i=1}^{n} D_i M_i$ where: SO_2 = average SO_2 emissions from fuels used for the calendar month, in lb SO_2/mmBtu Ci = the sulfur content of each shipment, in lb SO_2/lb solid fuel or lb SO_2/gal liquid fuel or lb SO_2/CF6 gaseous fuel Di = fuel heat content of each shipment, in mmBtu/unit fuel Mi= amount of each type of fuel in each shipment, in pounds of solid or gallons of liquid fuel or CF6 of gaseous fuel i = identifies each of the fuel shipments received in the month *n = identifies the number of shipments received in the month* (b) The monthly sulfur dioxide emissions for the previous 12 consecutive months shall be added and that total divided by 12 to determine the average sulfur dioxide emissions. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code] *	(1) Whenever compliance emissions testing is required, USEPA Method 6 shall be used. [s. NR 439.06(2)(a), Wis. Adm. Code] * (2) Whenever testing for sulfur content is required for the distillate fuel oils, one of the following ASTM methods shall be used: D129-91, D1552-90 or D4294-90. [s. NR 439.08(2)(b), Wis. Adm. Code] * (3) The facility shall retain design specifications, blueprints, or technical drawings to demonstrate that only the required fuels can be burned in the boilers. [s. NR 439.04(1)(d), Wis. Adm. Code] (3) The facility shall maintain the following records: (a) the sulfur content, in pounds of SO_2 per unit of fuel, for each shipment of fuel used each month; (b) the heat content, in million BTU per unit of fuel, for each shipment of fuel used each month; (c) the results of the 12 month rolling average fuel sulfur dioxide emissions, in lb/mmBtu as calculated according to I.A.3.b.(3). [s. NR 439.04(1)(d), Wis. Adm. Code] * (4) The facility shall report the results of the average fuel sulfur dioxide emissions, summarized according to I.A.3.b.(3)(b), on a quarterly basis. [s. NR 439.04(1)(a), Wis. Adm. Code] *

B. 357 Million BTU Per Hour Boiler Firing Natural Gas and #2 Fuel Oil (B22, S11) Installed 1999.

POLLUTANTS	a. LIMITATIONS	b. COMPLIANCE DEMONSTRATION	c. REFERENCE TEST METHODS, RECORDKEEPING AND MONITORING
1. Particulate Matter Emissions	**(1)(a)** Best Available Control Technology (BACT); 0.05 pound per million BTU heat input. [s. NR 405.08, Wis. Adm. Code; s. 285.65(7), Wis. Stats.][5] **(b)** 0.10 pound per million BTU heat input. [ss. NR 415.06(2)(c) and 440.19(3)(a), Wis. Adm. Code, 98-POY-099] **(1)** For the stack S11[6] **(a)** The stack height shall be at least 250 feet above ground level. [ss. 285.63(1)(a) and 285.65(3), Wis. Stats.] **(b)** The stack inside diameter at the outlet may not exceed 9.85 feet. [ss. 285.63(1)(a) and 285.65(3), Wis. Stats., 98-POY-099]	**1)** The facility may not burn fuels other than natural gas and distillate fuel oils. [7] [s. 285.63(1)(a), Wis. Stat.]	**(1)** The permittee shall keep daily records of the natural gas and the #2 distillate oil usages in the boiler covered under this permit. [ss. NR 439.04 and NR 440.205(10)(d), Wis. Adm. Code] **(2)** The permittee shall keep and maintain on site technical drawings, blueprints or equivalent records of the physical stack parameters. [s. NR 439.04(1)(d), Wis. Adm. Code] **(3)** Whenever compliance emissions testing is required, USEPA Method 5, including backhalf condensibles, shall be used. [s. NR 439.06(1), Wis. Adm. Code]
2. Sulfur Dioxide	**(1)(a)** Best Available Control Technology (BACT); **(b)** To meet BACT, the permittee shall only use natural gas and distillate oil as fuel; **(c)** The sulfur content in the distillate oil shall be no more than 0.05% by weight. [s. NR 405.08, Wis. Adm. Code; s. 285.65(7), Wis. Stats., 98-POY-099][8] **(2)** 0.80 pound per million BTU [s. NR 440.19(4)(a), Wis. Adm. Code, 98-POY-099][8]	**(1)** To demonstrate compliance with I.B.2.a.(1)(c), the permittee shall obtain and maintain a certification of the sulfur content in each shipment of the distillate fuel oil from the supplier. [ss. NR 439.04 and NR 440.205, Wis. Adm. Code] **(2)** The facility may not burn fuels other than natural gas and distillate fuel oils. [9] [s. 285.63(1)(a), Wis. Stat.]	**(1)** The permittee shall keep daily records of the type and amounts of fuel burned in the boiler covered under this permit. [ss. NR 439.04 and NR 440.205, Wis. Adm. Code] **(2)** The permittee shall maintain the supplier certifications of sulfur content in the distillate fuel oil at the facility for at least 5 years. [ss. NR 439.04 and NR 440.205, Wis. Adm. Code]
3. Nitrogen Oxides	**(1)** Best Available Control Technology (BACT); **(a)** 0.05 pound per million BTU heat input when burning natural gas; **(b)** 0.10 pound per million BTU heat input when burning #2 distillate fuel oil.[10,11] **(c)** During the simultaneous firing of natural gas and #2 distillate oil, the emission limit shall be determined using	**(1)** The facility may not burn fuels other than natural gas and distillate fuel oils. [12] [s. 285.63(1)(a), Wis. Stat.] **(2)(a)** The permittee shall install, calibrate, maintain and operate a continuous emissions monitor to measure and record the nitrogen oxides emissions from the boiler covered under this permit in accordance with s. NR 440.13, Wis. Adm. Code.	**(1)** When nitrogen oxides emission data are not obtained because of continuous monitoring system breakdowns, repairs, calibration checks and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7 or 7A of Appendix A, 40 CFR part 60, incorporated by reference in s. NR 440.17, or other approved reference methods to provide emission data for a minimum of 75% of the operating hours in each steam generating unit operating day, in at least 22 out of 30

POLLUTANTS	a. LIMITATIONS	b. COMPLIANCE DEMONSTRATION	c. REFERENCE TEST METHODS, RECORDKEEPING AND MONITORING
	the following equation: $E_N = \{(E_G * H_G) + (E_O * H_O)\} / (H_G + H_O)$ where, E_N = NO_x emission limit for simultaneous firing of gas and oil E_G = NO_x emission limit for firing of gas which is 0.05 pound per million BTU E_O = NO_x emission limit for firing of oil which is 0.10 pound per million BTU H_G = Heat input from firing gas H_O = Heat input from firing oil The nitrogen oxides emission limit is based on an average over any 3 consecutive hours. [s. NR 405.08 and NR 440.205(5)(a)1. and (b), Wis. Adm. Code, 98-POY-099] **(2)** 0.20 pound per million BTU [s. NR 440.205(5)(a)1., Wis. Adm. Code, 98-POY-099]	**(b)** The continuous monitoring systems required under par. (a) shall be operated and data recorded during all periods of operation of the boiler B22 except for continuous monitoring system breakdowns and repairs. Data shall be recorded during calibration checks, and zero and span adjustments. **(c)** The 1-hour average nitrogen oxides emission rates measured by the continuous nitrogen oxides monitor required by par. (a) shall be expressed in lb/million Btu heat input and shall be used to calculate the average emission rates. The 1-hour averages shall be calculated using the data points required under s. NR 440.13(2). At least 2 data points shall be used to calculate each 1-hour average. **(d)**The span value for nitrogen oxides shall be 500 PPM. [s. NR 440.205(9), Wis. Adm. Code]	successive steam generating unit operating days. [s. NR 440.205(9)(f), Wis. Adm. Code]
3. Nitrogen Oxides *[Continued]*		**(3)** During periods of simultaneous firing of natural gas and #2 distillate oil, the permittee shall determine the emission limit in terms of pound per million BTU heat input which shall be compared to the data obtained from the continuous emissions monitor. [s. NR 440.205(5)(b), Wis. Adm. Code] **(4)** For the purpose of compliance with the nitrogen oxides emission limit, periods of excess emissions shall be defined as any 3-hour rolling average during which the average nitrogen oxides emissions exceed the applicable emission limitation. [s. NR 439.09(10), Wis. Adm. Code] **(5)** The permittee shall submit excess emissions reports quarterly. All quarterly reports shall be postmarked by the 30th day following the end of each calendar quarter. [s. NR 440.205(10)(e), (h) and (i), Wis. Adm.	**(2)** The emissions reports shall be written in accordance with s. NR 440.07(3) and (4), Wis. Adm. Code. **(3)** The permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this chapter recorded in a permanent form suitable for inspection. The file shall be retained for at least 5 years following the date of such measurements, maintenance, reports and records. [s. NR 440.07(5), Wis. Adm. Code]

POLLUTANTS	a. LIMITATIONS	b. COMPLIANCE DEMONSTRATION	c. REFERENCE TEST METHODS, RECORDKEEPING AND MONITORING
		Code] **(6)** The Department shall be informed at least 30 working days prior to any stack testing done associated with the certification of the continuous emissions monitor so a Department representative can witness the testing. [s. NR 439.07(2), Wis. Adm. Code]	
4. Carbon Monoxide	**(1)** 0.06 pound per million BTU heat input[13] [s. 285.65(7), Wis. Stats. , 98-POY-099]	**(1)** The facility may not burn fuels other than natural gas and distillate fuel oils. [14] [s. 285.63(1)(a), Wis. Stat.]	**(1)** Whenever carbon monoxide emissions compliance testing is required, USEPA Method 10 in 40 CFR part 60, Appendix A, incorporated by reference in s. NR 484.04, Wis. Adm. Code shall be used. [s. NR 439.06(4)(a), Wis. Adm. Code]
5. Visible Emissions	**(1)(a)** 20% Opacity; except during start-up and shutdown **(b)** During start-up and shutdown, the opacity may not exceed 20% (6-minute average), except for one 6-minute period per hour of not more than 27% opacity. [ss. NR 405.08, Wis. Adm. Code, 98-POY-099, s. NR 440.19(3)(a)2[15], Wis. Adm. Code]	**(1)** The permittee shall calibrate, maintain and operate a continuous monitoring system which meets the performance specifications of condition I.B.5.b.(2) for the measurement of opacity from boiler B22.[16] [ss. NR 439.095(1)(f) and NR 440.205(9), Wis. Adm. Code] **(2)** The permittee shall calibrate maintain and operate the continuous emission monitor required by condition I.B.5.b.(1) in accordance with the performance specifications in 40 CFR part 75, Appendices A to I and Performance Specification 1 in 40 CFR part 60, Appendix B. [ss. NR 439.09(1) and NR 439.095(6), Wis. Adm. Code] **(3)** The continuous emission monitor required by condition I.B.5.b.(1) shall follow a quality control and quality assurance plan, as approved by the Department. [ss. NR 439.09(8) and NR 439.095(6), Wis. Adm. Code]	**(1)** Reference Test Method for Visible Emissions: Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. The minimum total time of observations shall be 3-hours (30 6-minute averages). [ss. NR 439.06(9)(a)1. and NR 440.205(7)(d)7., Wis. Adm. Code] **(2)** The continuous opacity monitor required by condition I.B.5.b.(1) shall complete one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. [s. NR 439.09(9)(a), Wis. Adm. Code] **(3)** The permittee shall submit quarterly excess emission and monitoring system performance (MPS) reports to the Department within 30 days following the end of each calendar quarter. [ss. NR 439.09(10) and NR 440.205(10)(h), Wis. Adm. Code] **(4)** Excess emissions for opacity are, any 6 minute period during which the average opacity exceeds the limitation in condition I.B.5.a.(1). [ss. NR 439.09(10)(b) and NR 440.205(10)(h)3., Wis. Adm. Code]

