

Part 70 Operating Permit

Permit Number: 3357-135-0010-V-01-0 **Effective Date:**

Facility Name: **OFS BrightWave Solutions, Inc.**
2000 Northeast Expressway
Norcross, GA 30071, Gwinnett County

Mailing Address: 2000 Northeast Expressway
Norcross, GA 30071

Parent/Holding Company: OFS BrightWave, LLC

Facility AIRS Number: 04-13-135-00010

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Georgia Rules for Air Quality Control, Chapter 391-3-1, adopted pursuant to and in effect under the Act, the Permittee described above is issued a Part 70 Permit for:

The operation of a facility for the manufacture of optical fiber and fiber-optic cable.

This Permit is conditioned upon compliance with all provisions of The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq, the Rules, Chapter 391-3-1, adopted and in effect under that Act, or any other condition of this Permit. Unless modified or revoked, this Permit expires five years after the effective date indicated above.

This Permit may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in Title V Application No. TV-9420 which was determined to be complete on February 25, 1997; any other applications upon which this Permit is based; supporting data entered therein or attached thereto; or any subsequent submittal or supporting data; or for any alterations affecting the emissions from this source.

This Permit is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached **50** pages, which pages are a part of this Permit.

DRAFT

Assistant Director
Environmental Protection Division

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PART 1.0 FACILITY DESCRIPTION

1.1 Site Determination

This facility and activities covered under this Permit comprise the Title V site; there are no other facilities that could currently be considered part of this site.

1.2 Previous and/or Other Names

Lucent Technologies, Inc.; and
Bell Labs (a subsidiary of American Telephone & Telegraph Company).

1.3 Overall Facility Process Description

This facility converts glass stock and silica into optical fiber. The glass stock is purified, then drawn through a tower furnace to form the optical fiber, which is stored on spools. Optical fiber is then colored and bundled in extruded plastic to form indoor and outdoor cable. Boilers are used to provide process heat. This facility uses several scrubbers, a carbon adsorber and thermal oxidizer to control chlorine, hydrochloric acid, thionyl chloride, hydrofluoric acid and volatile organic compound emissions.

PART 2.0 REQUIREMENTS PERTAINING TO THE ENTIRE FACILITY

2.1 Emission Limits

- 2.1.1 The Permittee shall not discharge, or cause the discharge into the atmosphere from the entire facility, nitrogen oxides (NO_x) emissions in amounts equal to or exceeding 50 tons during any twelve consecutive months.
[391-3-1-.03(2)(c) - Georgia Rule 391-3-1-.02(2)(yy) avoidance]
- 2.1.2 The Permittee shall not discharge, or cause the discharge into the atmosphere from the entire facility, sulfur dioxide (SO₂) emissions in amounts equal to or exceeding 100 tons during any twelve consecutive months.
[PSD/NSR Avoidance – 40 CFR 52.21]

2.2 Facility Wide Federal Rule Standards

None applicable.

2.3 Facility Wide SIP Rule Standards

- 2.3.1 The facility-wide net emissions increase of VOC or NO_x may not exceed 25 tons for each pollutant over five consecutive calendar years as defined in Georgia Rule 391-3-1-.03(8)(c)13(ii).
[391-3-1-.03(8)(c)13(ii)]
- 2.3.2 The facility is subject to Georgia Rule 391-3-1-.02(2)(tt), excluding those emission units subject to another VOC emission standard in Georgia Rule 391-3-1-.02(2).
[391-3-1-.02(2)(tt)]
- 2.3.3 The Permittee shall direct all alcohol cleaning pads into containers to prevent the evaporation of any residual alcohol immediately after their use, keep such containers covered, closed, and/or sealed when pads are not being directed to them, and send such containers off site for disposal.
[391-3-1-.02(2)(tt)]

2.4 Facility Wide Standards Not Covered by a Federal or SIP Rule and Not Instituted as an Emission Cap or Operating Limit

Not Applicable.

