

Facility Name: **Emory University**

City: Atlanta

County: DeKalb

AIRS #: 04-13-089-00233

Application #: 14085 and 14368

Date SIP Application Received: March 20, 2003

Date Title V Application Received: October 28, 2002 (14085), March 20, 2003 (14368),
December 19, 2003 (14368 update), and March 19, 2004 (14368 update)

Permit No:8221-089-0233-V-02-1

Program	Review Engineers	Review Managers
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Introduction

This narrative is being provided to assist the reader in understanding the content of the attached SIP permit to construct and/or draft/proposed operating permit amendment. Complex issues and unusual items are explained herein simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit amendment is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. (2) Georgia Rules for Air Quality Control, Chapter 391-3-1, and (3) Title V of the Clean Air Act Amendments of 1990. Section 391-3-1-.03(10) of the Georgia Rules for Air Quality Control incorporates requirements of Part 70 of Chapter I of Title 40 of the Code of Federal Regulations promulgated pursuant to the Federal Clean Air Act. The primary purpose of this permit amendment is to identify state and federal air requirements applicable to the modification/construction to be performed at **Emory University** and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the draft permit amendment and is presented in the same general order as the permit amendment. It initially describes the facility receiving the permit amendment, the applicable requirements and their significance, and the methods for determining compliance with those applicable requirements. This narrative is intended as an adjunct for the reviewer and to provide information only. It has no legal standing. Any revisions made to the permit amendment in response to comments received during the public participation and EPA review process will be described in an addendum to this narrative.

I. Facility Description**A. Existing Permits**

Table 1 below lists the current Title V permit, and all administrative amendments, minor and significant modifications to that permit, and 502(b)(10) attachments. Comments are listed in Table 2 below.

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
8221-089-0233-V-02-0	December 27, 2001	X	

Table 2: Comments on Specific Permits

Permit Number	Comments
8221-089-0233-V-02-0	Initial Title V Permit

B. Regulatory Status**1. PSD/NSR**

The facility is a major source under the NSR Nonattainment Area Provisions. NO_x potential emissions exceed 50 tons per year. VOC potential emissions are less than 25 tons per year.

2. Title V Major Source Status by Pollutant

Table 3: Title V Major Source Status

Pollutant	Is the Pollutant Emitted?	If emitted, what is the facility's Title V status for the Pollutant?		
		Major Source Status	Major Source Requesting SM Status	Non-Major Source Status
PM	X			X
PM ₁₀	X			X
SO ₂	X	X		
VOC	X			X
NO _x	X	X		
CO	X	X		
TRS	NA			NA
H ₂ S	NA			NA
Individual HAP	X			X
Total HAPs	X			X

Regulatory Analysis

II. Proposed Modification

A. Description of Modification:

Title V Permit No. 8221-089-0233-V-02-0 was issued to Emory University on December 27, 2001. In preparing the Quarterly, Semi-Annual, and Annual Title V Reports, Emory determined that the Title V permit needed to be updated and/or corrected. Emory documented the requested updates and/or corrections in a letter to the Division dated January 30, 2002. Upon review of said letter, the Division found Emory's request deficient. The Division documented these deficiencies in a letter to Emory dated April 3, 2002.

Emory submitted Application TV-14085 (received October 28, 2002) for additions to the Yerkes Neuroscience Research Facility. Upon review, EPD determined this Application TV-14085 deficient and notified Emory's consultant via telephone on November 26, 2002. During this telephone conversation, the Division learned that Emory was preparing a second Title V application in response to the Division's letter dated April 3, 2002. Emory submitted Application TV-14368 on March 20, 2003 in response to the Division's April 3, 2002 letter and deficiency items discussed on November 26, 2002. EPD met with Emory twice in summer of 2003 to go over its applications. Following the meeting Emory submitted updates to Permit Amendment Application TV-14368 on December 19, 2003 requesting addition of three emergency diesel generators and heaters in 2004 and 2005. EPD met with Emory on January 08, 2004 to discuss Permit Amendment Applications TV-14085 and TV-14368 and requested additional information to be submitted. Emory submitted the requested information on March 19, 2004.

Application No. TV-14085

Emory submitted a Title V Permit Amendment Application No. TV-14085 on September 23, 2002 to address emission sources being added to the university complex as part of the Yerkes Animal Housing and Neuroscience Research facility. The new NOx emission sources include 1) gas-fired equipment to support research operations including six (6) small water heating boilers, two (2) water heaters, a steam boiler with a humidifier, and two (2) diesel-fired standby emergency generators. In addition to the NOx sources to be constructed, Emory also proposed to construct two (2) non-contact cooling towers and a 2600 gallon underground diesel storage tank for fueling of the 1000 kW standby emergency generator.

(1) Emory requested authorization to construct and operate a 1000 kW emergency diesel generator (Emission Unit ID No. DG09) to provide emergency standby power for the Yerkes Neuroscience Building. It also requested authorization to construct and operate one 300 kW (DG12) and two 1250 kW (DG13 and DG14) diesel generators for providing emergency standby power. The units will fire diesel fuel whose maximum sulfur content is 0.4% by weight. The emergency generators will be operated less than 200 hours per year.

(2) A public advisory was issued for new construction defined as low heat input units H03 through H10, Bunsen Burner Group BB02 and emergency diesel generators DG09 and DG14. The public advisory expired on May 16, 2003 without any comments.

Application TV-14368

Emory submitted Application No. 14368 on March 14, 2003 for administrative amendment changes and minor permit modifications to its Title V Permit No. 8221-089-0233-V-02-0. Application No. 14368 provided Emory's response to GA EPD's queries raised in a teleconference with Mr. Bob Roach of Environmental Resources Management (ERM) on November 26, 2002 regarding the Yerkes Neuroscience Research Facility submittal.

The Administrative Amendment issues are listed below:

- (1) Correct typographical error in Section 3.1 for Equipment Group PH01 – Total heat input is 1.74 MMBtu/hr rather than 2.5 MMBtu/hr as in the current permit.
- (2) Correct typographical error in Section 3.1 for Equipment Group H02 – Total heat input is 5.50 MMBtu/hr rather than 1.5 MMBtu/hr as in the current permit.
- (3) Update Section 3.1 regarding Equipment Group F08 – These sources are powered electrically and therefore should be removed from Section 3.1 and Condition Nos. 3.2.7, 3.4.7, 5.2.5, 5.3.5, 5.3.6, 6.1.7.b.iv, and Attachment D of the permit.
- (4) Furnaces in Equipment Group F01 were installed and started operating in 1997 rather than during the 1998 to 2002 window as indicated in the permit. Thus, Emory requested that Equipment Group F01 be removed from Section 3.1 and Condition Nos. 3.2.7, 3.4.2, 3.4.5, 5.2.5, 5.3.5, 5.3.6, and 6.1.7.b.iv. Emory requested that Equipment Group F01 be moved to Attachment B – Insignificant Activities Checklist table.
- (5) Generator DG01 was installed prior to 1998 rather than during the 1998 to 2002 window as indicated in the permit. Thus, Emory requests that generator DG01 be removed from Section 3.1 and Condition Nos. 3.2.7, 3.4.7, 5.2.7, and 5.2.10 and moved to Attachment B – Insignificant Activities Checklist table.
- (6) Generator DG07 is specified in Section 3.1 and Condition 3.2.7 – Include this emission unit in applicable Condition Nos. 3.4.1, 3.4.7, 5.2.7, and 5.2.6.

The following table illustrates equipment additions since issuance of the Title V permit No. 8221-089-0233-V-02-0 in December 2001. Attachment D in this permit amendment contains equipment groups with equipment added or to be added from 1998 to 2005:

Location Description	Emission Group/ Emission Unit	Capacity (MMBtu/hr or kW)	Operation Year	Application No.
Nursing School	FP01 – Natural Gas Fireplace placed in Equipment Group F20	0.1 MMBtu/hr	2000	14368
Yerkes D Wing	DG08 – Emergency Diesel Generator placed in Equipment Group DGen01	200 kW	2001	14085
Whitehead Research Building	BB03 – Bunsen Burner Group placed in Equipment Group BU01 (several burners)	5.13 MMBtu/hr	2001	14368
Yerkes D Wing	BLR12 – Boiler placed in Equipment Group BL02	4.2 MMBtu/hr	2002	14085
Science 2000 Phase II	BB01 – Bunsen Burner Group placed in Equipment Group BU03 DG12 – Emergency Diesel Generator Placed in Equipment Group DGen02Y	0.26 MMBtu/hr 300 kW	2003 2002	14368
Performing Arts Center	DG11 – Emergency Diesel Generator placed in Equipment Group DGen02	75 kW	2002	14368
Yerkes Neuroscience Bldg	DG10 – Emergency Diesel Generator placed in Equipment Group DGen03	100 kW	2003	14085
Winship Cancer Institute	DG13 – Emergency Diesel Generator placed in Equipment Group DGen03Y	1,250 kW	2003	14368
Yerkes Neuroscience Bldg	DG09 – Emergency Diesel Generator placed in Equipment Group DGen04Y	1,000 kW	2004	14085
Yerkes Neuroscience Bldg	BLR13 boiler placed in Equipment Group BL04	9 MMBtu/hr	2004	14085
Yerkes Neuroscience Bldg	H03 through H08 boilers H09, H10 water heaters placed in Equipment Group HTR03	1.5 MMBtu/hr each 1.0 MMBtu/hr each	2003	14085
Winship Cancer Institute	BB02 – Bunsen Burner placed in Equipment Group BU03	0.37 MMBtu/hr	2003	14368
North Decatur Building	DG14 – Emergency Diesel Generator placed in Equipment Group DGen04Y	1,250 kW	2004	14368
Rollins Research Bldg.	DG15 - Emergency Diesel Generator placed in Equipment Group DGen04Y	1500 kW	2004	14368 Update