POLLUTANTS	a. LIMITATIONS	b. COMPLIANCE DEMONSTRATION	c. REFERENCE TEST METHODS, RECORDKEEPING AND MONITORING
5. Visible Emissions *continued*		(4) Zero and Span Calibrations: (a) The permittee shall check the zero (or low level value between 0 and 20% of span value) and span calibration drifts at least once daily in accordance with a written procedure. (b) The span value used shall be 80, 90, or 100% opacity. (c) The zero span mentioned above shall, at a minimum be adjusted whenever the 24-hour zero drift or 24-hour span drift exceeds 2 times the limits of the applicable performance specifications in 40 CFR appendix B. (d) The system must allow the amount of excess zero and span drift measured at the 24-hour interval check to be recorded and quantified, whenever specified. (e) The optical surfaces exposed to emissions shall be cleaned prior to performing the zero and span drift adjustments, except for a system using automatic zero adjustments the optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4% opacity. (f) The permittee shall follow procedures for producing a simulated zero opacity condition and an upscale (span) opacity condition using a certified neutral density filter or other related technique to produce a known obstruction of the light beam. Such procedures shall provide a system check of the analyzer internal optical surfaces and all electronic circuitry including the lamp and photodetector assembly. [ss. NR 440.13(4), Wis. Adm. Code] (5) If the visible emission limit is exceeded, the permittee shall submit a report to the South Central Region Air Program, 3911 Fish Hatchery Road, Fitchburg, WI 53711. The report shall include, but is not limited to, the time and date of the exceedance, the level of opacity at the time of the exceedance and the steps taken to correct the operations of the boiler and prevent such exceedance to reoccur. [s. 285.65(7), Wis. Stats., 98-POY-099]	(5) The facility shall record the output of the continuous emission monitoring system for measuring the opacity of the emissions discharged to the atmosphere. [s. NR 440.205(9)(a), Wis. Adm. Code] (6) The excess emission reports required by condition I.B.5.c.(3) shall contain the information in condition I.D.3.a. [s. NR 439.09(10)(a), Wis. Adm. Code] (7) Data Format: (a) The permittee shall reduce all data to 6-minute averages, calculated from a minimum of 36 data points equally spaced over each 6-minute period. (b) Data recorded during periods of continuous monitoring system breakdowns, repairs, calibration checks, and zero and span adjustments may not be included in the data averages. (c) All excess emissions shall be converted into percent opacity rounded to the nearest one percent opacity. [s. NR 440.13(8), Wis. Adm. Code]

C. **S01/B01:** 1250 kW Emergency Generator; Installed 1999.

POLLUTANT	a. LIMITATIONS	b. COMPLIANCE DEMONSTRATION METHODS	c. REFERENCE TEST METHODS, RECORDKEEPING, AND MONITORING REQUIREMENTS
1. All Pollutants	**(1)** Each generator may be operated no more than 200 hours per year. [s. 285.63(1)(b), Wis. Stats. and s. NR 400.02(56), Wis. Adm. Code]	**(1)** The permittee shall monitor the number of hours each generator is operated. [ss. 285.65 and 285.63(1)(a), Wis. Stats.]	**(1)** The permittee shall keep records of when the emergency generators are operated. These records shall include: **(a)** The hours of operation of each generator. [s. NR 439.04(1)(d), Wis. Adm. Code]
2. Visible Emissions	**(1)** The permittee may not cause or allow emissions of a shade or density greater than 20% opacity. [s. NR 431.05, Wis. Adm. Code]	**(1)** The permittee shall only fire distillate fuel oil with a sulfur content of no more than 0.05% in this generator. [17] [ss. 285.65 and 285.63(1)(a), Wis. Stats.]	**(1)** Reference Test Method for Visible Emissions: Whenever compliance emission testing is required, US EPA Method 9 shall be used to demonstrate compliance. [s. NR 439.06(9)(a)1., Wis. Adm. Code] **(2)** The permittee shall retain on site, plans and specifications or equivalent documentation that indicate the type of fuel used and the sulfur content of the fuel. [s. NR 439.04(1)(d), Wis. Adm. Code]
3. Particulate matter	**(1)** No person may cause, allow or permit the emissions of particulate matter to the ambient air from stationary or semi stationary gasoline or diesel powered internal combustion reciprocating engines in excess of 0.5 pounds of particulate matter per million BTU heat input. [s. NR 485.055, Wis. Adm. Code] **(2)** 1.7 pounds per hour [s. NR 404.04(3), Wis. Adm. Code]	**(1)** The permittee shall only fire distillate fuel oil with a sulfur content of no more than 0.05% in this generator. [18] [ss. 285.65 and 285.63(1)(a), Wis. Stats.]	**(1)** Whenever compliance emissions testing is required, USEPA Method 5, including backhalf condensibles, shall be used. [s. NR 439.06(1), Wis. Adm. Code] **(2)** The recordkeeping requirement in I.C.2.c.(2) shall be used as recordkeeping for particulate matter. [s. NR 439.04(1), Wis. Adm. Code]

D. OTHER CONDITIONS APPLICABLE TO THE ENTIRE FACILITY

CONDITION TYPE	a. CONDITIONS	b. COMPLIANCE DEMONSTRATION
1. Compliance Testing		**(1)** Whenever stack testing is required: **(a)** The owner or operator of a source shall use the reference test methods shown above for each pollutant and in ss. NR 439.07 to NR 439.095, Wis. Adm. Code, to determine compliance with emission limitations. When approved by the department, another USEPA approved Method may be substituted for the recommended test method. [s. NR 439.06, Wis. Adm. Code] **(b)** Unless the department requires or approves the performance of a test at less than capacity, all compliance emission tests shall be performed with the equipment operating at capacity or as close to capacity as practicable. [s. NR 439.07(1), Wis. Adm. Code] **(c)** The Department shall be informed at least 20 working days prior to any stack testing so a Department representative can witness the testing. At the time of notification an emission test plan shall also be submitted to the Department for approval. [s. NR 439.07(2), Wis. Adm. Code] **(d)** Two copies of the report on the tests shall be submitted to the Department for evaluation within 60 days following the tests. If requested, the department may grant an extension of up to 30 days for test report submittal. [s. NR 439.07(9), Wis. Adm. Code]
2. Reporting	**(1)** The permittee shall periodically submit monitoring and compliance reports. [s. NR 407.09(1)(c)3., Wis. Adm. Code]	**(1)** Submit the results of monitoring or a summary of monitoring results required by this permit to the Department every six months. **(a)** The time periods to be addressed by the submittal are: January 1 to June 30 and July 1 to December 31. **(b)** The report shall be submitted to the South Central Region Air Management Program, 3911 Fish Hatchery Road, Fitchburg, WI 53711, within 30 days after the end of each reporting period. **(c)** All deviations from and violations of applicable requirements shall be clearly identified in the submittal. **(d)** Each submittal shall be certified by a responsible official as to the truth, accuracy and completeness of the report. [s. NR 439.03(1)(b), Wis. Adm. Code] **(2)** Submit a certification of compliance with the requirements of this permit to the Wisconsin Department of Natural Resources, South Central Region Air Management Program, 3911 Fish Hatchery Road, Fitchburg, WI 53711 and to Compliance Data - Wisconsin, Air and Radiation Division, U.S. EPA, 77 W. Jackson, Chicago, IL 60604. **(a)** The time period to be addressed by the report is the January 1 to December 31 period which precedes the report. **(b)** The report shall be submitted, to the offices listed above, within 30 days after the end of each reporting period. **(c)** The information included in the report shall comply with the requirements of Part II Section N of this permit. **(d)** Each report shall be certified by a responsible official as to the truth, accuracy and completeness of the report. [s. NR 439.03(1)(c), Wis. Adm. Code]

D. OTHER CONDITIONS APPLICABLE TO THE ENTIRE FACILITY

CONDITION TYPE	a. CONDITIONS
3. Quarterly Excess Emission Reports	**(1)** The quarterly excess emission reports required by condition I.B.5.c.(3) shall: (a) Be Submitted to the Department of Natural Resources, South Central Region Air Management Program, 3911 Fish Hatchery Road, Fitchburg, WI 53711, phone (608) 275-3266, within 30 days following the end of each calendar quarter. (b) Contain the following information: (i) The magnitude of any excess emissions, and conversion factor or factors used; (ii) The date and starting and ending times or duration of each period of excess emissions; (iii) The periods of excess emissions that occur during startups, shutdowns, sootblowing, control equipment malfunction, process malfunction, fuel problems, other known causes or for unknown causes; (iv) The cause of any malfunction and the measures taken to reduce excess emission; (v) The date and starting and ending times of any period during which the monitoring system was inoperative and reason or causes, including monitor malfunction or calibration, except zero and span checks. The report shall identify the repairs or adjustments made to the system; (vi) The date and starting and ending time of any period during which the process being monitored was inoperative; (vii) When no period of excess emission occurred during the quarter and the monitoring system had no period of downtime, an excess emission report shall be filed stating such information. [ss. NR 439.09(10), NR 439.09(10)(a) and NR 440.07(3), Wis. Adm. Code] **(2)** If the permittee receives written approval from the Department, they may, instead of the full excess emission reports required by condition I.B.5.c.(3), submit a summary excess emission report. This summary excess emission report shall be submitted on a form provided by the Department or in a format approved by the Department. [ss. NR 439.09(10)(d) and NR 440.07(4), Wis. Adm. Code]

D. S11/Process B20: Industrial Gas/Fuel Oil Boiler - 186.5 mmBtu/hour; Installed 1976. S11/Process B21:Industrial Gas/Fuel Oil Boiler - 186.5 mmBtu/hour; Installed 1976. S11/Process B22: Industrial Gas/Fuel Oil Boiler - 357 mmBtu/hour; Installed 1998.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
4. National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters (40 CFR Part 63, Subpart DDDDD)	(1) Existing large and limited use gaseous fuel units; existing large and limited use liquid fuel units; and new small liquid fuel units that burn only gaseous fuels or distillate oil are subject to only[19] the initial notification requirements in NR 460.08(2), Wis. Adm. Code. [s. 285.65(13), Wis. Stats., and 40 CFR 63.7506(b)]	(1) The permittee shall notify the Department in writing that the source is subject to 40 CFR Part 63, Subpart DDDDD. [20] (a) The notification shall include the information required under condition c.(1). [s. NR 460.08(2)(b), Wis. Adm. Code, and 40 CFR 63.9(b)]	(1) *Initial Notification.* The initial notification shall provide all of the following information: (a) The name and address of the owner or operator. (b) The address where the affected source is located. (c) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date. (d) A brief description of the nature, size, design and method of operation of the source, including its operating design capacity and an identification of each point of emission for each hazardous air pollutant, or, if a definitive identification is not yet possible, a preliminary identification of each point of emission for each hazardous air pollutant. (e) A statement of whether the affected source is a major source or an area source. (f) If source is in one of the limited use subcategories, include a signed statement indicating the source has a federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent. [s. NR 460.08(2)(b), Wis. Adm. Code, and 40 CFR 63.9(b)(2) and 63.7545(b)]

[1] This restriction will ensure that the facility can meet the allowable limit since at the maximum heat input capacity the emissions are less than this limit.

[2] Since the facility is restricted to clean burning fuels, it is unlikely that the facility will exceed the limit so long as no other fuels are burned, therefore these requirements are sufficient.

[3] The source is defined as the whole UW Madison Campus (Walnut and Charter Street Heating Plants and UW Campus). **Limit.** After June 30, 1988, the average number of pounds of sulfur dioxide emissions per million British thermal units of heat input during any year from any large source, as defined under s. 285.45 (1) (a), that is owned by this state may not exceed 1.50. "Large source" means a stationary source in this state, other than a fossil fuel-fired boiler under the ownership or control of a major utility, that had sulfur dioxide emissions averaging at least 1,000 tons annually in the most recent 5-year period, that became operational before May 2, 1986, and that is not a boiler subject to the standard of performance for new stationary sources for sulfur dioxide emissions.