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PART 3.0 REQUIREMENTS FOR EMISSION UNITS

Note: Except where an applicable requirement specifically states otherwise, the averaging times of any of the Emissions Limitations or Standards included in this permit are tied to or based on the run time(s) specified for the applicable reference test method(s) or procedures required for demonstrating compliance.

3.1 Emission Units

Emission Unit Groups		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
BG01	Steam boilers	391-3-1-.02(2)(b) 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(tt) NAA/NSR Avoidance for NO _x PSD Avoidance for SO ₂ Avoidance of 391-3-1-.02(2)(yy)	3.2.1, 3.4.1, 3.4.2, 4.2.1, 4.2.2, 5.2.2 5.2.3, 5.2.5, 5.3.1, 6.1.7b, 6.2.1, 6.2.5, 6.2.6, 6.2.15, 6.2.16, 6.2.18, 6.2.21, 6.2.24	B01C B02C B03C	Low NO _x burners.
BG02	Hot water generators; steam boilers	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(tt) 40 CFR 60 Subpart Dc NAA/NSR Avoidance for NO _x PSD Avoidance for SO ₂ Avoidance of 391-3-1-.02(2)(yy)	3.2.2, 3.3.1, 3.3.2, 3.3.3, 3.4.3, 3.4.4, 5.2.2, 5.2.3, 5.2.6, 5.3.1, 6.1.7b, 6.2.2, 6.2.7, 6.2.8, 6.2.14, 6.2.15, 6.2.16, 6.2.18, 6.2.21	B04C B05C B07C	Low NO _x burners.
CPE1	Cooling pump engine	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(tt) NAA/NSR Avoidance for NO _x PSD Avoidance for SO ₂ Avoidance of 391-3-1-.02(2)(yy)	3.2.3, 3.4.5, 3.4.6, 5.2.2, 5.3.1, 6.1.7b, 6.2.9a, 6.2.10, 6.2.18, 6.2.19, 6.2.20, 6.2.21	None.	None.
CVD1	MCVD deposition equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) Georgia Air Toxics Guideline	3.2.10, 3.2.11, 3.2.12, 3.4.13, 3.4.17, 4.2.11, 5.2.2a-d, 5.3.1, 6.1.7c	LAC3	Ionizing wet scrubber (WESP)
CVD2	MCVD deposition equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt) Georgia Air Toxics Guideline	3.2.9, 3.4.14, 3.4.17, 4.2.7, 4.2.9, 5.2.2, 5.3.1, 6.1.7c	LAC6 LAC7	Ionizing wet scrubber Ionizing wet scrubber
EM01	Emergency generators	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(tt) NAA/NSR Avoidance for NO _x PSD Avoidance for SO ₂ Avoidance of 391-3-1-.02(2)(yy)	3.2.4, 3.2.5, 3.4.5, 3.4.6, 5.2.2, 5.2.4, 5.3.1, 6.1.7b, 6.2.9b, 6.2.11, 6.2.17, 6.2.18, 6.2.19, 6.2.21	None.	None.
FC01	Fiber coloring equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.8, 3.4.16, 3.4.17, 6.1.7b, 6.2.3b	None.	None.
FC02	Fiber coloring equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.8, 3.4.16, 3.4.17, 6.1.7b, 6.2.3b	None.	None.
FDT1	Fiber draw towers	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.7, 3.4.15, 3.4.17, 6.1.7b, 6.2.3a	None.	None.
FRA1	Fiber ribbon assembly lines	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.9, 3.4.10, 3.4.16, 3.4.17, 4.2.13, 5.2.1, 5.3.1, 6.1.7b-c, 6.2.3c	RC01- RC09	Catalytic oxidizers
FRA2	Fiber ribbon assembly lines	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.9, 3.4.10, 3.4.16, 3.4.17, 4.2.13, 5.2.1, 5.3.1, 6.1.7b-c, 6.2.3c	RC11- RC29	Catalytic oxidizers
FRA3	Fiber ribbon assembly lines	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.10, 3.4.16, 3.4.17, 4.2.14, 5.2.1, 5.3.1, 6.1.7c	RC30- RC39	Catalytic oxidizers
TF04	Glass tube furnace	391-3-1-.02(2)(e) 391-3-1-.02(2)(b)	3.2.6, 3.2.7, 3.4.11, 3.4.17, 4.2.3, 4.2.4, 5.2.1, 5.2.2, 5.3.1, 6.1.7c, 6.2.12, 6.2.13	TFC1 TFC2 TFC3	Thermal oxidizer Chlorine scrubber Carbon adsorber
TW02	Tube wash facility (RIT 1)	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.4.12, 3.4.17, 5.2.2, 5.3.1, 6.1.7c	TWC2	Scrubber