Location Description	Emission Group/ Emission Unit	Capacity (MMBtu/hr or kW)	Operation Year	Application No.
Pediatric Bldg.	DG-16 Emergency Diesel Generator placed in Equipment Group DGen04Y	800 kW	2004	14368 Update
Business School Research Ctr.	DG-17 Emergency Diesel Generator placed in Equipment Group DGen05	200 kW	2005	14368 Update
Material Ctr. – Netcom Expansion	H11 – Heaters placed in Equipment Group HTR04	0.302 mmBtu/hr	2004	14368 Update
Visual Arts Studio	H12- Heaters Placed in Equipment Group HTR04	0.4 mmBtu/hr	2004	14368 Update
Business School Cafeteria – Cooking Unit	H13 –Stove Placed in Equipment Group HTR05	0.235 mmBtu/hr	2005	14368 Update

Note: All equipment in the above table is fired with natural gas except emergency diesel generators.

B. Emissions Change

Table 4: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Increase (Decrease) (tpy)	Net Potential Emissions Increase (Decrease) (tpy)
PM	X	0	0
PM ₁₀	X	0	0
SO ₂	X	0	0
VOC	X	0	0
NO _x	X	<u>~3.77</u>	<u>~7.3</u>
CO	X	0	0
TRS	NA	0	0
H ₂ S	NA	0	0
Individual HAP	X	0	0
Total HAPs	X	0	0

Note: The equipment additions do generate emissions of PM/PM₁₀, SO₂, VOC, CO, and HAPs; however, the potential to emit these air pollutants for these equipment additions are negligible when compared to NO_x. Therefore, the potential to emit of these air pollutants are noted as zero in Table 4. All new equipment additions are subject to Non Attainment Area New Source Review Avoidance NO_x limits.

C. PSD/NSR Applicability

The addition of equipment specified in the table in Section II.A., have the potential to emit NO_x and VOC emissions.

Draft Part 70 Condition No. 3.2.7 is updated to include equipment additions in calendar years 1998 through 2002. Condition No. 3.2.7 specifies a NO_x emissions limit for avoidance of nonattainment area NSR for the five year window defined as 1998–2002.

Draft Part 70 Condition No. 3.2.9 is a new condition, and this condition specifies a NO_x emissions limit for avoidance of nonattainment area NSR for equipment operations beginning in the five year window defined as 1999-2003.

Draft Part 70 Condition No. 3.2.10 is a new condition, and this condition specifies a NO_x emissions limit for avoidance of nonattainment area NSR for equipment operations beginning in the five year window defined as 2000-2004.

Draft Part 70 Condition Nos. 3.2.11 and 3.2.12 are new conditions incorporated in this Title V amendment for operational flexibility. These conditions specify a NO_x emissions limit for avoidance of nonattainment area NSR for equipment operations beginning in the following five year windows: (1) 2001-2005 and (2) 2002-2006.

The potential VOC emission from the proposed equipment addition is less than 1 ton/year. Table 4 in Section B indicates that potential VOC emission from the proposed equipment addition is negligible. The level of VOC emissions increase does not trigger a non-attainment area new source review for VOC for the proposed equipment addition. The permit does not have any non-attainment area NSR avoidance conditions for VOC emissions for the proposed equipment addition.

III. Facility Wide Requirements**A. Emission and Operating Caps:**

The existing facility wide SIP standard specified in Condition 2.3.1 still applies.

B. Applicable Rules and Regulations

No new applicable rules and regulations apply to this modification.

C. Compliance Status

The facility is operating in compliance with all applicable rules and regulations.

D. Operational Flexibility

This modification does not invoke additional operational flexibility provisions.

E. Permit Conditions

No new facility wide permit conditions are incorporated. In this amendment the citation in Condition 2.3.1 is corrected for a typographical error.

IV. Regulated Equipment Requirements

A. Brief Process Description

Emory has added and will add external and internal combustion devices for purposes of heat, steam, or emergency standby power.

C. Modification to the Equipment List for the Process

This table represents all significant emission units at Emory University and includes all equipment additions to the facility from 1998 to 2005. The equipment groups are arranged by source types and year of operation in this Table and Attachment D of this permit amendment. Emission Units with ID Nos. F08, F01, and DG01 in Emory's Title V Permit No. 8221-089-0233-V-02-0 are removed from the Table in Condition 3.1.1 and from the all permit conditions in this amendment. Equipment with emission unit IDs F01 and DG01 are now included in Attachment B, in the insignificant activities checklist table based on emission levels and the first operational date (prior to 1998). Equipment with ID No. F08 is electrically powered and is not a source of any pollutant emission and is removed from Emory's Title V permit.

Emission Units or Equipment Groups			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	NOx Emissions	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
BLR5	Steam Plant 121 MMBtu/hr Boiler	None	391-3-1-.02(2)(b) 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)	3.2.1, 3.2.2, 3.2.4, 3.2.5, 3.4.1, 3.4.3, 3.4.6, 5.2.5, 5.2.6, 5.3.2, 6.1.7, 6.2.1, 6.2.4	None	None
BLR6	Steam Plant 121 MMBtu/hr Boiler	None	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)	3.2.1, 3.2.2, 3.2.4, 3.2.5, 3.4.2, 3.4.4, 3.4.6, 5.2.5, 5.2.6, 5.3.2, 6.1.7, 6.2.1, 6.2.4	None	None
BLR7	Steam Plant 121 MMBtu/hr Boiler	Measured by PEMS	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy) 40 CFR 60 Subpart Db	3.2.1, 3.2.2, 3.2.4, 3.3.1, 3.3.3, 3.3.4, 3.3.5, 3.4.2, 3.4.4, 3.4.6, 4.2.2, 4.2.3, 5.2.1, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.3.1, 6.1.7, 6.2.1, 6.2.2, 6.2.3	None	None
BLR8	Steam Plant 121 MMBtu/hr Boiler	Measured by PEMS	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy) 40 CFR 60 Subpart Db	3.2.1, 3.2.2, 3.2.4, 3.3.1, 3.3.3, 3.3.4, 3.3.5, 3.4.2, 3.4.4, 3.4.6, 4.2.2, 4.2.3, 5.2.1, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.3.1, 6.1.7, 6.2.1, 6.2.2, 6.2.3	None	None

Emission Units or Equipment Groups			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	NOx Emissions	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
BLR9	Steam Plant 121 MMBtu/hr Boiler	Measured by PEMS	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll) 40 CFR 60 Subpart Db 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.4, 3.2.7, 3.2.8, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.3.1, 3.3.3, 3.3.4, 3.3.5, 3.4.2, 3.4.4, 3.4.6, 3.4.8, 4.2.1, 4.2.3, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.8, 5.3.1, 5.3.3, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.2, 6.2.3, 6.2.6	None	None
BLR10	Emory University Hospital 10.5 MMBtu/hr Boiler	None	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy) 40 CFR 60 Subpart Dc	3.2.6, 3.3.2, 3.4.2, 3.4.4, 3.4.7, 5.2.5, 5.3.4	None	None
BL98	Boiler Equipment Group which began operations in 1998	30.6 lb/mmft ⁵	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.02(2)(yy), 40 CFR 60 Subpart Dc, 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.3.2, 3.4.2, 3.4.4, 3.4.7, 3.4.9, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 6.1.7, 6.2.5	None	None
DG98Y	Emergency diesel generator Equipment Group which began operations in 1998 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.02(2)(yy), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 6.1.7, 6.2.6, 7.1.3	None	None
F98	Furnace and Heater Equipment Group which began operations in 1998	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 6.1.7, 6.2.6, 7.1.3	None	None
F99	Furnace Equipment Group which began operations in 1999	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 6.1.7, 6.2.6, 7.1.3	None	None
F20	Furnace Equipment Group which began operations in 2000	In Attachment D	391-3-1-.02(2)(b), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.2.10, 3.4.1, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 6.1.7, 6.2.6, 7.1.3	None	None
DG00Y	Emergency diesel generator Equipment Group which began operations in 2000 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.02(2)(yy), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 6.1.7, 6.2.6, 7.1.3	None	None