[4] Natural gas sulfur dioxide emissions shall be determined using assumed values of 0.6 lb/CF6 and 1000 mmBtu/CF6 for purposes of these calculations. The generators at the heating plants and around the UW Madison campus will not be included here to ease the recordkeeping burden for the facility. This is acceptable because the limit becomes more restrictive by not including the cleaner diesel fuel.

[5] PM BACT emission limit required under s. NR 405.08, Wis. Adm. Code is more restrictive than that provided in ss. NR 415.06(2), 440.19(3)(a), Wis. Adm. Code.

[6] These requirements are included because the source was reviewed with these stack parameters and it was determined that no increments or ambient air quality standards will be violated when constructed as proposed.

[7] This restriction will ensure that the facility can meet the allowable limit since at the maximum heat input capacity the emissions are less than this limit.

[8] SO_2 BACT emission limit required under s. NR 405.08, Wis. Adm. Code is more restrictive than that provided in ss. NR 440.19(4)(a) and meets the requirement in 440.205(3)(d), Wis. Adm. Code.

[9] This restriction will ensure that the facility can meet the allowable limit since at the maximum heat input capacity the emissions are less than this limit.

[10] Compliance with the emission limits under this subsection is determined on a 3-hour average basis for subsequent performance tests.

[11] Nitrogen Oxides NO_x BACT emission limit required under s. NR 405.08, Wis. Adm. Code is more restrictive than that applicable emission limit in ss. NR 440.205(5)(a)1., Wis. Adm. Code.

[12] This restriction will ensure that the facility can meet the allowable limit since at the maximum heat input capacity the emissions are less than this limit.

[13] The permittee proposed this emission limit to avoid PSD applicability for CO emissions.

[14] This restriction will ensure that the facility can meet the allowable limit since at the maximum heat input capacity the emissions are less than this limit.

[15] This BACT limitation is similar to but more restrictive than the appropriate NSPS limitation.

[16] The permittee is exempt from the biennial opacity compliance tests required by s. NR 439.075(3)(b), Wis. Adm. Code, provided they operate a continuous opacity monitor that meets the performance specification requirements of s. NR 439.09, Wis. Adm. Code, pursuant to s. NR 439.075(4)(a)2., Wis. Adm. Code.

[17] It is not expected that the visible emission limitation of 20% opacity would be exceeded while firing these fuels. Therefore restricting the type of fuel used is adequate to ensure compliance with the emission limitation.

[18] It is not expected that the emission limitation would be exceeded while firing these fuels. Therefore restricting the type of fuel used is adequate to ensure compliance with the emission limitation.

[19] Existing large and limited use gaseous fuel units; existing large and limited use liquid fuel units; and new small liquid fuel units that burn only gaseous fuels or distillate oil are **not** subject to the emission limits, work practice standards, performance testing, monitoring, SSMP, site-specific monitoring plans, recordkeeping and reporting requirements of 40 CFR Part 63, Subpart DDDDD or any other requirements in ch. NR 460, Wis. Adm. Code.

[20] The facility submitted the notification on March 3, 2005.

EXHIBIT B

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November 25, 2003

Sent by E-Mail and Fax
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Mr. Brad Pyle
Wisconsin Department Natural Resources
South Central Region Air Management Program
3911 Fish Hatchery Road
Fitchburg, WI 53711

RE: Draft Operation Permit 113134230-P10
UW Madison Walnut Street Heating Plant
Madison, Wisconsin

Dear Mr. Pyle:

Please find enclosed supplemental comments on the Draft Operation Permit 113134230-P10 for the UW Madison Walnut Street Heating Plant. These comments are in addition to the earlier comments submitted on May 22, 2003 and the comments delivered at the public hearing earlier today.

These supplemental comments address just two issues: 1) the preliminary determination by the WDNR that this facility and the other sources of air pollution on the campus of the University of Wisconsin are existing sources and exempt from New Source Review permitting requirements; and 2) that the facility is exempt from emission limits during periods of startup, shutdown, and malfunction..

It is clear that citizens may raise, and the WDNR is required to address, such issues during the Title V permitting process. *See, e.g.*, LaFleur v. Whitman, 300 F.3d 256 (2d Cir.

2002) (petition for review of Title V permit challenging underlying state decision that PSD did not apply to a project); *see also* United States v. AM General Corp., 34 F.3d 472, 475 (7th Cir. 1994) (Title V veto mechanism available to challenge deficient NSR permits).

1. New Source Review Applicability

Whether or not a plant is considered "existing" or "new" is the fundamental first step in deciding what emission limits apply to a source. At stake in this analysis for the permit program is the determination of whether or not the WDNR is following the law which requires an applicant to file a complete permit application. At stake in this analysis for the environment, and the health and safety of the residents of Madison and downwind residents, is the emission of hundreds of tons of pollutants that could otherwise need to be controlled. With so much at stake, the WDNR must require the applicant to provide all pertinent data so that the WDNR can make an independent determination regarding what emission standards are applicable to the University's facilities.

New Source Review ("NSR") requires a source to install Best Available Control Technology ("BACT") when it undertakes a non-routine modification that results in an emission increase. Sierra Club is not aware of the applicant submitting a PSD permit application for any "physical change or operation change" at this source, which includes, as described below, the entire University. Whether the absence of any such applications is because no such NSR modifications have occurred, or rather that any that have occurred were ignored, is not known at this time. What is known is that any modification that triggers NSR and a BACT evaluation would most certainly drastically lower the applicable emission limits and require the installation of modern pollution controls.

The recent decision by the United States District Court for the Southern District of Ohio, Eastern Division, in U.S. et al. v. Ohio Edison Company et al., 2:99-CV-1181 is very informative about the importance of the NSR requirements of the Clean Air Act, and their applicability to power plants. That decision is incorporated by reference herein. In Ohio Edison, the United States sued Ohio Edison for alleged NSR violations resulting from eleven construction projects at a coal powered generating plant owned by Ohio Edison. The Court found that all eleven construction projects at issue triggered NSR applicability as each was a physical change to the plant which resulted in an increase in emissions. The Court's brief review of the Clean Air Act's applicability to these types of facilities is instructive for purposes of these pending Title V permit applications.

The Ohio Edison Court explained how NSR can become an "applicable requirement" for a plant, stating:

> The Clean Air Act was enacted "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population." 42 U.S.C. § 7401(b). The basic provisions of the Clean Air Act, including the requirements for the EPA to establish National Ambient Air Quality Standards ["NAAQS"] and for the states to develop plans for attaining those standards through State Implementation Plans ["SIPs"], were enacted in 1970. At the same time, Congress created the New Source Performance Standards ["NSPS"] program to ensure that increased pollution from the construction of new and modified emissions sources would be controlled. NSPS standards require major stationary sources of air pollution to install pollution controls based on state of the art technology, taking into account the cost of achieving such reduction and any nonair quality health and environmental impact. 42 U.S.C. § 7411(a)(1).
>
> The Clean Air Act defines "new source" as "any stationary source, the construction or modification of which is commenced after the publication of regulations (or, if earlier, proposed regulations) prescribing a standard of performance under this section which will be applicable to such source." 42 U.S.C. § 7411(a)(2). A "stationary source" is "any building, structure, facility, or installation which emits or may emit any air pollutant." § 7411(a)(3). The term "modification" is defined as "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air

pollutant not previously emitted." 42 U.S.C. § 7411(a)(4). Consequently, a plant constructed before the Clean Air Act and its implementing regulations is not covered by the New Source pollution standards unless, after such date, it undergoes a modification.

In 1977, the CAA was amended to include two additional source programs, the Prevention of Significant Deterioration ["PSD"] and the Non-Attainment New Source Review Requirements ["NNSR"]. PSD applies to all new emissions capacity in areas meeting NAAQS and NNSR applies to all new emissions capacity in areas not in compliance with NAAQS, *i.e.,* nonattainment areas. The PSD and NNSR provisions are collectively referred to as the New Source Review ["NSR"] Program. The NSR provisions apply to both new and "modified" sources of air pollution. The provisions require "major emitting facilities" to obtain permits prior to construction as well as installation of state-of-the-art pollution control technology under the direction of the permitting agency. 42 U.S.C. §§ 7475 and 7503.

Congress chose to "grandfather" existing pollution sources from the NSPS and NSR provisions at the time the statute was enacted. As explained in further detail *infra*, Congress did not, however, intend that such existing sources be forever spared the burden and expense of installing pollution control devices. As Congress required, compliance with the CAA is triggered when an existing source makes a "modification" which results in an increase in emissions, unless a regulatory exemption applies to the activity.

The definition of "modification" used in the NSPS provisions applies to the NSR provisions. A modification is "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted." 42 U.S.C. § 7411(a)(4). The EPA regulations define "modification" as follows:

> [A]ny physical change or operational change to an existing facility which results in an increase in the emission rate to the atmosphere of any pollutant to which a standard applies shall be considered a modification within the meaning of section 111 of the Act . . . .

40 C.F.R. § 60.14(a). A modification triggers permitting requirements under the CAA as well as the duty to install pollution controls. 42 U.S.C. §§ 7475(a), 7479(2)(C) and 7503(a). * * *

2003 WL 21910738 (S.D. Ohio) pg. 16-17.(emphasis added)

As the Court in Ohio Edison has clearly held, a "modification" does trigger CAA applicability. In this case, the applicant must include all relevant data regarding any plant modifications as part of its Title V application. Any Title V application that does not contain this relevant data is fatally deficient, and renders illusory any purported review of the facility by WDNR. The WDNR is mandated to require each applicant to provide all relevant data regarding whether or not NSR has been triggered, as NSR would impose an "applicable requirement" under the Clean Air Act. The WDNR will not have fulfilled its responsibilities to the people and environment of the State of Wisconsin unless it addresses these crucial issues regarding these major emission sources.

The environmental impact resulting from WDNR's failure to require complete permit applications is potentially drastic. While the State is fighting to overturn any relaxation of NSR at the Federal level, we each must ensure that the existing law for the past thirty years is applied to major pollution emitters.

The CAA provides that a complete Title V application must include a "compliance plan, including a schedule of compliance, describing how each emission unit will comply with all applicable requirements." If the source is found to have triggered NSR, the Title V permit can still be issued with inclusion of a "schedule of compliance" to meet these far more stringent emission limits. Congress knew that a complete application from all significant sources would uncover some sources who were not complying with the Clean Air Act. They purposefully require a full application and determination of applicable requirements, combined with allowing for a compliance schedule, so that these non compliant sites will be brought into compliance. The burden is on the applicant to prove to the WDNR that it is entitled to certain emission standards.

Here, it appears that the applicant has requested the most lenient emission limits available -- "existing source" limits. To obtain these limits, each source must be required to prove its entitlement to those limits. That has not occurred here, in contravention of the requirements of the Clean Air Act.

Nor is it enough to say that NSR applicability should be left to the enforcement process. Congress has already answered this question. It could easily have written a law that said "any facility found in an enforcement action to have triggered NSR applicability shall have such more stringent limits included in any Title V permit issued or to be issued to the source." It did not take that approach, and for good reason. The permitting process is the appropriate time when the burden is upon the applicant to show compliance with applicable laws and regulations. Congress knew that it would be chaos to require that an enforcement case be brought by the U.S. or State governments before the permitting authority could require these more stringent limits in a Title V permit. The Title V permitting process is the exact time mandated by law for all sources to fully disclose all relevant information regarding their entitlement to available emission limits. These applicants can not be allowed to ignore their statutory duty to fully demonstrate the applicability of "existing source" emission limits.

There are three basic steps to determining PSD applicability: Is the source "major"? is it located in an area that attains the National Ambient Air Quality Standards? and does the modification increase air pollution levels above the significance levels established by US EPA?

The entire University of Wisconsin Madison campus, including its hospital and other far-flung facilities constitute a single, major source subject to the Clean Air Act:

> For the purposes of PSD a stationary source is any building, structure, facility, or installation that emits or may emit any air pollutant subject to regulation under the Clean Air Act (the Act). Building, structure, facility, or installation means all the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties and are under common ownership or control. An emissions unit is any part of a stationary source that emits or has the potential to emit any pollutant subject to regulation under the Act.

US EPA 1990 NSR Manual at A.2. There should be no dispute that all of the emission units at the campus, including all fossil-fuel burning units, are part of a single pollution source. Thus, for example, the single source includes Charter Street, Walnut, and the new Co-Generation facility.

Air quality in Madison is currently designated attainment for all federal air quality standards.

The last remaining question involves the extent of modifications and whether the modifications resulted in emission increases above the significance level.

There is evidence of substantial modifications since 1978 at just the Walnut Street power plant. For example, in 1998 an "Industrial Gas/Fuel Oil Boiler" rated at 357 mmBtu/hour was installed. Within the following twelve months a 1250KW backup generator was also installed at Walnut Street. It is necessary to consider all other related modifications at Walnut and elsewhere within the entire campus during this time period because otherwise each minor source permit may be "a sham permit if it is issued for a number of pollution-emitting modules that keep the source minor, but within a short period of time an application is submitted for additional modules which will make the total source major." NSR Manual at c.6.

Consequently, the NSR applicability determination must encompass, at a minimum, the interlinked and related facilities at Charter Street, the proposed Co-

Generation Plant and other steam and electricity generating facilities. Until the WDNR has obtained and reviewed the information underlying the University's claim of "existing source" it is premature for the WDNR to authorize the University to be exempt from installing modern pollution controls at Walnut Street and other emission units at the University.

2. Startup, Shutdown and Malfunction Provision

The Draft Permit includes various provisions addressing "excess emissions" during periods of startup, shutdown and malfunction (SSM). In particular, the provision addressing opacity at the 357 mmBTU generator waives the opacity during SSM periods. This broad waiver is unlawful.

A PSD and consequently a Title V permit must include stringent requirements to ensure compliance with the CAA during startup, shutdown and malfunction (SSM) and must be consistent with US EPA's guidance. Memo from Kathleen Bennett, *Policy on Excess Emissions During Startup, Shutdown, Maintenance, and Malfunctions*, Sept. 28, 1982 ("Bennett Mem."); Memo from Steven Herman, *State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown*, Sept. 20, 1999) ("Herman Mem.").

Automatic *exemptions* for excess emissions during startup, shutdown and malfunction are prohibited. Bennett Mem. at 1. The U.S. EPA is particularly intolerant of excess emissions during start-up and shutdown. "Start-up and shutdown of process equipment are part of the normal operation of a source and should be accounted for in the design and implementation or the operating procedure for the process and control

equipment. Accordingly, it is reasonable to expect that careful planning will eliminate violations of emission limitations during such periods." *Id.* at 3.

Instead of requiring the applicant to carefully plan to minimize violations of short term emission limits WDNR simply exempts the applicant from complying with at least the opacity emission limit during SSM events altogether. This is directly contrary to the purpose and requirements of BACT and Title V.

The waiver of short-term emission limits during SSM events also violates Title V because the applicant has not demonstrated that it can protect short-term ambient air quality standards without such limits. *See e.g.* Memo from Gerald Emison, OAQPS to David Kee, Region 5 (Oct. 24, 1986). In this memo Mr. Emison responds to a Region 5 statement that PSD permits must contain short-term emission limits to ensure protection of ambient air quality standards: "I concur with your position and emphasize to you that this position reflects our national policy."[1]

There are several options for constraining the amount of excess emissions during SSM events. For example, the permit could provide the maximum duration during which a startup exemption could apply. Similarly, under optimum operating conditions, what is a reasonnable amount of time for shutdown? Those time limits could be put right in the permit. Would restrictions on fuel type reduce startup and shutdown limit the possibility of violating short-term emission limits? If so, such safeguards should be included in the final permit. *See e.g.* In re: Rockgen Energy Center, U.S. Environmental Appeals Bd., 8 E.A.D. (Aug. 25, 1999) (remanding permit to the WDNR based on similar SSM provision until the agency "make[s] an on-the-record determination as to whether

[1] Available at http://www.epa.gov/Region7/programs/artd/air/nsr/nsrmemos/shrtterm.pdf.

compliance with existing permit limitations is infeasible during startup and shutdown, and if so, what design, control, methodological or other changes are appropriate for inclusion in the permit to minimize the excess emissions during these periods.").

Based on the vague SSM provision it is wholly conceivable that the applicant could operate completely uncontrolled for extended periods of time during SSM events. Petitioners did not locate any analysis in the applicant's application in which it concluded that uncontrolled emissions for a significant period of time would not violate short-term ambient air quality standards, including PSD increments and NAAQS.

Finally, the permit requires the applicant to develop a plan to address start up, normal operation, and shutdown and malfunction events without subjecting such plan to public scrutiny. In the absence of a formal permit modification proceeding, such a SSM plan is not federally enforceable and is unlawful because it "could effectively shield excess emissions arising from poor operation and maintenance or design." In re: Rockgen.

Thank you for considering these supplemental comments.

Sincerely,

/ s /

Bruce Nilles

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May 22, 2003

Mr. Brad Pyle
Wisconsin Department Natural Resources
South Central Region Air Management Program
3911 Fish Hatchery Road
Fitchburg, WI 53711

RE: Draft Operation Permit 113134230-P10
UW Madison Walnut Street Heating Plant
Madison, Wisconsin

Dear Mr. Pyle:

Please find enclosed comments on the Draft Operation Permit 113134230-P10 for the UW Madison Walnut Street Heating Plant. We believe that additional analysis is required prior to issuance of the draft operation permit.

Our comments address the following issues:

- Use of AP 4-2 emission factors without supporting compliance testing, particularly for NO_x emissions from the older boilers.
- Use of modeled emission rates for the NAAQS analysis which are substantially less than permit allowable emission rates; and,
- Evaluation of PSD permitting requirements for the 1250 kw emergency generator.

Thank you for the opportunity to review the draft permit. Should you have any questions, please contact us.

Sincerely,

/ s /

Jennifer Feyerherm
Sierra Club

enclosure

cc: R. Vakhariam (WDNR)
C. Newton (US EPA Region V)
K.Jacobsen

COMMENTS ON DRAFT OPERATION PERMIT 113134230-P10
FOR THE UW-MADISON WALNUT STREET HEATING PLANT
MAY 22, 2003

EMERGENCY GENERATOR PERMITTING REQUIREMENTS

The facility installed a new 357 mmbtu/hr boiler in 1999. This boiler was reviewed under the PSD regulations and approved under 98-POY-099. The facility also installed a new 1250 kw emergency generator in 1999. The WDNR did not issue a construction permit for the new generator.

This generator is exempt from permitting under s. NR406 Wis. Adm. code because it is less than 3,000 kw. However, all emissions units that are part of a PSD project typically need to go through PSD for pollutants that are significant, including emergency generators. BACT usually results in limited control requirements, usually fuel sulfur content restrictions.

Please provide a response to the following:

1. Why wasn't the emergency generator reviewed under the PSD regulations with the installation of the new 357 mmbtu/hr boiler?

2. If the generator did require PSD review, what corrective actions will the WDNR require of the facility?

OPACITY LIMITATION FOR B22

Air Quality Permit 98-POY-099 contains the current opacity limitations for B22 established as BACT. These limits are as follows:

> *(1)(a) Opacity may not exceed 20% except during start-up and shutdown,*
> *(b) During start-up and shutdown, the opacity may not exceed 20% (6-minute average), except for one 6-minute period per hour of not more than 27% opacity.*

The draft operation permit contains the following less stringent opacity limitations:

> *(1) Opacity may not exceed 20% except:*
> *(a) for one 6 minute period per hour of not more than 27% opacity;*
> *(b) during periods of startup, shutdown and malfunction.*

The draft permit relaxes the opacity limitations established as BACT under 98-POY-099. The proposed limitation no longer limits the opacity during start-up and shutdown periods. It is our understanding the a BACT limit cannot be relaxed during issuance of the facility operation permit renewal.

We believe that the existing BACT opacity limit contained in 98-POY-099 cannot be changed with issuance of a Title V permit and request that the draft operation permit be corrected to include the existing limits.

SELECTION OF MODELED EMISSION RATES FOR THE BOILERS

Modeled emission rates for S11 are presented in the preliminary determination for the draft operation permit renewal and the Department's technical support document for Permit #98-POY-099. Some of the modeled rates are presented in the following table.

Modeled Emission Rates for PM and SO2					
		PM		SO2	
Boiler	Capacity	Emissions (lbs/hr)	Factor (lbs/mmbtu)	Emissions (lbs/hr)	Factor (lbs/mmbtu)
B20, B21	373	5.32	0.014 (AP 4-2)	559.5	1.5 (Average Annual Allowable)
B22	357	17.85	0.05 (BACT)	18.21	0.051 (BACT)
Stack Total		23.17		577.7	

Please provide a response to the following:

1. The combined maximum heat capacity of B20 and B21 is greater than the heat capacity of B22. It is expected that the emissions from these older boilers would exceed those from the newer boiler. Why are the modeled PM emissions from the older boilers, B20 and B21, only 30% of the emissions from the newer boiler, B22?

2. The operation permit 113134230-P01 includes a PM emission limitation for B20 and B21 of 1.0 lbs/mmbtu. However, modeled emissions were 0.014 lbs/mmbtu, or 1.4% of the allowable emissions. Why wasn't the allowable emission rate used to model PM emissions from these boilers.

3. The modeled SO2 emission rate of 1.5 lbs/mmbtu represents an annual average allowable rate. Compliance with the NAAQS for SO2 is based on short-term averaging period of 3-hours and 24-hours. Please indicate why the annual average rate is representative of short-term emissions for the NAAQS analysis.

WDNR MODELING RATES FOR NAAQS ANALYSIS

For the modeled emissions rates in the NAAQS analysis, the WDNR used a combination of allowable emissions and emissions based on AP 4-2 emission factors for both Walnut Street and Charter Street Heating Plants.

Please provide a response to the following:

1. For the Walnut Street and Charter Street Heating Plants, what operations and pollutants were modeled based on AP 4-2 emission factors?

2. For the Walnut Street and Charter Street Heating Plants, what operations and pollutants were modeled based on permit allowable emission rates?

EPA REQUIREMENTS FOR NAAQS MODELING RATES

The USEPA provides modeling guidance in Appendix W to Part 51- Guideline on Air Quality Models. In Table 9-1 of the guidance, it is stated that the maximum allowable emission limit or federally enforceable permit limit should be used to model annual and short-term emissions.

The modeling guidance further points out "it is important that the applicant demonstrate that all modeled emission rates are consistent with the applicable permit conditions."

We have confirmed that use of allowable emission rates is required for NAAQS analysis through discussion with USEPA Region V staff.

We request that the WDNR demonstrate NAAQS compliance for the operation permit renewal based on maximum allowable emission limit or federally enforceable permit limits for both the Walnut Street, Charter Street Heating Plants and all modeled sources.