Emission Units or Equipment Groups			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	NOx Emissions	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
BU01	Bunsen Burner Equipment Group which began operations in 2001	In Attachment D	391-3-1-.02(2)(b), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.4.1, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 6.1.7, 6.2.6, 7.1.3	None	None
DGen01	Emergency diesel generator Equipment Group which began operations in 2001	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 6.1.7, 6.2.6, 7.1.3	None	None
DGen01 Y	Emergency diesel generator Equipment Group which began operations in 2001 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1.02(2)(yy), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 6.1.7, 6.2.6, 7.1.3	None	None
BL02	Boiler Equipment Group which began operations in 2002 and are rated less than 10 MMBtu/hr	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.02(2)(yy), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 3.4.9, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.5, 7.1.3	None	None
DGen02	Emergency diesel generator Equipment Group which began operations in 2002	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
DGen02 Y	Emergency diesel generator Equipment Group which began operations in 2002 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1.02(2)(yy) 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
HTR02	Heater Equipment Group which began operations in 2002	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None

Emission Units or Equipment Groups			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	NOx Emissions	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
HTR02Y	Heater Equipment Group which began operations in 2002 and are subject to GA Rule (yy)	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1.02(2)(yy) 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
BU03	Bunsen Burner Equipment Group which began operations in 2003	In Attachment D	391-3-1-.02(2)(b), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
HTR03	Heater Equipment Group which began operations in 2003	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
DGen03	Emergency diesel generator Equipment Group which began operations in 2003	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
DGen03Y	Emergency diesel generator Equipment Group which began operations in 2003 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1.02(2)(yy) 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
BL04	Boiler Equipment Group which began operations in 2004 and are rated less than 10 MMBtu/hr	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.02(2)(yy) 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 3.4.9, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.5, 7.1.3	PC13	Low NOx Burner
HTR04	Heater Equipment Group which began operations in 2004	In Attachment D	391-3-1-.02(2)(b), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3		
DGen04Y	Emergency diesel generator Equipment Group which began operations in 2004 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1.02(2)(yy) 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None

Emission Units or Equipment Groups			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	NOx Emissions	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
HTR05	Heater Equipment Group expected to begin operations in 2005	In Attachment D	391-3-1-.02(2)(b), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
DGen05	Emergency diesel generator Equipment Group expected to begin operations in 2005	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None

* Generally applicable requirements contained in this permit may also apply to emission units listed above.

Note (1): The emission factor for each significant emission unit or Equipment Group is specified in either Section 3.1 or in Attachment D of the permit.

Note (2): The specific ID numbers of individual emission units are listed in Attachment D of the Permit.

Note (3): Sections 3, 4, 5, and 6 of the Permit will now refer to Equipment Groups (in addition to several significant emission unit ID numbers) in order to provide for flexible permitting.

Note (4): Some of the Equipment Group ID numbers ends with "Y". This letter signifies that the emission unit is subject to Georgia Rule (yy) because the emission unit has a NOx potential to Emit of greater than 1 tpy.

C. Equipment & Rule Applicability

Heater Equipment Group HTR03 which includes Emission Unit ID Nos. H03 through H10 and Group HTR04 includes Emission Unit ID Nos. H11, H12: Heaters H03 to H08 are each rated at 1.5 MMBtu/hr, Water Heaters H09 and H10 are each rated at 1.0 MMBtu/hr. Heaters H11 and H12 are rated less 0.5 MMBtu/hr each. All are fired exclusively with natural gas. Each heater is equipped with a low NOx burner and is fuel burning equipment as per the definition in Georgia Rule 391-3-1-.01(cc). The allowable visible emission from the fuel burning equipment is 20% in accordance with Georgia Rule 391-3-1-.02(2)(d)3. PM emissions from the fuel burning equipments is limited to 0.5 lb/MMBtu as per Georgia Rule 391-3-1-.02(2)(d)2(i). The allowable fuel sulfur content is 2.5 percent by weight in accordance with Georgia Rule 391-3-1-.02(2)(g)2 for all fuel burning sources with a heat rating of less than 100 MMBtu/hour. The sulfur content of natural gas is far lower than the 2.5 percent by weight limit under Rule (g)2. The NOx RACT rule Georgia Rule (III) does not apply to any fuel burning equipment in this group, as the heaters are rated less than 10 MMBtu/hr.

Georgia Rule 391-3-1-.02(2)(yy) does not apply to any of this equipment, since the potential NOx emission from each heater is less than 1 ton per year.

Boilers with Emission Unit ID Nos. BLR12 and BLR13: Boiler BLR12 is rated at 4.2 MMBtu/hr and belongs to the boiler group BL02. Boiler BLR13 is rated at 9 MMBtu/hr and is part of the boiler group BL04. Both boilers are fired exclusively with natural gas and each boiler is equipped with a low NOx burner. The allowable visible emission from each boiler is 20% in accordance with Georgia Rule 391-3-1-.02(2)(d)3. The allowable particulate matter emission rate from each boiler is 0.5 pounds per million Btu heat input in accordance with Georgia Rule 391-3-1-.02(2)(d)2(i). The allowable fuel sulfur content for each boiler is 2.5 percent by weight in accordance with Georgia Rule 391-3-1-.02(2)(g)2. The sulfur content of natural gas is far lower than the 2.5 percent by weight limit under Rule (g)2. 40 CFR 60 Subpart Dc and the NOx RACT rule Georgia Rule (lll) do not apply to the boilers, because each boiler is rated less than 10 MMBtu/hr. Georgia Rule 391-3-1-.02(yy) applies to each boiler, since (1) the facility-wide Georgia Rule (yy) potential emissions exceeds 50 tons per year; and (2) the potential NOx emissions from each boiler exceeds 1 ton per year. Each boiler is equipped with a low NOx burner, which meets the requirements of Georgia Rule (yy) (i.e., NOx RACT).

Miscellaneous Direct-Fired sources with Emission Unit ID Nos. BB01, BB02, BB03, FP01 and H13: Bunsen burners BB01, BB02, BB03 and the fireplace natural gas burner FP01 are each rated less than 1 MMBtu/hr and are included in Equipment Groups BU03 (BB01 and BB02), BU01 (BB03), F20 (FP01) and HTR05 (H13) in Attachment D. Bunsen Burners with ID No. BB03 (Equipment group BU01) consists of several burners in the Whitehead lab with a total rating of 5.13 MMBtu/hr. All these sources are subject to Georgia Rule (b) for opacity, Rule (g) for SO₂ emissions, and NAA NSR Avoidance.

Emergency Diesel Generators with Emission Unit ID Nos. DG08, DG10, DG11 and DG17: Diesel generators DG08 and DG17 are 200 kW each; DG10 and DG11 are rated at 100 kW and 75 kW respectively. The allowable visible emission from each generator is 40% in accordance with Georgia Rule 391-3-1-.02(2)(b)1. The allowable fuel sulfur content is 2.5 weight percent in accordance with Georgia Rule 391-3-1-.02(2)(g)2. Emory has proposed to burn diesel fuel with a sulfur content of 0.4 weight percent in the generators, in order to assure compliance with Georgia Rule g(2). The diesel generators will be fired exclusively for emergency purposes as defined in Georgia Rule 391-3-1-.02(2)(mmm)4(i). The diesel generators are not subject to NOx RACT - Georgia Rule 391-3-1-.02(2)(mmm) because each generator will be operated exclusively for emergency purposes for less than 200 hours per year. These generators are in Equipment Groups DGen01, DGen02, DGen03 and DGen05 in Attachment D of Emory's Permit. These generators are not subject to Georgia Rule (yy) since potential NOx emission from each generator is less than 1 ton/year. The emergency generators are subject to Nonattainment area NSR avoidance NOx limits specified in Conditions 2.3.1, 3.2.7 and 3.2.9 to 3.2.12.

Emergency Diesel Generators with Emission Unit ID Nos. DG09, DG12, DG13, DG14, DG15 and DG16: Diesel generators DG13 and DG14 are rated at 1250 kW each. Generators DG09, DG12, DG15 and DG16 are rated at 1,000 kW, 300 kW, 1500 kW and 800 kW respectively. The allowable visible emission from each generator is 40% in accordance with Georgia Rule 391-3-1-.02(2)(b)1. The allowable fuel sulfur content is 2.5 weight percent in accordance with Georgia Rule 391-3-1-.02(2)(g)2.

Emory has proposed to burn diesel fuel with a sulfur content of no more than 0.4 weight percent, in order to assure compliance with Georgia Rule g(2). The diesel generators will be fired exclusively for emergency purposes (for less than 200 hours per year) as defined in Georgia Rule 391-3-1-.02(2)(mmm)4(i) and thus are not subject to Georgia Rule (mmm). These generators are placed in Attachment D of the permit in equipment groups DGen02Y, DGen03Y, and DGen04Y. These generators are subject to Georgia Rule (yy) since potential NOx emissions from these generators exceed 1 ton/year. The NOx RACT for these generators is no additional control since their use is limited to emergency standby use only. The emergency generators are subject to Nonattainment area NSR avoidance NOx limits specified in Conditions 2.3.1 and 3.2.7 and 3.2.9 to 3.2.12.

Avoidance of Major Nonattainment NSR: Existing condition 3.2.7 specifies the Nonattainment NSR Avoidance limit for NOx emissions from equipment installed in the five year calendar window 1998, 1999, 2000, 2001 and 2002. The applicant added NOx emitting equipment FP01, DG02 to DG08, DG11, DG12, BB03, BLR11, BLR12, F02 to F07, H01, H02 and PH01 in the timeframe specified in existing condition 3.2.7 and this condition is revised to include these emission units in this permit amendment. Note: The applicant has provided substantiation that the net emissions increase of NOx emissions for calendar years 1998 to 2002, on a combined basis, will be less than 25 tons per year with the addition of the NOx emissions from these emission groups in calendar years 2000, 2001 and 2002 (whichever is applicable).

The applicant added NOx emitting equipment DG10, DG13, H03 through H10, BB01, and BB02 in 2003, which falls outside the time period, specified in existing condition 3.2.7. Existing condition 2.3.1 specifies the requirement that the net emissions increase in NOx emissions be less than 25 tons during any five consecutive calendar years. Thus, these emission units fall under the emission limit specified in Condition 2.3.1. Note: The applicant has provided substantiation that the net emissions increase of NOx emissions for calendar years 1999 to 2003, on a combined basis, will be less than 25 tons per year with the addition of the NOx emissions from these emission groups in calendar year 2003. Condition 3.2.9 limits NOx increases from equipment additions during 1999-2003 from exceeding 25 tpy. Emory has provided similar substantiation that equipment additions in 2004 and 2005 will not result in violation of Condition 2.3.1. Condition 3.2.10, 3.2.11 and 3.2.12 extends this requirement for the five year periods 2000 to 2004, 2001 to 2005, and 2002 to 2006, to ensure that NOx increases from equipment additions during the all five year periods in the permit life do not exceed 25 tpy.

D. Compliance Status

The facility is in compliance with all applicable rules and regulations.

E. Operational Flexibility

This modification does not invoke additional operational flexibility provisions.

F. Permit Conditions

The Table found in Section 3.1 in Emory's existing Title V Permit is replaced by a new Table in this amendment and contains regrouped emission units and equipment groups containing source additions during the 1998 to 2005 period.

Condition 3.2.7 is updated by including all sources added during the 1998 to 2002.

New Conditions 3.2.9, 3.2.10, 3.2.11 and 3.2.12 include all source additions during 1999 to 2003, 2000 to 2004, 2001 to 2005 and 2002 to 2006.

Condition 3.4.1 is updated to include emergency diesel generators with emission unit ID Nos. DG08 to DG17, and direct-fired equipment groups F20, BU01, BU03, and HTR05.

Condition 3.4.2 is updated to include boilers with emission unit ID Nos. BLR12 (boiler group BL02) and BLR13 (boiler group BL04), and fuel burning equipment groups HTR03 and HTR04.

Condition 3.4.5 is updated to include boilers with emission unit ID Nos. BLR12 (boiler group BL02) and BLR13 (boiler group BL04), and fuel burning equipment groups HTR03 and HTR04.

Condition 3.4.7 is updated to include all boilers, heaters and emergency generators added from 1998 to 2005 subject to fuel sulfur limits under Georgia Rule g(2).

Condition 3.4.9 is updated to require annual tune-ups for all boilers added to the facility from 1998 to 2005.

V. Testing Requirements (with Associated Record Keeping and Reporting)

No new testing requirements are imposed in this permit amendment. Condition 4.1.3g is amended to specify the duration of each run for the NOx source tests using Method 7 or 7E. Condition 4.2.1 is amended to remove the first paragraph involving the initial performance test on BLR9, which was completed as scheduled.

VI. Monitoring Requirements (with Associated Record Keeping and Reporting)

The new low heat input fuel-burning equipment (Equipment Groups HTR03 and HTR04) is subject to Georgia Rules 391-3-1-.02(2)(d)3, 391-3-1-.02(2)(d)2(i) and 391-3-1-.02(2)(g) for opacity, PM emissions and fuel sulfur content. This equipment is also subject to an Avoidance of Nonattainment NSR emissions limit for NOx emissions. These emission units fire natural gas only (clean fuel) and emit negligible amounts of visible and particulate emissions since natural gas is a clean fuel. The likelihood of exceedances of the opacity, PM and fuel sulfur limits are minimal. In addition, natural gas contains negligible amounts of sulfur. Therefore, no additional monitoring is prescribed to assure compliance with Georgia Rules (d) and (g). The Nonattainment NSR avoidance limit for NOx emissions is specified in existing condition 2.3.1. To assure compliance with existing condition 2.3.1, the Permittee must install, calibrate, maintain, and operate natural gas consumption meters on these emission units. Existing condition 5.2.9 specifies the formula to use to compute NOx emissions from the boiler BLR9 and equipment groups except the generator groups added during 1998 to 2002. Similarly Conditions 5.2.10, 5.2.11, 5.2.12 and 5.2.13 specifies the formula to use to compute NOx emissions from the boiler BLR9 and equipment groups except the generator groups added during the subsequent five year calendar windows of 1999 to 2003, 2000 to 2004, 2001 to 2005, and 2002 to 2006 respectively. Condition 5.2.5 is updated to include the source additions of direct-fired and fuel burning equipment groups from 1998 to 2005 and to require monitoring of gas consumption in the heaters using gas consumption meters.

The new diesel generators (Emission Unit ID Nos. DG08, DG09, DG10, DG11, DG12, DG13, DG14, DG15, DG16, and DG17) are subject to Georgia Rules 391-3-1-.02(2)(b), (g) and (yy) for visible emissions, fuel sulfur content and NOx emissions; and to an Avoidance of Nonattainment NSR emissions limit for NOx emissions. Due to the nature of these generators, visible emissions are expected to be minimal. The diesel fuel fired in these generators (e.g., 0.4% sulfur by weight) contains much less sulfur than allowed by Georgia Rule (g) (e.g., 2.5% sulfur by weight). The applicant shall obtain and maintain fuel supplier certifications, which verify that the diesel fuel fired in the generators is less than 0.5 percent sulfur by weight. The Nonattainment NSR avoidance limit for NOx emissions is specified in existing condition numbers 2.3.1 and 3.2.7 (for equipment additions from 1998 to 2002). To assure compliance with the existing condition numbers 2.3.1 and 3.2.7, the Permittee must install, calibrate, maintain, and operate hour meters on the emergency generators (Condition 5.2.7). Condition 5.2.14 specifies the formula to use to compute NOx emissions from the diesel generators added during the calendar years 1998 to 2002. NOx emissions from these generators is to be calculated based upon the generating capacity in kW, hours of operation, and a NOx emission factor. Conditions 5.2.15, 5.2.16, 5.2.17 and 5.2.18 specifies the formula to use to compute NOx emissions from the diesel generators added during the calendar years 1999 to 2003, 2000 to 2004, 2001 to 2005, and 2002 to 2006.

The new boiler equipment groups BL02 and BL04 (Emission Unit ID Nos. BLR12 and BLR13) are also subject to Georgia Rules 391-3-1-.02(2)(d) and (g) for particulate matter, visible emissions and for fuel sulfur content; and to an Avoidance of Nonattainment NSR emissions limit for NOx emissions. These boilers fire natural gas only and emit negligible visible and particulate emissions. In addition, natural gas contains negligible amounts of sulfur.

Therefore, no additional monitoring is prescribed to assure compliance with Georgia Rules (d) and (g) since natural gas is a clean fuel and the likelihood of exceeding the PM, opacity and SO₂ standards is negligible. The Nonattainment Area NSR avoidance limit for NO_x emissions is specified in existing condition numbers 2.3.1 and 3.2.7, 3.2.9, 3.2.10, 3.2.11 and 3.2.12.