USE OF AP 4-2 EMISSION FACTORS

For the NAAQS analysis, the WDNR relied on emission factors from the USEPA document, Compilation of Air Pollutant Emission Factors (AP 4-2). This factors have an "A -rating," which indicates that they are developed from an analysis of a large number of sources. Even with an A rating, the AP 4-2 factors represent average emission factors from industry sources.
The introduction to AP 4-2 states, "Emission factors in AP-42 are neither EPA-recommended emission limits (e. g., best available control technology or BACT, or lowest achievable emission rate or LAER) nor standards (e. g., National Emission Standard for Hazardous Air Pollutants or NESHAP, or New Source Performance Standards or NSPS). Use of these factors as source-specific permit limits and/or as emission regulation compliance determinations is not recommended by EPA. Because emission factors essentially represent an average of a range of emission rates, approximately half of the subject sources will have emission rates greater than the emission factor and the other half will have emission rates less than the factor. As such, a permit limit using an AP-42 emission factor would result in half of the sources being in noncompliance."
Based on our conversations with USEPA Region V staff, AP 4-2 emission factors represent a national average and may not be accurate for a specific facility, particularly with respect to NOx emissions.

These emissions depend on the boiler type, design and operating conditions. An AP 4-2 A rated factor may be close to actual facility emissions, but without stack testing the accuracy of these factors is unknown for a specific facility.

We request that the WDNR review their policy on the use of AP 4-2 emission factors, particular in situations when there is no compliance test to support the use of these factors.

NEED FOR COMPLIANCE TESTING

Based on a WDNR file review there have been no compliance tests conducted for the two 186.5 mmbtu/hr boilers, which were installed in 1976. Based on preliminary determinations for the Walnut facility, the department has relied exclusively on AP 4-2 emission factors to determine compliance with permit limitations.

We request that compliance testing during natural gas and fuel oil firing be required for these 186.5 mmbtu/hr boilers.

MODELED EMISSIONS FROM THE EMERGENCY GENERATOR

For the NAAQS modeling analysis, the 1250 kw emergency generator PM emissions were 1.173 lbs/hour. The March 5, 2001 DOA operation permit renewal application indicates that the generator PM emissions are 1.7 lbs/hour based on manufacturer's data.

Please provide a response to the following:

1. What are the actual and allowable emission rates for the generator for all criteria pollutants?

2. Do the emission rates provided with the renewal application represent actual or potential emissions?

3. In some cases, manufacturers underestimate actual emissions from their new equipment. The draft operation permit does not include compliance testing for the generator. We request that WDNR require compliance testing for criteria emissions from the generator.

4. Emission estimates for the 1250 kw generator are based on fuel sulfur content of 0.05%. We request that the WDNR include a fuel oil sulfur restriction in any future permits issued for this emission source?

MODELED EMISSIONS FROM THE INCINERATOR

A 1992 stack test for the Walnut Street incinerator indicated that PM emissions were 0.36 lbs/hour. The allowable emission rate is 1.73 lbs/hr as proposed under draft Air Quality Permit #113103430-P01, which is currently under USEPA 45-day review. It is not clear from the preliminary determination what the modeled PM emissions were for this source.

Please provide the PM emission rate for the incinerator used in the NAAQS analysis.

WDNR DESCRIPTION OF MODELED SOURCES

NAAQS sources are described in the Department's preliminary determination. In many cases, this description consists only of a three letter abbreviation. It is very difficult to identify these sources based on the short description.

Please provide a more complete description of each NAAQS source, so these sources can be identified by the general public.

GOOD ENGINEERING PRACTICE (GEP) STACK HEIGHT

The preliminary determination for the draft operation permit 113134260-P10 includes results of a NAAQS analysis. Modeled stack heights for both the Walnut Street and Charter Street Heating Plants were 250 feet.

Section 123 of the Clean Air Act limits the use of stack heights above Good Engineering Practice (GEP) to meet the NAAQS or PSD increments. GEP stack height means the greater of:

(1) Sixty-five meters (213 feet)

(2) For stacks in existence on January 12, 1979, GEP = 2.5H, where H = Height of nearby structure(s).

(3) For all other stacks, GEP = H + 1.5 L, where H = Height of nearby structure(s) measured from the ground-level elevation at the base of the stack, and L = Height or projected width, whichever is less, of nearby structure(s).

Since development of the preliminary determination for the operation permit renewal, the WDNR has provided revised PM NAAQS results based on a reduced Walnut stack height of 213 feet. The reduction in stack height increased PM impacts.

Please provide a response to the following:

1. **Does the 250 foot Charter Street stack also exceed GEP?**

2. If the stack height exceeds GEP, how has the WDNR demonstrated NAAQS compliance for PM, SO2, NOx and CO?
3. Please provide the results of any updated NAAQS analysis based on the use of GEP stack heights.

NAAQS ANALYSIS FOR CO

The preliminary determination for the draft operation permit summarizes the total potential CO emissions for the Walnut and Charter Street Heating Plants. The potential CO emissions from both plants combined are 985.57 TPY.

Based on these significant emissions, please explain why a NAAQS analysis was not completed for CO.

BOILER LOAD ANALYSIS

The USEPA document, Compilation of Air Pollutant Emission Factors, Volume I. Stationary Point and Area Sources (AP 4-2) reports that emissions of some pollutants are highest during periods of incomplete or low-temperature combustion, such as during start-up or shut-down cycle of oil-fired boilers. At very low load conditions (approximately 30 percent of maximum rating), proper combustion conditions may be difficult to maintain and particulate emissions may increase significantly.

The USEPA provides modeling guidance in Appendix W to Part 51- Guideline on Air Quality Models. Appendix W. The guidance states that, "Operating levels less than 100 percent of capacity may also need to be modeled where differences in stack parameters associated with the lower operating levels could result in higher ground level concentrations."
The WDNR's technical support documents for Walnut Street permits did not include estimates of boiler emissions during start-up and shutdown periods. The WDNR modeling analysis predicted ambient air concentrations based on normal operating conditions for the boilers. A load analysis for the Walnut Street and Charter Street Heating plants was not completed.

For PM, CO and SO2, compliance with NAAQS is based on short-term averaging periods (1-hr, 3-hr, 8-hr and 24-hour). Periods of higher emissions at low operating loads, or during start-up/shutdown periods may affect NAAQS compliance. Also, lower exhaust velocities and temperatures typical of these periods will reduce pollution dispersion and increase ground level impacts.

Please provide a response to the following:

1. Is the facility required to comply with NAAQS during boiler start-up and shutdown periods, or low operation loads?

2. If so, how has the WDNR demonstrated NAAQS compliance during these periods for pollutants with short-term averaging periods?
3. Please provide an estimate of criteria pollutant emissions from the boilers during start-up and shutdown periods, and an estimate of the length and frequency of these periods.

COOLING TOWERS

The NAAQS regional inventory should include point sources and quantifiable fugitive emissions. The Walnut Street and Charter Street Heating Plant includes cooling towers. These PM emission sources were not included in the facility NAAQS analysis.

PM emissions from the cooling towers are significant. Estimated emissions for the Walnut cooling towers are as follows:

3,180,000 gallons per hour x 0.02% drift (USEPA AP42 emission factor) x 0.0187 lbs/gallon (BT2 report) = 11.9 lbs/hr.

Human exposure to PM emissions from these sources is likely due to the poor dispersion characteristics of these plumes. It is not uncommon to observe steam plumes from these towers reaching ground level near the plants.

It is unlikely that emissions from these sources will be included in the background concentrations measured at the Rodefeld Landfill.

Please explain why the cooling towers were not included in the PM NAAQS analysis.

WDNR INSPECTIONS

Based on the WDNR files, the last inspection of the Walnut Heating Plant by the WDNR occurred on August 22, 1989. This is over 14 years ago.

The facility's March 5, 2001 DOA operation permit renewal application did not include record keeping examples.

Under Permit 98-POY-099, the facility is required to conduct Method 9 visible emission observations for a 15 minute during each day the facility burns distillate fuel oil.

Please provide a response to the following:

1. Please indicate when the WDNR will conduct its next inspection of the facility.

2. Please confirm that facility has conducted the required visible emissions compliance and recordkeeping for each day fuel oil was used as required under Permit 98-POY-099.

ANNUAL COMPLIANCE CERTIFICATION/MONITORING REPORT

The UW submitted a compliance certification and monitoring report for 2002, as required under Permit #113134230-P01. The report incorrectly states that the PM compliance demonstration for the boilers is monthly records of natural gas and distillate oil use. The correct demonstration is weekly records.

Please confirm that the required weekly records have been maintained.

The UW submitted a compliance certification and monitoring report for 2002, as required under Permit #113134230-P01. The report incorrectly states compliance demonstration is not required for the stand-by generator. The generator is also incorrectly described as a 750 kw generator, rather than 1250 kw installed in 1999.

The correct compliance demonstration for the generator is monthly records of fuel burned in the generator.

Please confirm that the required monthly fuel usage records have been maintained.

PERMIT EMISSION LIMITS FOR CRITERIA POLLUTANTS

Operation Permit #113134230-J01 was issued to the Walnut Street Heating Plant on July 29, 1991. This permit included limitations for boiler B20 for the following pollutants: PM, SO2, NOx, CO, VOC, lead and visible emissions.

For B20, the proposed operation permit includes limitations for only PM, SO2, and visible emissions.

Please explain why the draft operation permit no longer includes limitations for NOx, CO, VOC and lead for B20.

LOCATION OF PROPOSED CEM

The existing NOx CEM is required under 98-POY-099 for B22. It is located before the common ductwork which combines air flow from the three facility boilers.

1. **Please indicate where the proposed opacity CEM will be located in the duct work.**
2. **Will the CEM measure opacity from all three boilers?**

EXHIBIT C

DATE: February 17, 2005 FILE REF: 4560

TO: Thomas Roushar – SCR – Air Management Program

FROM: Brad Pyle – SCR – Air Management Program

SUBJECT: Summary of and Responses to Public Comments on the Air Pollution Control Permit Application for Air Pollution Operation Permit Renewal No. 113134230-P10 for Walnut Street Heating Plant.

On Tuesday, November 25, 2003 at 10:30 am, DNR held a public hearing concerning the proposed Air Pollution Operation Permit Renewal No. 113134230-P10 for the University of Wisconsin, Department of Administration, Walnut Street Heating Plant. DNR was represented at the hearing by Bradford Pyle and Marcia Penner. 7 appearance slips were filed at the hearing, 2 in favor, 3 opposed, 1 as interest may appear, and 1 did not check any box.

DNR has carefully reviewed and considered all comments it has received. This memo summarizes and responds to all written comments received during the 30 day public comment period, and verbal comments received at the public hearing for this permit.

Comment: The University has never submitted an application to DNR for a major modification PSD permit. There should be a new source and PSD review of all campus sources. Before the agency can issue the UW a Title V permit, we believe it must conduct a good faith investigation into whether there have been modifications that triggered PSD and would result in significantly lower emission limits.
Response: Permit 98-POY-099 approved construction of a boiler subject to Prevention of Significant Deterioration (PSD) permit review as provided in ch. NR 405, Wis. Adm. Code. The UW Campus, and the Walnut Street, Charter Street and West Campus (WCCF) power plants are considered one source for Title V and for PSD, however this permit proposes to limit emissions from the Walnut Street power plant. Separate reviews of the Charter Street power plant and of the UW Campus were done, and their respective Operation Permits, #113008390-P01, issued 07/15/1997, and #113103430-P01, issued 8/25/2003, gave DNR no information that would lead to the conclusion that the UW (or DOA) is not in compliance with new source review or PSD requirements.

Comment: The Walnut plant back up emergency generator should have been included in the PSD review for permit 98-POY-099.
Response: The replacement of the generator was not related to the construction of the boiler. The construction permit application for the new boiler was initially submitted in June of 1998 and the permit was issued in December of 1998. On June 7, 1999 during a testing and service inspection, the plant's original 750 kW generator had a failure of the engine governor, which caused the engine to over speed and self-destruct. The engine was inoperable following this accident. Generator needs were evaluated at this time and an appropriately sized generator was installed. Please note that this evaluation was also occurring on the eve of Year 2000 (Y2K) when adequately sized emergency generators were an essential element of planning. The emergency generator was specifically exempt from the requirement to obtain a construction permit under s. NR 406.04(1)(w), Wis. Adm. Code.