To assure compliance with the NO_x emissions cap, the Permittee must install, calibrate, maintain, and operate natural gas consumption meters on these boilers (Condition 5.2.5). Existing condition 5.2.9 specifies the formula to use to compute NO_x emissions from the boilers and heaters and this existing condition is updated to include references to the new boilers. NO_x emission from these boilers is based upon the natural gas usage and an approved NO_x emission factor. Condition 5.3.4 is amended to refer to BLR11, BLR12 and BLR13 by its equipment groups BL98, BL02 and BL04. Condition 5.3.5 is amended to include all new sources added from 1998 to 2002 in the requirement to record the rolling twelve month total of NO_x emissions each month.

Condition 5.3.6 is used for calculating the twelve month rolling total NO_x emissions for equipment added during the calendar years 1999 to 2003. New conditions 5.3.7, 5.3.8, and 5.3.9 are added in this permit amendment to calculate the twelve month rolling total NO_x emitted by equipment added during the five year windows 2000 to 2004, 2001 to 2005, and 2002 to 2006.

This review assessed the applicability of 40 CFR 64.5(a) for this Part 70 significant modification. 40 CFR Part 64.5(a) specifies the deadline for submittal of a Compliance Assurance Monitoring (CAM) plan. The emission units added in this Part 70 significant modification are not controlled by a “control device” as defined in Part 64.1. 40 CFR Part 64.5(a) does not apply since the units operate “uncontrolled” according to Part 64.1.

VII. Other Record Keeping and Reporting RequirementsVerification of Compliance with NOx Emissions Cap for NonAttainment NSR Avoidance

The applicant must maintain records, which can be used to verify compliance with existing condition numbers 2.3.1 and 3.2.7 and new condition Nos. 3.2.9, 3.2.10, 3.2.11 and 3.2.12. NOx emissions are to be computed and recorded, as applicable, in accordance with existing condition numbers 5.2.9 to 5.2.18. The applicant shall use this data to compute and record the five year calendar windows (1998 to 2002, 1999 to 2003, 2000 to 2004, 2001 to 2005, and 2002 to 2006) NOx emissions from the following existing, recently added, and to be added equipment: F02, F03, F04, F05, F06, F07, PH01, H01, H02, FP01, H11, H12, H13, DG08, DG09, BB03, BLR12, BLR13, BB01, BB02, DG12, DG11, DG10, DG13, DG14, DG15, DG16 and DG17 in accordance with Existing Condition 6.2.6. This total NOx emissions value is compared to the allowable NOx emission rate, namely 25 tons per year calculated from Conditions 3.2.7, 3.2.9, 3.2.10, 3.2.11 and 3.2.12. An exceedance is defined as any rolling twelve consecutive month total NOx emissions from the equipment noted above which exceeds 25 tons. The applicable exceedance definition, found in Existing Condition 6.1.7.b.iv, is updated to account for the added emission units. New conditions 6.1.7.b.vi, vii, viii and ix are added to require reporting exceedance of the 25 tons limit during the five year windows 1999 to 2003, 2000 to 2004, 2001 to 2005 and 2002 to 2006. Attachment D is completely redone and replaces the existing Attachment D in Emory's Permit.

Condition 6.2.5 is amended to include boilers BLR12 and BLR13 in the annual tune-up recordkeeping requirement.

VIII. Specific Requirements

- A. Operational Flexibility: Condition 7.1.3 is amended to include all equipment in the equipment groups in Attachment D of the Permit. Condition 7.1.4 is deleted as it conflicts with Conditions 2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.2.11 and 3.2.12. Any equipment additions at the facility will trigger the applicable requirements in these conditions.
- B. Alternative Requirements: Not applicable.
- C. Insignificant Activities: Emory requests authorization to construct two (2) non-contact cooling towers and a 2,600 gallon underground diesel storage tank for fueling of a 1,000 kW standby emergency generator. Each of these pieces of equipment qualifies as a Part 70 insignificant activity based on emission levels.
- D. Temporary Sources: Not applicable.
- E. Short-Term Activities: Not applicable.
- F. Compliance Schedule/Progress Reports: Not applicable.
- G. Emissions Trading: Not applicable.
- H. Acid Rain Requirements: Not applicable.
- I. Prevention of Accidental Releases: Not applicable.
- J. Stratospheric Ozone Protection Requirements: Not applicable.
- K. Pollution Prevention: Not applicable.
- L. Specific Conditions: Standard template conditions in Section 8 are updated to bring Emory's Permit up to date with the latest template conditions 8.23, 8.24, 8.25 and 8.26.

Addendum to Narrative

The draft Part 70 permit amendment to Emory's Title V Permit was public noticed in the July 23, 2004 edition of the Atlanta Journal and Constitution and in the August 5, 2004 issue of The Champion. Since proper notification procedures were not followed, the Title V public notice was published in the September 2, 2004 issue of The Champion. The 30 day public comment period expired on October 2, 2004. Emory e-mailed its comments to EPD on October 1, 2004. A hardcopy of Emory's comments was received on October 4, 2004. The response to Emory's comments are discussed below:

Comment 1 (Cover Page)

The list of emission units for which the construction permit is issued includes three 200 kW generators, whereas only two 200 kW generators (Emission Unit ID: DG08 and DG17) were included in the underlying permit applications. Emory requests revision of this list in order to accurately reflect the emission units covered in this application.

Response: Cover page corrected to include construction of two 200 kW generators (DG08 and DG17).

Comment 2 (Page 1, Condition 2.3.1)

In light of the new, more specific NSR avoidance limits contained in Conditions 3.2.7 through 3.2.12, which reference particular sources and years, the current wording of this more general limitation seems somewhat confusing. Although we do not believe it to be the intent of this Condition, it might be interpreted as prohibiting Emory from undergoing NSR. Accordingly, Emory would like to request that the language in this condition be modified in order to make it clear that Emory is not prohibited from undergoing NSR should the need ever arise.

Response: There is no language either in Condition 2.3.1 or in the applicable State Regulation 391-3-1-.03(8)(c)13.(ii) that could be interpreted as prohibiting Emory from undergoing non-attainment area NSR. No change is made to this condition. Condition 2.3.1 is a non-attainment area NSR avoidance condition.

Comment 3 (Page 2, Condition No. 3.1.1)

Emory intends to provide the following clarification related to future equipment additions. The Table under this condition and Attachment D of the permit amendment describe the equipment groups containing all equipment additions from 1998 through the date of permit amendment and the proposed equipment additions for the period covering the permit amendment date and 2005.

Comment 4 (Page 2, Condition No. 3.1.1)

The column designated "NO_x Emissions" in the Table under this condition incorrectly indicates "None" for BLR5, BLR6, and BLR10. The appropriate description for this column should be "No Specific Limit." Emory requests this Table to be suitably modified.

Comment 5 (Page 6, Condition No. 3.1.1)

Emory requests addition of the following equipment groups to the Table under this condition: F04, BU04, F05, BU05, HTR05Y, BL05 and Dgen05Y. These additions will eliminate the need for revising the permit in the event Emory plans to add any unit that falls under one of these groups. Further, Emory requests that each permit condition proposed in the draft permit be reviewed and updated to reflect the addition of the above equipment groups to Condition 3.1.1.

Response: EPD acknowledges Emory's comments. The column heading title "NOx emission" in the Table in 3.1.1 is changed to "NOx emission factor" in response to comment 4. In comment 5 Emory is requesting addition of equipment groups F04, BU04, F05, BU05, HTR05Y, BL05 and DGen05Y. These equipment groups potentially consist of furnaces, Bunsen burners, heaters, boilers and emergency generators that do not exist now or are proposed for the rest of 2004 or 2005. Equipment groups such as HTR05Y and DGen05Y would consist of sources subject to State Rule (yy). EPD appreciates Emory's views and ideas of accommodating equipment additions without changing permit conditions. Unfortunately there is no regulatory basis to accommodate Emory's request for creation of equipment groups for equipment that does not exist or is not foreseen being installed in 2004 or 2005. No change is made to the Table in Condition 3.1.1 in response to this comment.

Comment 6 (Page 7, Condition No. 3.2.4)

The language in this condition contradicts the language in Condition 3.2.2. Emory requests that this condition be revised as follows:

"During the months of May through September, the Permittee shall operate boilers BLR5 and BLR6 only to meet peaking demands when boiler BLR7, BLR8 and/or BLR9 are undergoing repairs or unplanned maintenance or for routine maintenance activities on BLR5 and BLR6 subject to the fuel usage limit set forth in Condition 3.2.2."

Response: The requested language "or for routine maintenance activities on BLR5 and BLR6 subject to the fuel usage limit set forth in Condition 3.2.2" is added to Condition 3.2.4 to give Emory more operational flexibility.

Comment 7 (Page 7, Condition No. 3.2.6)

Emory is planning to use a propane/air fuel system as a backup to burning natural gas in several combustion sources (such as boilers and heaters). The air pollutants generated from the backup fuel is not significantly different compared to the natural gas fuel on an equivalent heat input basis. Emory requests the language in this condition be modified to reflect the backup fuel usage as follows:

"The Permittee shall not fire any fuel other than natural gas with propane/air mix as backup in boilers and equipment groups BL98, BL02, HTR03, BU04 and BL04 listed in Attachment D of this permit. The remaining equipment groups listed in Attachment D of this permit, except for the emergency diesel generators, are permitted to fire natural gas only."

Response: Language is added in Condition No. 3.2.6 allowing firing of propane/air fuel as a backup system for the equipment groups BL98, BL02, HTR03 and BL04 listed in Attachment D of this permit. Equipment group BU04 is not included in the group that can fire the propane/air fuel as a backup fuel since that group does not have any equipment.

Comment 8 (Page 10, Condition No. 5.2.3)

Condition 5.2.3 of permit No. 8221-089-0233-V-02-0 required RATA tests on the Continuous Monitoring Systems (CMS) for boilers BLR7, BLR8, and BLR9 at approximately 12 month intervals for natural gas and fuel oil combustion. Condition 5.2.3 of Permit No. 8221-089-0233-V-02-0 was modified as part of Permit No. 8221-089-0233-V-02-1 based on discussions between EPD (Larry Webber) and Emory (David Dunn of ERM representing Emory).

The frequency of RATA testing for the CMS for each applicable boiler while firing natural gas remained unchanged at annually with the first RATA test deadline set at August 1, 2004. The first RATA test deadline for fuel oil combustion was set at October 31, 2004.

Emory asserts that existing Condition 5.2.3.b which requires an initial RATA test for fuel oil combustion to be in direct contrast to the verbal agreement reached between EPD and Emory (i.e., ERM).

With that in mind, Emory requests that existing Condition 5.2.3.b be revised in accordance with the verbal agreement reached earlier. The nature of this agreement is that no initial or follow-up RATA test is needed for fuel oil combustion if total annual fuel oil consumption for each boiler is less than an annual capacity factor of 10%.

Response: EPD cannot verify Emory's presentation of facts. With that in mind, EPD still believes that Emory must perform an initial RATA test on boilers 7 and 8 while combusting fuel oil within 90 days of the issuance of this permit amendment. Note: It is EPD's understanding that no RATA's have been performed while firing fuel oil on boilers 7 and 8. Existing condition is 5.2.3.b is revised to require RATA testing of boilers 7 and 8 while firing fuel oil within 90 days of the issuance of this permit amendment.

Comment: Existing Condition 5.2.3.c specifies a frequency of RATA testing for CMSs on the applicable boilers while firing fuel oil. The frequency of RATA testing for the CMS for each applicable boiler while firing fuel oil was changed from annual testing to October 31, 2005 if the total fuel oil consumption for boiler 7, 8 or 9 is less than 380,000 gallons during the period November 1, 2004 to October 31, 2005 (fuel oil consumption correlates to an approximate annual capacity factor of 5%).

Emory notes that this condition as written allows for a conditional exemption from the RATA testing for fuel oil combustion for calendar year 2005 but not subsequent calendar years. Emory seeks clarification on this exemption from RATA testing on the applicable boilers.

Response: EPD agrees that clarification on the exemption for RATA testing for fuel oil combustion is necessary. The goal of existing Condition 5.2.3.c is to allow the applicant to delay RATA testing for fuel oil combustion to the end of the current permit term if the annual fuel oil capacity factor is 5% or less. Revised Condition 5.2.3 c.ii. requires Emory to conduct a RATA tests on boilers 7, 8 and 9 while burning fuel oil at least once in the life of the permit if the RATA testing has not been conducted due to exceedance of the 10% capacity factor in revised Condition 5.2.3 c.i. Conducting a RATA test on boilers 7 and 8 as required by revised Condition 5.2.3 b. will satisfy the requirement to conduct RATA at least once during the permit term in revised Condition 5.2.3 c.ii. With that in mind, EPD proposes the following change to existing Condition 5.2.3.c:

~~Following the initial Relative Accuracy testing required by Condition 5.2.3.b, if the total fuel oil consumption for a boiler during the period November 1, 2004 to October 31, 2005 is less than 380,000 gallons, Relative Accuracy testing shall be conducted by October 31, 2006 while firing fuel oil in the boiler.~~

Following the initial Relative Accuracy testing required by Condition 5.2.3.b:

Condition 5.2.3 c. i. If the total amount of fuel oil consumed in an individual boiler (BL07, BL08, or BL09) exceeds 760,000 gallons in any 12 consecutive month period, the Permittee shall conduct Relative Accuracy testing on such boiler while firing fuel oil within 90 days or during the calendar month of October if day 90 occurs during the period May through September; or

Condition 5.2.3. c. ii

If testing is not conducted under paragraph (i) above, then testing shall be conducted while firing fuel oil in Boilers BL07, BL08 and BL09 at least once during each Title V permit term (*note: following the completion of testing under 5.2.3.b, this requirement will have been satisfied for Permit No. 8221-089-0233-V-02-0 issued December 27, 2001*). (Revised Condition 5.2.3 c.ii.)

Comment 9 (Condition No. 5.2.4.c)

Based on the August 13, 2004 discussion with the Industrial Source Monitoring Group, Emory requests revision of Condition No. 5.2.4.c to the following:

The Permittee shall perform, once each day, the following: blowdown of the water column and water glass; feed water shall be analyzed for correct chemical composition and adjustments will be made as appropriate; and clean fuel oil atomizing gun. As an alternate to cleaning the fuel oil atomizing gun every day, the Permittee shall replace with a clean spare gun once every third day of operation.

Response: The suggested language is added to condition 5.2.4.c. since it would give Emory much needed operational flexibility and prevents them from having to shut down the boiler to clean the oil gun every day the boiler burns fuel oil.

Comment 10 (Page 10, Condition 5.2.5)

Emory submitted a request, dated January 30, 2002, to implement an alternative monitoring protocol to track fuel usage in boilers BLR5 through BLR11 and the low heat input capacity fuel-burning equipment F01 through F08, PH01, H01 and H02. Emory proposed an alternative protocol for monitoring fuel usage based on manual storage tank measurements or steam production logs as a backup in the event of a malfunction or if a specific source unit's fuel meter is not installed or is not working properly. Emory noted that it is not their intent to use the alternative protocol instead of using fuel meters as the primary method of estimating fuel usage.

Response: EPD did not include Emory's January 30, 2002 letter as part of the application package for this permit amendment. Thus the reason for the oversight. Condition 5.2.5 of Permit No. 8221-089-0233-V-02-0 requires the Permittee to install, calibrate, maintain and operate a natural gas consumption meter on boilers BLR5 through BLR11 and the low heat input capacity fuel-burning equipment F01 through F08, PH01, H01 and H02. In general, implementation of the alternative monitoring protocol may take place as long as it does not contravene applicable monitoring requirements.

The following table illustrates the applicable regulatory monitoring requirements as they relate to fuel usage for the fuel-burning sources noted above:

ID No.	Description	Applicable Requirements/Std's	Applicable Monitoring Requirements
BLR5	Steam Plant 121 MMBtu/hr Boiler	Georgia Rules (b), (d), (g), (yy)	None specified by rules.
BLR6	Steam Plant 121 MMBtu/hr Boiler	Georgia Rules (d), (g), (yy)	None specified by rules.
BLR7	Steam Plant 121 MMBtu/hr Boiler	Georgia Rules (d), (g), (yy), NSPS Db	Monitor natural gas and fuel oil usage each day and calculate the fuel capacity factor individually for natural gas and fuel oil. (40 CFR 60.49b(d))
BLR8	Steam Plant 121 MMBtu/hr Boiler	Georgia Rules (d), (g), (yy), NSPS Db	Monitor natural gas and fuel oil usage each day and calculate the fuel capacity factor individually for natural gas and fuel oil. (40 CFR 60.49b(d))
BLR9	Steam Plant 121 MMBtu/hr Boiler	Georgia Rules (d), (g), (lll), NSPS Db, NAA NSR avoidance	Monitor natural gas and fuel oil usage each day and calculate the fuel capacity factor individually for natural gas and fuel oil. (40 CFR 60.49b(d))
BLR10	Hospital 10.5 MMBtu/hr Boiler	Georgia Rules (d), (g), (yy), NSPS Dc, NAA NSR avoidance	Monitor consumption of natural gas each day. (40 CFR 60.48c(g))
EG-BL98 (i.e., BLR11)	Yerkes VRC 14.3 MMBtu/hr Boiler Equipment Group	Georgia Rules (d), (g), (yy), NSPS Dc, NAA NSR avoidance	Monitor consumption of natural gas each day. (40 CFR 60.48c(g))
EG-F98 (i.e., F03, F04, F06,-F07 and H01)	Equipment Group for Furnaces and Heaters Constructed in 1998.	Georgia Rules (b), (g)	None specified by rules.
EG-F99 (i.e., F02 and F05)	Equipment Group for Furnaces Constructed in 1999.	Georgia Rules (b), (g)	None specified by rules.
EG-HTR02 (i.e., PH01)	Equipment Group for Pool Heaters Constructed in 2002	Georgia Rules (b), (g)	None specified by rules.
EG-HTR02Y (i.e., H02)	Equipment Group for Pool Heaters Constructed in 2002 and Subject to Georgia Rule (yy).	Georgia Rules (b), (g), (yy)	None specified by rules.