Comment: DOA did not apply for and DNR did not issue a construction permit for the emergency generator at Walnut. I request that DNR take appropriate enforcement action to require DOA to properly permit this source. The DNR should include emission limitations for the emergency generator as was done for the recent West Campus Cogeneration Facility (WCCF) permit. The DNR should require compliance tests to confirm that the manufacturers estimates are correct.
Response: DNR did not issue a construction permit for the emergency generator at Walnut because emergency generators powered by internal combustion engines which are fueled by

distillate fuel oil with an electrical output of less than 3,000 kilowatts are specifically exempt from the requirement to obtain a construction permit (s. NR 406.04(1)(w), Wis. Adm. Code). The generators at WCCF do not meet the definition of emergency electric generator in s. NR 400.02(56), Wis. Adm. Code. DNR does not require testing of emergency generators because they are limited to a maximum of 200 hours of operation per year.

Comment: S02 emissions from the emergency generator are based on the fuel sulfur content of 0.5%. We request that the DNR include a sulfur content restriction in the permit.
Response: Walnut street currently fires low sulfur diesel fuel with a sulfur content of 0.05% in the generator. The renewal application submitted by DOA calculated emissions of S02 using 0.05% sulfur, so it is appropriate to limit the sulfur content of the fuel for the emergency generator in the permit.

Comment: Emergency generator is defined in s. NR 400.02(56), not s. 436.02(1), Wis. Adm. Code. The permit section covering the emergency generator should be rewritten to consider the correct definition of emergency generator.
Response: The generator compliance demonstration section is rewritten in the proposed permit to meet the definition of emergency generator in s. NR 400.02(56), Wis. Adm. Code.

Comment: What are the actual and allowable emission rates for the generator for all criteria pollutants? Do the emission rates provided with the renewal application represent actual or potential emissions?
Response: The actual emissions are equal to the potential emissions, which are equal to the allowable emissions. The emission rates can be found in the air quality analysis included in this response to comments under WALGEN.

Comment: Emissions from the boilers should be tested. AP-42 emission factors are an average and are not accurate enough. Periodic testing should be required.
Response: The AP-42 emission factors for gas and oil combustion in AP-42 are rated A. A rated emission factors are based on stack testing of similar sources, and are in this case acceptable to the Department. No additional or periodic testing is required by s. NR 439, Wis. Adm. Code.

Comment: Environmental Justice must be considered.
Response: DNR is committed to the principle that all citizens receive the benefits of a clean, healthy and sustainable environment regardless of race, national origin, or income. DNR seeks broad public involvement in its regulatory development and in its permitting actions, both from minority and low income populations and from the majority population. DNR has not denied participation to any group and we believe that the state's air pollution laws have been applied equally and fairly in this instance.

Comment: My children have asthma. We live near a major road. Repeated exposure to particulate matter and other pollutants from traffic exhaust may aggravate asthmatic symptoms in individuals already diagnosed with asthma.
Response: This permit action does not propose to limit emissions from traffic. The emissions from traffic are included in the background concentration used for the air quality modeling.

Comment: DNR needs more protective air standards. DNR needs to reduce air pollution in Madison.
Response: Under the Clean Air Act, EPA establishes air quality standards to protect public health, including the health of "sensitive" populations such as people with asthma, children, and the elderly. Madison is an attainment area for all criteria air pollutants. DNR has no authority to reduce air pollution in Madison as part of this permit action. DNR is working collaboratively with Dane County Clean Air Coalition to go beyond basic standards protection.

Comment: The UW ought to be held to a higher standard in order to protect the surrounding community. The UW should be required to devise a plan to shut the plant down, or switch completely to natural gas with pollution controls.
Response: DNR has no authority to require higher standards than those proposed in the permit.

Comment: Please indicate when the WDNR will conduct its next inspection of the facility. Please confirm that the facility has conducted the required visible emissions compliance and recordkeeping for each day fuel oil was used as required under Permit 98-POY-099.
Response: The facility was inspected on April 20, 2004 and a report was written on May 3, 2004. The facility has certified opacity readers and the facility has stated that opacity readings have been taken. However, the only recorded opacity readings were during the facility stack tests. The Department will follow the appropriate enforcement action for this violation. The facility will be required by the proposed permit to operate a continuous emission monitor and to keep records of the visible emission readings.

Comment: A compliance inspection found the plant out of compliance in several important regards, including its SO2 limitation, its visible opacity limitation, and its fuel sulfur content. The UW is not meeting its current obligations, let alone going above and beyond.
Response: It was determined after further review that the facility was not in violation of its SO2 limitation or fuel sulfur content. It was determined that the facility did fail to demonstrate compliance with a visible emission requirement. This was a recordkeeping and compliance demonstration violation, not an emission limitation violation.

Comment: The UW submitted a compliance certification and monitoring report for 2002, as required under Permit #113134230-P01. The report incorrectly states that the PM compliance demonstration for the boilers is monthly records of natural gas and distillate oil use. The correct demonstration is weekly records. Please confirm that the required weekly records have been maintained. The UW submitted a compliance certification and monitoring report for 2002, as required under Permit #113134230-P01. The report incorrectly states compliance demonstration is not required for the stand-by generator. The generator is also incorrectly described as a 750 kW generator, rather than 1250 kW installed in 1999. The correct compliance demonstration for the generator is monthly records of fuel burned in the generator. Please confirm that the required monthly fuel usage records have been maintained.
Response: The facility keeps records of the fuel usage along with other information regarding the boilers and emergency generator on a daily log. The daily information is entered in a monthly report where every day of the month is a column. The proposed permit will require recordkeeping of the hours of operation for the emergency generator.

Comment: The BACT limit for visible emissions has been changed in the draft renewal permit. The draft limit should not be less restrictive than the existing limit. We believe that the existing BACT opacity limit contained in 98-POY-099 cannot be changed with issuance of a Title V permit and request that the operation permit be corrected to include the existing limits.
Response: The visible emission limit has been changed back to the existing limit from permit 98-POY-099. The BACT limitation should not have been changed. The compliance demonstration for this limitation has been administratively revised to allow for a continuous emission monitor, as allowed by s. NR 407.11(1)(c), Wis. Adm. Code, because more frequent monitoring, recordkeeping or reporting by the permittee is required

Comment: The BACT opacity limit contained in 98-POY-099 reads as follows: 20% Opacity; except during start-up and shutdown. During start-up and shutdown, the opacity may not exceed 20% (6-minute average), except for one 6-minute period per hour of not more than 27% opacity. The U.S. EPA is particularly intolerant of excess emissions during start-up and shutdown. Automatic *exemptions* for excess emissions during startup, shutdown and malfunction (SSM) are prohibited. Instead of requiring the applicant to carefully plan to minimize violations of short term emission limits WDNR simply exempts the applicant from complying with at least the opacity

emission limit during SSM events altogether. This is directly contrary to the purpose and requirements of BACT and Title V. The waiver of short-term emission limits during SSM events also violates Title V because the applicant has not demonstrated that it can protect short-term ambient air quality standards without such limits. Finally, the permit requires the applicant to develop a plan to address start up, normal operation, and shutdown and malfunction events without subjecting such plan to public scrutiny. In the absence of a formal permit modification proceeding, such a SSM plan is not federally enforceable and is unlawful because it could effectively shield excess emissions arising from poor operation and maintenance or design.
Response: It is not expected that the visible emission limitation of 20% opacity would be exceeded while firing these fuels. BACT limitations may not be changed through Title V review. The boiler is subject to New Source Performance Standards (NSPS) under s. NR 440.19, Wis. Adm. Code. NSPS is an EPA rule. NSPS allows an exception for visible emissions (s. NR 440.19(3)(a)2., Wis. Adm. Code). Citations for NSPS will be added to the visible emission limit for clarity. The following requirement is removed from the limitation section because it was not contained in permit 98-POY-099: At all times, including periods of startup, shutdown and malfunction, the permittee shall, to the extent practicable, maintain and operate the boiler in a manner consistent with good air pollution control practice for minimizing emissions (s. NR 440.11(4), Wis. Adm. Code). The SSM plan proposed by the draft permit has been removed because a malfunction prevention and abatement plan is required by Part II of all operation permits. Neither a request for plans review nor advice furnished by the department in response to a request shall relieve an owner or operator of legal responsibility for compliance with any provision of this chapter or of any other applicable requirement, or prevent the department from implementing or enforcing any provision of this chapter or taking any other action authorized by the law (s. NR 440.06(2), Wis. Adm. Code). The following compliance demonstration condition is added to the proposed permit because it was contained in permit 98-POY-099: If the visible emission limit is exceeded, the permittee shall submit a report to the South Central Region Air Program, 3911 Fish Hatchery Road, Fitchburg, WI 53711. The report shall include, but is not limited to, the time and date of the exceedance, the level of opacity at the time of exceedance and the steps taken to correct the operations of the boiler and prevent such exceedance to reoccur. A six-minute exception to the visible emission limitation does not lead to the conclusion that criteria pollutants may exceed the limits or standards.

Comment: The visible emission continuous emission monitor should be located so that it monitors emissions from all the boilers.
Response: The visible emission continuous emission monitor has been located so that it monitors emissions from all the boilers.

Comment: The compliance demonstration in the permit for the nitrogen oxides emission limit defines periods of excess emissions as any 3-hour rolling average during which the average nitrogen oxides emissions exceed the applicable emission limitation. S. NR 439.09(10), Wis. Adm. Code defines excess emissions as a 24 hour rolling average. Please use the current definition of periods of excess emissions in the Adm. Code.
Response: The three hour average is part of the BACT limitation. The limitation and compliance demonstration referenced was established in a previous new source review (NSR) and cannot be made less restrictive during the renewal process.

Comment: The operation permit 113134230-P01 includes a PM emission limitation for B20 and B21 of 1.0 lbs/mmbtu. However, modeled emissions were 0.014 lbs/mmbtu, or 1.4% of the allowable emissions. Why wasn't the allowable emission rate used to model PM emissions from these boilers.
Response: The PM emission limitation for B20 and B21 is 0.1 lbs/mmbtu. The maximum theoretical PM emission rate was modeled in operation permit 113134230-P01 rather than the allowable.

Comment: We request that the WDNR demonstrate NAAQS compliance for the operation permit renewal based on maximum allowable emission limit or federally enforceable permit limits for both the Walnut Street, Charter Street Heating Plants and all modeled sources.
Response: Modeling has been rerun at the allowable rates. The results demonstrate that the ambient air quality standards for SO_2, CO, NO_x, TSP and PM10 will be attained as follows:

A. INTRODUCTION

A modeling analysis was completed by Gail Good on February 4, 2005. This analysis assessed the impact of the particulate matter, sulfur dioxide, carbon monoxide, and nitrogen oxide emissions from the sources at the University of Wisconsin in Madison, including the Walnut Street heating plant, the Charter Street heating plant, the sources associated with the Safety Department, and various emergency generators. Terrain is a factor in the area, so receptor elevations were considered in this analysis.

B. MODELING ANALYSIS

- The University of Wisconsin supplied, and WDNR staff verified, the emission parameters used in this analysis. Building dimensions were determined using the Building Profile Input Program (BPIP) along with measurements taken on plot plans provided with the permit application and general knowledge of the area. Please refer to the source parameter table.

- Five years (1975-1979) of preprocessed meteorological data was used in this analysis. The surface data was collected in Madison, and the upper air meteorological data also originated in Green Bay.

- The Industrial Source Complex Short Term 3 (ISCST3) model was also used in the analysis. The model used rural dispersion coefficients with the regulatory default options. These allow for calm wind correction, buoyancy induced dispersion, and building downwash.