Based on this analysis the proposed alternative monitoring protocol for Boilers BLR5 and BLR6 and low heat input equipment F01 through F08, PH01, H01 and H02 does not contravene any applicable requirements. Thus, the proposed alternative monitoring protocol for the equipment noted above is approvable.

Boilers BLR7, BLR8, and BLR9 are subject to NSPS Db. Fuel usage monitoring requirements under this subpart is specified in 40 CFR 60.49b(d) and requires Emory to record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for natural gas and fuel oil for the reporting period. The annual capacity factor shall be determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The proposed alternative monitoring protocol does not conflict with the applicable requirements under NSPS Db.

Boiler BLR10 and BLR11 are subject to NSPS Dc. Fuel usage monitoring requirements under this subpart is specified in 40 CFR 60.48c(g) and requires Emory to record and maintain records of the amounts of each fuel combusted during each day. Emory's consultant notified EPD that steam production logs are not maintained for boilers BLR10 and BLR11. Hence, the alternate fuel usage monitoring method based on steam production logs is not valid. Hence no alternate fuel usage monitoring method is included in this permit amendment for boilers BLR10 and BLR11. Any other alternate fuel usage monitoring method such as use of fuel usage data from a previous year require approval of the EPD's compliance group. Such an alternate written plan needs to be presented to the compliance group in writing for approval.

Condition 5.2.5 is amended allowing alternative fuel usage monitoring methods when the equipment specific fuel meter is malfunctioning or is yet to be installed.

Comment 11 (Page 16, Condition 5.3.4)

Emory requests that the wording of this condition be modified to reference Emory's use of an alternative fuel monitoring protocol per Condition 5.2.5. Specifically, Emory requests that the following sentence be added to the end of this condition: "*Alternatively, Permittee may keep such records as are appropriate per Condition 5.2.5.*"

Response: The requested language is added to Condition 5.3.4.

Modified Permit Conditions for Emory University's Title V Permit Amendment in response to Emory's Comments

Note: The underlined portions in the permit represents changes/additions to the draft permit in response to comments. The strikethrough lines represent wording in the draft permit that was deleted in response to comments.

Permit Cover Page Changes:

Facility Address: ~~1380 South Oxford Drive~~ 201 Dowman Drive

Mailing Address: ~~1462 Clifton Road, Suite 300~~ Facilities Management, 301 FM Drive

PART 3.0 REQUIREMENTS FOR EMISSION UNITS

3.1.1 Regrouped and Additional Emission Units

Emission Units or Equipment Groups			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	NOx Emissions Factor	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
BLR5	Steam Plant 121 MMBtu/hr Boiler	None	391-3-1-.02(2)(b) 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)	3.2.1, 3.2.2, 3.2.4, 3.2.5, 3.4.1, 3.4.3, 3.4.6, 5.2.5, 5.2.6, 5.3.2, 6.1.7, 6.2.1, 6.2.4	None	None
BLR6	Steam Plant 121 MMBtu/hr Boiler	None	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy)	3.2.1, 3.2.2, 3.2.4, 3.2.5, 3.4.2, 3.4.4, 3.4.6, 5.2.5, 5.2.6, 5.3.2, 6.1.7, 6.2.1, 6.2.4	None	None
BLR7	Steam Plant 121 MMBtu/hr Boiler	Measured by PEMS	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy) 40 CFR 60 Subpart Db	3.2.1, 3.2.2, 3.2.4, 3.3.1, 3.3.3, 3.3.4, 3.3.5, 3.4.2, 3.4.4, 3.4.6, 4.2.2, 4.2.3, 5.2.1, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.3.1, 6.1.7, 6.2.1, 6.2.2, 6.2.3	None	None
BLR8	Steam Plant 121 MMBtu/hr Boiler	Measured by PEMS	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy) 40 CFR 60 Subpart Db	3.2.1, 3.2.2, 3.2.4, 3.3.1, 3.3.3, 3.3.4, 3.3.5, 3.4.2, 3.4.4, 3.4.6, 4.2.2, 4.2.3, 5.2.1, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.3.1, 6.1.7, 6.2.1, 6.2.2, 6.2.3	None	None

Emission Units or Equipment Groups			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	NOx Emissions Factor	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
BLR9	Steam Plant 121 MMBtu/hr Boiler	Measured by PEMS	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(lll) 40 CFR 60 Subpart Db 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.4, 3.2.7, 3.2.8, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.3.1, 3.3.3, 3.3.4, 3.3.5, 3.4.2, 3.4.4, 3.4.6, 3.4.8, 4.2.1, 4.2.3, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, 5.2.8, 5.3.1, 5.3.3, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.2, 6.2.3, 6.2.6	None	None
BLR10	Emory University Hospital 10.5 MMBtu/hr Boiler	None	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(yy) 40 CFR 60 Subpart Dc	3.2.6, 3.3.2, 3.4.2, 3.4.4, 3.4.7, 5.2.5, 5.3.4	None	None
BL98	Boiler Equipment Group which began operations in 1998	30.6 lb/mmft ³	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.02(2)(yy), 40 CFR 60 Subpart Dc, 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.3.2, 3.4.2, 3.4.4, 3.4.7, 3.4.9, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 6.1.7, 6.2.5	None	None
DG98Y	Emergency diesel generator Equipment Group which began operations in 1998 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.02(2)(yy), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 6.1.7, 6.2.6, 7.1.3	None	None
F98	Furnace and Heater Equipment Group which began operations in 1998	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 6.1.7, 6.2.6, 7.1.3	None	None
F99	Furnace Equipment Group which began operations in 1999	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 6.1.7, 6.2.6, 7.1.3	None	None
F20	Furnace Equipment Group which began operations in 2000	In Attachment D	391-3-1-.02(2)(b), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.2.10, 3.4.1, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 6.1.7, 6.2.6, 7.1.3	None	None
DG00Y	Emergency diesel generator Equipment Group which began operations in 2000 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.02(2)(yy), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 6.1.7, 6.2.6, 7.1.3	None	None

Emission Units or Equipment Groups			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	NOx Emissions Factor	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
BU01	Bunsen Burner Equipment Group which began operations in 2001	In Attachment D	391-3-1-.02(2)(b), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.4.1, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 6.1.7, 6.2.6, 7.1.3	None	None
DGen01	Emergency diesel generator Equipment Group which began operations in 2001	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 6.1.7, 6.2.6, 7.1.3	None	None
DGen01Y	Emergency diesel generator Equipment Group which began operations in 2001 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1.02(2)(yy), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 6.1.7, 6.2.6, 7.1.3	None	None
BL02	Boiler Equipment Group which began operations in 2002 and are rated less than 10 MMBtu/hr	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.02(2)(yy), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 3.4.9, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.5, 7.1.3	None	None
DGen02	Emergency diesel generator Equipment group which began operations in 2002	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
DGen02Y	Emergency diesel generators Equipment Group which began operations in 2002 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1.02(2)(yy) 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
HTR02	Heater Equipment Group which began operations in 2002	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None

Emission Units or Equipment Groups			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	NOx Emissions Factor	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
HTR02Y	Heater Equipment Group which began operations in 2002 and are subject to GA Rule (yy)	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1.02(2)(yy) 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.7, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
BU03	Bunsen Burner Equipment Group which began operations in 2003	In Attachment D	391-3-1-.02(2)(b), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
HTR03	Heater Equipment Group which began operations in 2003	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
DGen03	Emergency diesel generator Equipment Group which began operations in 2003	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
DGen03Y	Emergency diesel generator Equipment Group which began operations in 2003 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1.02(2)(yy) 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.9, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
BL04	Boiler Equipment Group which began operations in 2004 and are rated less than 10 MMBtu/hr	In Attachment D	391-3-1-.02(2)(d), 391-3-1-.02(2)(g), 391-3-1-.02(2)(yy) 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 3.4.9, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.5, 7.1.3	PC13	Low NOx Burner
HTR04	Heater Equipment Group which began operations in 2004	In Attachment D	391-3-1-.02(2)(b), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.10, 3.2.11, 3.2.12, 3.4.2, 3.4.5, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3		
DGen04Y	Emergency diesel generator Equipment Group which began operations in 2004 and are subject to GA Rule (yy)	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1.02(2)(yy) 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.10, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.8, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None

Emission Units or Equipment Groups			Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	NOx Emissions Factor	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
HTR05	Heater Equipment Group expected to begin operations in 2005	In Attachment D	391-3-1-.02(2)(b), 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.6, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.5, 5.2.9, 5.3.4, 5.3.5, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None
DGen05	Emergency diesel generator Equipment Group expected to begin operations in 2005	In Attachment D	391-3-1.02(2)(b) 391-3-1-.02(2)(g), 391-3-1-.03(2) (NAA NSR Avoidance)	2.3.1, 3.2.11, 3.2.12, 3.4.1, 3.4.7, 5.2.7, 5.2.10, 5.3.5, 5.3.9, 5.3.10, 6.1.7, 6.2.6, 7.1.3	None	None

- Generally applicable requirements contained in this permit may also apply to emission units listed above.

3.2 Equipment Emission Caps and Operating Limits

Modified Conditions

3.2.4 During the months of May through September, the Permittee shall operate boilers BLR5 and BLR6 only to meet peaking demands, when boilers BLR7, BLR8 and/or BLR9 are undergoing repairs or unplanned maintenance or for routine maintenance activities on BLR5 and BLR6 subject to the fuel usage limit set forth in Condition 3.2.2.

[391-3-1-.02(2)(yy)]

3.2.6 The Permittee shall not fire any fuel other than natural gas in boilers BLR10, BLR11 (equipment group BL98) and all equipment groups listed in Attachment D of this permit except for the emergency diesel generators, and propane/air mix as a backup fuel in equipment groups BL98, BL02, HTR03 and BL04.

[391-3-1-.02(2)(yy) and 40 CFR 60, Subpart Dc]

5.2 Specific Monitoring Requirements

Modified Conditions

5.2.3 The Permittee shall conduct performance tests to determine the Relative Accuracy of the Continuous Monitoring Systems required by Conditions 5.2.1 and 5.2.2 in accordance with the following schedule:

[391-3-1-.02(6)(b)1]

- ~~The Permittee shall, by August 1, 2004, conduct Relative Accuracy testing while firing natural gas in Boilers BLR7, BLR8, and BLR9. Following this initial Relative Accuracy testing, the Permittee shall, at approximately 12 month intervals, conduct performance tests to determine the Relative Accuracy of the Continuous Monitoring Systems while firing natural gas in the boilers.~~

- a. At approximately 12-month intervals while firing natural gas in Boilers BL07, BL08 and BL09.
- b. ~~The Permittee shall, by October 31, 2004, conduct Relative Accuracy testing while firing fuel oil in Boilers BLR7, BLR8, and BLR9. Following this initial Relative Accuracy testing, the Permittee shall, at approximately 12-month intervals (except as specified in Condition 5.2.3.c), conduct performance tests to determine the Relative Accuracy of the Continuous Monitoring Systems while firing fuel oil.~~
- b. Within 90 days following the issuance of this amendment, while firing fuel oil in Boilers BL07 and BL08.
- c. Following the initial Relative Accuracy testing required by Condition 5.2.3.b.; ~~if the total fuel oil consumption for a boiler during the period November 1, 2004 to October 31, 2005 is less than 380,000 gallons, Relative Accuracy testing shall be conducted by October 31, 2006 while firing fuel oil in the boiler.~~
 - i. If the total amount of fuel oil consumed in an individual boiler (BL07, BL08, or BL09) exceeds 760,000 gallons in any 12 consecutive month period, testing shall be conducted on such boiler while firing fuel oil within 90 days or during the calendar month of October if day 90 occurs during the period of May through September; or
 - ii. If testing is not conducted under paragraph (i) above, then testing shall be conducted while firing fuel oil in Boilers BL07, BL08 and BL09 at least once during each Title V permit term (note: following the completion of testing under 5.2.3.b, this requirement will have been satisfied for Permit No. 8221-089-0233-V-02-0 issued December 27, 2001).

The Relative Accuracy of the Continuous Monitoring Systems shall be determined using the procedures of Performance Specification 2 contained in the Division's **Procedures for Testing and Monitoring Sources of Air Pollutants**.

- 5.2.4 The Permittee shall, when fuel oil is being fired in boilers BLR7, BLR8, and BLR9 monitor opacity according to the following approved alternative monitoring plan:
- c. The Permittee shall perform, once each day, the following: blowdown of the water column and water glass; feedwater shall be analyzed for correct chemical composition and adjustments will be made as appropriate; and clean fuel oil atomizing gun, ~~or replace with a clean gun.~~ As an alternate to cleaning the fuel oil atomizing gun every day, the Permittee shall replace with a clean spare gun once every third day of operation.

- 5.2.5 The Permittee shall install, calibrate, maintain and operate a natural gas consumption meter on boilers BLR5 through BLR11 (equipment group BL98), each boiler in the boiler equipment groups BL02, BL04 and each piece of equipment in the low heat input capacity fuel-burning equipment groups F98, F99, HTR02, HTR02Y, HTR03, HTR04 and each piece of equipment in the direct-fired equipment groups F20, BU01, BU03 and HTR05. ~~As an alternative, the Permittee may propose alternative protocol for monitoring fuel usage. This proposal shall be submitted in writing to the Division for review and final approval.~~

In the event of malfunction of any natural gas meter, the Permittee shall monitor the natural gas usage as follows:

- (1) Emory shall use the following alternative fuel usage monitoring for boilers BLR5, BLR6, BLR7, BLR8 and BLR9:
 - (i) Emory shall monitor the main natural gas meter that feeds gas to the boiler house and record the natural gas meter reading once per day in a daily log,
 - (ii) Emory shall distribute the daily recorded natural gas consumption to each boiler based on the steam production log maintained for each boiler and add this value to any additional natural gas consumption that was recorded using the boiler specific natural gas meter during the same monthly period,
 - (iii) Emory shall total the daily natural gas meter readings at the month end to determine the amount of natural gas consumed throughout the monthly period and
 - (iv) Emory shall maintain records of the monthly natural gas usage total for each boiler.
- (2) Emory shall monitor the natural gas usage for furnaces F02, F03, F04, F05, F06 and F07 and heaters PH01, H01 and H02 in the event of malfunction or non installation of any fuel gas meter:
 - (i) Emory shall monitor the main natural gas usage meter that feeds both furnaces F01 and F05 together daily and record the same in a daily log,
 - (ii) At the end of each month Emory shall subtract the natural gas usage for furnace F01 from the natural gas usage in F01 and F05 to yield monthly natural usage for Furnace F05,
 - (iii) In the event that the main natural gas meter is bypassed due to a malfunction or the specific gas meter for the remaining furnaces F02 through F07 and heaters H01, PH01 and H02 are rendered inoperable, Emory will prorate the natural gas usage in each case based on the total natural gas usage recorded for the same month of the previous year and
 - (iv) Maintain records of the monthly natural gas usage total for each furnace and heater.

5.2.6 The Permittee shall install, calibrate, maintain and operate a fuel oil consumption meter on boilers BLR5 through BLR9. ~~As an alternative, the Permittee may use the alternative protocol for monitoring fuel oil usage. This proposal shall be submitted in writing to the Division for review and final approval and shall use the following alternative fuel usage monitoring protocol in case the fuel oil meter at any boiler is not working properly:~~
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

- (i) Emory shall monitor the amount of fuel oil consumed by boilers BLR5 through BLR9 through manual measurement of the fuel oil storage tanks,
- (ii) Emory shall record the manual measurement for each storage tank feeding the boiler whose fuel oil meter malfunctions, once per day in a daily log,
- (iii) Emory shall distribute the recorded daily fuel oil consumption to each boiler based on the steam production log for the boiler and add any additional fuel oil consumption that was recorded using the boiler specific fuel oil meter during the same monthly period,
- (iv) Emory shall total the daily storage tank readings at the end of each month to determine the monthly consumption of fuel oil and
- (v) Emory shall maintain records of the monthly fuel oil usage total for each boiler.

5.3 Record Keeping and Reporting Requirements (associated with Specific Monitoring Requirements)

Modified Conditions

5.3.4 The Permittee shall monitor and maintain records of the amount of natural gas combusted in boiler BLR10 and each boiler in the boiler equipment groups BL98, BL02, BL04, each emission unit in the low heat input capacity fuel-burning equipment groups F98, F99, HTR02, HTR02Y, HTR03, HTR04 and each emission unit in the direct-fired equipment groups F20, BU01, BU03 and HTR05 during each month. Permittee shall keep this information on file in a suitable manner acceptable to the Division. Alternatively, Permittee may keep such records as are appropriate per Condition 5.2.5.
[40 CFR 60.48c(g) and 391-3-1-.03(2) (Nonattainment Area NSR Avoidance)]