- The receptors used in this analysis consisted of a rectangular grid with 100-meter resolution extending 10 kilometers from the facility. Points within known fences or on top of buildings were not considered. Terrain is a factor in the area, so receptor elevations were considered.

- Regional background concentrations were found to be as follows:

BACKGROUND CONCENTRATIONS
(Concentrations are in $\mu g/m^3$)

Monitoring Site	Pollutant	Averaging Period	Concentration
Harrington Beach Ozaukee County	NO_x	Annual	13.6
Green Bay East HS 1415 E. Walnut Brown County	SO_2	3 hr 24 hr Annual	128.3 33.5 7.9
923 270th Ave Luck, Polk County	CO	1 hr 8 hr	3,188.0 890.4
Rodefeld Landfill Dane County	PM_{10}	24 hr Annual	56.0 22.2
Rodefeld Landfill Dane County	TSP	24 hr	69.3

C. MODEL RESULTS

The results demonstrate that the ambient air quality standards for SO_2, CO, NO_x, TSP and PM10 will be attained and maintained assuming the emission rates and stack parameters listed in the attached source table.

Modeling Analysis Results (All Concentrations In µg/m³)			
	TSP – 24 hr	PM_{10} – 24 hr	PM_{10} – Annual
Facility Impact	60.9	60.9	11.4
Background	69.3	56.0	22.2
Total Concentration	130.2	116.9	33.6
NAAQS	150.0	150.0	50.0
% NAAQS	86.8	77.9	67.2

Modeling Analysis Results (All Concentrations in µg/m³)			
	SO2 – 3 hr	SO_2 – 24 hr	SO_2 – Annual
Facility Impact	962.7	330.9	49.4
Background	128.3	33.5	7.9
Total Concentration	1091.0	364.4	57.3
NAAQS	1,300.0	365.0	80.0
% NAAQS	83.9	99.8	71.6

Modeling Analysis Results (All Concentrations in µg/m³)			
	CO – 1 hr	CO – 8 hr	NO_x – Annual
Facility Impact	15584.6	7258.3	56.6
Background	3,188.0	890.4	13.6
Total Concentration	18772.6	8148.7	70.2
NAAQS	40,000	10,000	100.0
% NAAQS	46.9	81.5	70.2

D. CONCLUSION

The results of the modeling analysis demonstrate that the applicable air quality standards will be satisfied assuming the emissions rates and stack parameters listed in the source table.

UNIVERSITY OF WISCONSIN - MADISON Stack Parameters					
ID	LOCATION (UTM)	HEIGHT (M)	DIAMETER (M)	VELOCITY (M/S)	TEMP (K)
WALBOI	3023648, 4771688	76.20	3.05	7.60	438.7
WALGEN	302672, 4771712	6.10	0.25	0.10	777.4
VA	302235, 4771621	19.81	0.38	13.98	1033.0
CHABOI	304166, 4771288	76.20	3.35	10.53	408.0

CHAGEN	304194, 4771283	26.82	0.36	65.00	755.2
MERBOI	304422, 4770594	27.43	2.44	1.41	444.1
MERGEN	304454, 4770809	24.38	0.20	114.7	780.2
HERRICK	302747, 4771743	12.19	0.61	8.09	1144.1
SLOH	303798, 4771752	22.86	0.46	8.62	1088.6
SMI	304058, 4771751	29.87	0.73	7.86	1088.6
HILL	299988, 4772012	76.20	2.44	3.53	380.2
HILL01	300017, 4772018	8.23	0.61	3.23	505.2
HILL31	300008, 4772029	0.91	0.15	0.10	805.2
HILL32	299741, 4771752	2.44	0.13	60.13	821.9
CAP	306324, 4772048	64.01	2.13	5.28	477.4
CAP12	306325, 4772089	3.05	0.20	0.10	755.2
CAP13	306344, 4772064	32.00	1.22	4.45	435.8
MGE13	306706, 4772077	77.11	3.66	3.59	455.2
MGE14	306728, 4772109	76.20	3.20	4.69	444.1
MGE15	306746, 4772129	76.20	2.59	13.43	416.3
MGE16	306760, 4772144	76.20	2.59	13.43	416.3
BUS	304518, 4771535	0.61	0.25	0.10	755.2
COM	304095, 4771389	6.10	0.20	65.00	755.2
MED	303980, 4771708	2.74	0.10	65.00	755.2
MEM	304796, 4771828	0.61	0.15	0.10	755.2
VIL	304623, 4771492	11.58	0.13	65.00	755.2
KOH	304844, 4771180	6.10	0.30	65.00	755.2
ENG	303788, 4771362	0.91	0.10	0.10	755.2
LIV	303231, 4771852	9.14	0.20	65.00	755.2
CHM	304268, 4771526	0.61	0.25	0.10	755.2
FLU	304911, 4771554	3.05	0.15	65.00	755.2
PRI	304057, 4771060	18.28	0.30	65.00	755.2
BIO	303663, 4771698	4.27	0.30	65.00	755.2
LAW	304393, 4771732	2.74	0.15	65.00	755.2
RED	304719, 4771958	15.24	0.25	65.00	755.2
WAI	301801, 4772082	0.61	0.30	65.00	755.2
PHA	302329, 4772188	13.72	0.30	0.10	755.2
HO1	301988,4771852	30.48	0.25	65.00	755.2
HO2	301988, 4771886	47.24	0.25	65.00	755.2
HO3	301988, 4771919	30.48	0.20	65.00	755.2
HO4	301988, 4771953	13.41	0.25	65.00	755.2
HO5	301988, 4771986	30.48	0.20	65.00	755.2
HO6	302041, 4771852	30.48	0.20	65.00	755.2
HO7	302041, 4771886	30.48	0.20	65.00	755.2
HO8	302041, 4771919	24.69	0.30	65.00	755.2
HO9	302041, 4771983	18.90	0.20	65.00	755.2
HO0	302041, 4771986	1.83	0.36	65.00	755.2

West Campus Cogeneration Facility - UNIVERSITY OF WISCONSIN – MADISON Stack Parameters					
ID	LOCATION (UTM)	HEIGHT (M)	DIAMETER (M)	VELOCITY (M/S)	TEMP (K)
S01SU	302657, 4771796	53.34	3.05	13.40	394.1
S01SS	302657, 4771796	53.34	3.05	16.31	377.4
S01HI	302657, 4771796	53.34	3.05	22.98	399.7
S02SU	302657, 4771775	53.34	3.05	13.40	394.1
S02SS	302657, 4771775	53.34	3.05	16.31	377.4
S02HI	302657, 4771775	53.34	3.05	22.98	399.7
S03	302683, 4771788	26.21	0.41	49.69	607.4
S04	302726, 4771810	16.00	0.25	7.03	823.6
S10	302688, 4771757	32.52	5.97	9.81	366.3
S20	302711, 4771786	23.71	3.05	15.59	366.6
S30	302633, 4771762	32.80	8.72	8.13	366.3

Note: These sources are from the West Cogeneration facility. The two main stacks S01 and S02 were modeled for short term emissions for three different scenarios reflecting startup (SU), steady state (SS) and highest emission rate (HI).

UNIVERSITY OF WISCONSIN - MADISON Emission Rates				
ID	PM RATE (#/HR)	NO_x RATE (#/HR)	SO_2 RATE (#/HR)	CO RATE (#/HR)
WALBOI	56.52	240.3	578.0	31.25
WALGEN	1.67	39.69	0.06	11.26
VA	0.32	0.68	0.26	0.37
CHABOI	600.0	458.0	3,180.0	153.0
CHAGEN	2.38	7.50	1.10	9.38
MERBOI	1.43	14.30	50.70	3.58
MERGEN	0.68	3.71	4.95	7.94
HERRICK	1.73	0.89	0.54	0.74
SLOH	1.09	0.15	0.09	0.13
SMI	2.54	0.36	0.22	0.30
HILL	56.04	26.00	513.7	141.0
HILL01	1.6	2.5	7.1	0.63
HILL31	0.9	7.7	0.5	1.7
HILL32	0.84	7.4	0.5	1.6
CAP	116.7	43.00	527.26	25.3
CAP12	2.2	17.9	4.7	6.7
CAP13	5.6	10.7	38.0	2.7
MGE13	2.71	297.0	0.32	21.60
MGE14	201.7	546.0	1499	20.10
MGE15	326.4	738.0	2313	21.60
MGE16	326.4	738.0	2313	21.60
BUS	0.483	0.38	2.79	2.83

COM	0.164	0.13	0.95	0.96
MED	0.188	0.15	1.08	1.10
MEM	0.141	0.11	0.81	0.83
VIL	0.094	0.07	0.54	0.55
KOH	1.41	1.10	8.13	8.25
ENG	0.141	0.11	0.81	0.83
LIV	0.282	0.22	1.63	1.65
CHM	0.469	0.37	2.71	2.75
FLU	0.249	0.20	1.44	1.38
PRI	0.469	0.37	2.71	2.75
BIO	0.657	0.51	2.28	3.85
LAW	0.216	0.17	1.25	1.27
RED	0.352	0.28	2.03	2.03
WAI	0.563	0.44	3.25	5.01
PHA	0.938	0.74	5.42	8.53
HO1	0.235	0.18	1.36	1.38
HO2	0.422	0.33	2.44	2.48
HO3	0.422	0.33	2.44	2.48
HO4	0.422	0.33	2.44	2.48
HO5	0.366	0.29	2.11	2.15
HO6	0.328	0.26	1.90	1.93
HO7	0.328	0.26	1.90	1.93
HO8	0.563	0.44	3.25	3.30
HO9	0.469	0.37	2.71	2.75
HO0	1.41	1.10	8.13	8.25

UNIVERSITY OF WISCONSIN – MADISON
Emission Rates

ID	PM RATE (#/HR)	NO_x RATE (#/HR)	SO_2 RATE (#/HR)	CO RATE (#/HR)
S01SU	15.60	-	1.78	130.7
S01SS	18.60	38.88	1.14	130.7
S01HI	25.16	-	1.78	34.63
S02SU	15.60	-	1.78	34.63
S02SS	18.60	38.88	1.14	130.7
S02HI	25.16	-	1.78	130.7
S03	0.25	11.16	0.07	16.23
S04	0.03	2.06	0.06	0.14
S10	1.42	-	-	-
S20	0.11	-	-	-
S30	0.67	-	-	-

Note #1: The worst case annual NO_x scenario is using the annual rate and average (SS) conditions.

Comment: Please model for CO.
Response: The latest model accounts for CO. The results demonstrate that the ambient air quality standards for CO will be attained and maintained assuming the emission rates and stack parameters listed in the source table.

Comment: The permit should require a PM 2.5 analysis. The PM 2.5 emissions should be modeled to ensure their levels do not exceed an ambient air quality standard. There are ambient air quality standards that are more restrictive that are under consideration in California and Canada. These standards are not used for this permit action.
Response: DNR has properly implemented EPA guidance regarding PM 2.5 dated October 21, 1997. DNR is still implementing the 1997 EPA memo, relying on PM10 modeling as a surrogate approach to PM 2.5 for the following reasons: lack of tools to calculate emissions of PM 2.5 and related precursors, an inability to account for secondarily formed fine particles through chemical reactions in the atmosphere, and a lack of emission factors. DNR proposed addition of the PM 2.5 ambient air quality standard to ch. NR 404 of the Wis. Adm. Code dated July 31, 2003. DNR has not yet completed adoption of this rule, and therefore cannot require compliance with a PM 2.5 standard because no standard has been created pursuant to s. 285.21, Wis. Stats..

Comment: The existing cooling tower needs to be included in the model. It is not uncommon to observe steam plumes from these towers reaching ground level near the plants.
Response: Cooling tower emissions are difficult to quantify and there is some uncertainty associated with modeling their impact. In addition, the impact is expected to be very small. The results when the cooling towers are included are shown for informational purposes only. It should be noted, however, that regardless of whether the cooling towers are included in the modeling or not, the facility still will meet all applicable standards.

Comment: The Walnut Street and Charter Street Stacks are 250 feet. The Walnut stack was constructed in 1974. These stacks exceed GEP of 213 feet. For the National Ambient Air Quality (NAAQS) analysis, the full stack height of 250 feet was modeled, rather than a lesser height representing GEP. Please provide an explanation for modeling emissions from this stack at 250 feet. Why was credit given for the height above GEP?
Response: The proposed building heights for the WCCF allow the Walnut Street stack to be modeled at the current height of 250 feet. The full stack height at Walnut Street is below the GEP stack height when the buildings at WCCF are considered. In other words, when Walnut Street is modeled along with the MGE facility, the full height of the stacks at Walnut Street can be utilized in the modeling.

Comment: Does the 250 foot Charter Street stack also exceed GEP?
Response: Charter street was constructed in 1958. Sources and stacks in existence on December 31, 1970 are grandfathered and not subject to this regulation. The actual stack height is the GEP stack height.

Comment: Did the NAAQS analysis include the Charter Street and Walnut Street generators?
Response: The analysis included both generators.

Comment: The NAAQS analysis in the preliminary determination for this renewal did not include off campus sources. Please explain why the NAAQS analysis should not include all regional sources likely to impact the NAAQS results.
Response: The regional background concentration added to the impact of the source includes impacts from both nearby and distant sources of emission. It is accepted USEPA and WDNR policy to model the emissions from one facility and include a representative regional background concentration to account for all sources likely to impact the results. Please note that the most recent NAAQS analysis included with this response document did include off campus sources resulting in a very conservative analysis.

Comment: How were the annualized NOx rates (lbs/hr) in the preliminary determination calculated? What assumptions were included? Please provide the specific assumptions for the Walnut Street and Charter Street plants.
Response: The annualized rate is equal to the maximum theoretical or potential hourly emission rate for these facilities. NOx has an annual standard. The emission rates listed for the Charter and Walnut plants were calculated in the original preliminary determinations for permits 113008390-P01, 113134230-P01 and 98-POY-099. Those reviews used AP-42 emission factors or allowable rates from the Wisconsin Administrative Code, and the rated capacity of the equipment to calculate the ton per year emission rates as follows: Maximum Emissions (lb/yr) = Maximum Capacity (mmBtu/hr) x Emission Factor (lb/mmBtu) x 8760 hr/yr. The annualized values used in the model are calculated by using the yearly total of NOx emission in pounds, and dividing that by the number of hours in one year (8,760) to compute pounds per hour.

Comment: The SO2 background concentration was based on a Brown County monitor. The East High School monitor in Madison was used for the most recent Walnut Heating Plant PSD permit. Please explain why the Brown County monitor is more representative of the campus area than the Madison monitor?
Response: The Madison monitor was removed in 1999, but the value of the four and one-half year average of the second highest value was essentially the same as the value of the five year average from Green Bay. It was decided to use the Green Bay value for most of the state. The regional background concentrations are updated every three years to account for trends in air quality. The most recent update was in 2000, from data collected 1995-99. Values from monitors with at least three full years of data are considered, although five years of data is preferred.

Comment: The preliminary determination provides emission estimates for criteria and hazardous air pollutants (HAP). Sulfuric acid emissions are not reported. I understand that sulfuric acid mist is regulated under both NR 405 and NR 445 Wis. Adm. Code. SO2 is a precursor to this pollutant. Please provide an explanation as to why sulfuric acid mist emissions are not reported. Should these emissions be modeled for comparison to its acceptable ambient concentration?
Response: If these boilers utilized water injection to control emissions, then sulfuric acid emissions would have been reviewed. Sulfuric acid mist emissions are exempt if from combustion of group 1 virgin fossil fuel (s. NR 445.04, Wis. Adm. Code). Sulfuric acid is not a Federal HAP. The permit limits the amount of sulfur dioxide that can be released into the air. This limits the amount of sulfur trioxide (S03) and sulfuric acid that form from sulfur dioxide in the air. If all SO3 goes to sulfuric acid mist, the potential to emit will be about 2.9 tons per year, much less than the s. NR 405, Wis. Adm. Code significance level of 7.0 tons per year.

Comment: The preliminary determination for the UW Campus provided a summary of risk due to emissions of diesel particulate. The worst case risk is 437 in a million. In my experience, the WDNR has considered a risk of 10 in a million as acceptable. The predicted risk for this project is much higher. Please explain why the predicted risk of 437 in a million is acceptable. What level of risk would be unacceptable?
Response: The results are informational only and the summary was included for public awareness. Emissions from group 1 virgin fossil fuel are exempt from S. NR 445.04, Wis. Adm. Code Table 5 (diesel engine emissions). S. NR 445.07, Wis. Adm. Code does not list diesel particulate or emissions. Emergency generators are exempt from S. NR 445.09, Wis. Adm. Code.

Comment: Please provide the significant impact area (SIA) for PM (24-hour average), SO2 (24-hour average) and NOx (annual average).
Response: Significant impact areas are not calculated for operation permits since all sources at the facility are considered. The purpose of an SIA is to estimate the zone where further modeling may be required. In this case, we are already including other sources either explicitly or via background.

Comment: Operation Permit #113134230-J01 was issued to the Walnut Street Heating Plant on July 29, 1991. This permit included limitations for boiler B20 for the following pollutants: PM, SO2, NOx, CO, VOC, lead and visible emissions. For B20, the proposed operation permit includes limitations for only PM, SO2, and visible emissions. Please explain why the draft operation permit no longer includes limitations for NOx, CO, VOC and lead for B20. These limitations are necessary for compliance testing and air quality modeling analysis.
Response: There are no specific limitations that apply to NOx, CO, VOC and lead. Any applicable requirements are included in Part II of the permit. It is DNR policy to only carry over limits from permits if there is a basis for the limit. For this reason, permit #113134230-P01 did not adopt the limits for NOx, CO, VOC and lead from permit #113134230-J01. DNR will not require testing for NOx, CO, VOC and lead from these boilers in this permit renewal. The air quality modeling analysis includes the appropriate emission rates.

Comment: The WCCF facility is not included in the renewal documents for the existing Walnut street facility. I believe that the new WCCF should be included with the campus, Charter and Walnut as a single source. I request that the DNR revise the pending operation permit to include the cogeneration (WCCF) facility with the campus, Walnut and Charter facilities as a single source.
Response: . DNR agrees that WCCF, Charter, Walnut and the Campus are a single source. The draft permit documents and public notice for the Walnut renewal were completed before the public notice for the proposed WCCF facility so it was not possible to include the WCCF facility in the renewal documents. Walnut, Charter and the Campus were included in the WCCF review. The only source wide limitation is for S02 from Walnut and Charter and does not apply to WCCF. The permits have been written separately because the facilities have different responsible officials, construction dates, locations, facility identification numbers, operators or operations, and for practical enforceability. DNR may combine all the units at each of these facilities in one permit in the future.

Comment: Please provide the PM emission rate for the Walnut Street incinerator used in the NAAQS analysis
Response: 1.73 lb/hr of PM is allowed to be emitted through the main stack.

Comment: Please provide a more complete description of each NAAQS source, so these sources can be identified by the general public.
Response: WALBOI (Walnut street main stack), WALGEN (Walnut street generator), VA (Veterans Hospital), CHABOI (Charter street boiler main stack), CHAGEN (Charter street generator stack), MERBOI (Meriter boiler), MERGEN (Meriter generator), HERRICK (Herrick drive incinerator), SLOH (State Lab of Hygiene), SMI (Service Memorial Institute Crematory), HILL (Wis. DOA Hill Farms), CAP (Capitol Heat and Power), MGE 13, 14, 15, 16 (MGE Blount), BUS (Business school), COM (Computer Science), MED (Medical Science Center), MEM (Memorial Library), VIL (Vilas Hall), KOH (Kohl Center), ENG (Engineering Building), LIV (Livestock Lab), CHM (Chemistry), FLU (Fluno Center), PRI (Primate Center), BIO (Bio Chemistry), LAW – (Law), RED (Red Gym), WAI (Waisman Center), PHA (Pharmacy), HO0 to HO9 (UW Hospital). WCCF stack parameters include S01SU and S02SU (Combustion turbine generators start up), S01SS and S02SS (Combustion turbine generators steady state), S01HI, S02HI (Combustion turbine generators highest emission rate), S03 (Distillate Fuel Fired Backup Generator), S04 (Fuel Oil Fired Fire Pump), S10, S20, S30 (Three Cooling Towers).

Comment: For the NAAQS analysis, SO2 and NOx maximum impacts approached the air standards. Was a load analysis completed for the Walnut or Charter Heating Plants to determine the operating conditions that would predict the maximum impacts from this facility? If no load analysis was completed, please explain why.
Response: The NOx maximum concentration, including the background, was determined to be 70.2% the air standard. Emissions of sulfur oxides are limited by the sulfur content of the fuel and the emission rate is a function of only the sulfur content in the fuel rather than any combustion variables. To be conservative, WDNR models sources using, the maximum emission rates along

with normal flow and temperature to encompass all possible operating conditions. This will provide a higher modeled impact than doing a load analysis.

Comment: Is the facility required to comply with NAAQS during boiler start-up and shutdown periods, or low operation loads? If so, how has the WDNR demonstrated compliance during these periods for pollutants with short term averaging periods? Please provide an estimate of criteria pollutant emissions from the boilers during start-up and shutdown periods, and an estimate of the length and frequency of these periods. The facility should not be exempt from emission limits during periods of startup, shutdown, and malfunction.
Response: The facility is expected to comply with NAAQS and emission limits during boiler start-up and shutdown periods, or low operation loads. These boilers operate with no control devices. If the boilers had control devices that did not operate during startup, shutdown or low load, then those emissions would have been reviewed. Emissions of sulfur oxides are limited by the sulfur content of the fuel and the emission rate is a function of only the sulfur content in the fuel rather than any combustion variables. VOCs do not have an ambient air quality standard. NOX has an annual standard. PM and PM10 have a higher allowable than calculated by AP-42 and the standard has a 24 hr time period. Maximum theoretical emissions of PM and PM10 are 10.32 lb/hr for all the boilers, the maximum allowable emission rate (used in the NAAQS analysis) is 55.15 lb/hr. The modeled CO concentration is considerably less than the ambient air quality standard. In addition, there are three boilers at this facility, so it would be very unlikely that all the boilers would startup, shut down or operate at low load at the same time. Based on the exception to the visible emission limitation one could estimate that startup might occur for less than one 6-minute period in any hour.

Comment: The modeled SO2 emission rate of 1.5 lbs/mmbtu represents an annual average allowable rate. Compliance with the NAAQS for SO2 is based on short-term averaging period of 3-hours and 24-hours. Please indicate why the annual average rate is representative of short-term emissions for the NAAQS analysis.
Response: This approach is not only representative, it is very conservative. The S02 allowable emission rate is greater than that determined by AP-42 emission factor (maximum theoretical). The maximum theoretical emission rate for S02 is 207.1 lb/hr for all the boilers at Walnut. The maximum allowable emission rate for Walnut is 577.35 lb/hr (based on the 1.5 lb/mmbtu rate averaged across Charter and Walnut and used in the NAAQS analysis). The rate used for Charter is based on the maximum hourly limit of 3.18 lb/mmbtu.

Comment: For the Walnut Street and Charter Street Heating Plants, what operations and pollutants were modeled based on AP-42 emission factors?
Response: N0X and CO were modeled at the maximum theoretical rates based on AP-42 emission factors.

Comment: For the Walnut Street and Charter Street Heating Plants, what operations and pollutants were modeled based on permit allowable emission rates?
Response: PM, PM10 and S02 were modeled at the allowable rates.