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Emission Unit Groups		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
TW03	Tube wash facility (RIT 2)	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) Georgia Air Toxics Guideline	3.2.8, 3.4.12, 3.4.16, 4.2.5, 4.2.6, 5.2.2, 5.3.1, 6.1.7c	TWC3	Scrubber
VAD1	VAD deposition equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.15, 3.4.17, 5.2.2a-d, 4.2.10, 4.2.12, 5.3.1, 6.1.7c	VAC1 VAC3	Ionizing wet scrubber Scrubber
VAD2	VAD deposition equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt) Georgia Air Toxics Guideline Avoidance of Section 112(g)	3.2.11, 3.2.12, 3.4.15, 3.4.17, 4.2.8, 4.2.9, 5.2.2a-d, 4.2.12, 5.3.1, 6.1.7c	VAC4	Ionizing wet scrubber

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

Emission Unit Group Listing for OFS Brightwave Solutions			
Emission Unit Group	Emission Unit Group Name	Applicable Emission Unit ID Numbers	Comments
BG01	Boiler Group 1	B001, B002, B003	
BG02	Boiler Group 2	B004, B005, B007	Subject to 40 CFR 60 Subpart Dc.
CVD1	MCVD Deposition Equipment Group 1	L073 – L138	Chemical deposition process for production of glass rods.
CVD2	MCVD Deposition Equipment Group 2	L139 – L198	In Bldg 50. Chemical deposition process for production of glass rods.
EM01	Emergency Generator Group 1	EG03, EG04	
FC01	Fiber Coloring Group 1	Post draw coloring lines (PD01 - PD56)	UV curable materials used.
FC02	Fiber Coloring Group 2	Post draw coloring lines (PD57 - PD76)	
FDT1	Fiber Draw Tower Group 1	UT13, UT14, UT15, UT16, UT17, UT18, UT19, UT20, UT21, UT22, UT23, UT24, UT25, UT26, UT27, UT28, UT29, UT30, UT31, UT32, UT33, UT34, UT35, UT36	
FRA1	Fiber Ribbon Assembly Line Group 1	RL1, RL2, RL3, RL4, RL5, RL6, RL7, RL8, RL9	Includes ink jet printers and catalytic oxidizers are considered an inherent part of the ink jet printer.
FRA2	Fiber Ribbon Assembly Line Group 2	RL11, RL12, RL13, RL14, RL15, RL16, 2L17, RL18, RL19, RL20, RL21, RL22, RL23, RL24, RL25, RL26, RL27, RL28, RL29	Includes ink jet printers and catalytic oxidizers are considered an inherent part of the ink jet printer.
FRA3	Fiber Ribbon Assembly Line Group 3	RL30, RL31, RL32, RL33, RL34, RL35, RL36, RL37, RL38, RL39	Includes ink jet printers and catalytic oxidizers are considered an inherent part of the ink jet printer.
TF04	Glass Tube Furnace Process	None.	Furnaces used for purifying glass tube body of contaminants such as hydrogen and metal compounds.
TW02	Tube wash facility (RIT 1)	None.	Equipment for cleaning glass tubes and rods.
TW03	Tube wash facility (RIT 2)	None.	Equipment for cleaning glass tubes and rods.
VAD1	VAD Deposit ion Equipment Group 1	VA01, VA02	Produce glass rods.
VAD2	VAD Deposition Equipment Group 2	VA04, VA05	Produce glass rods.

Emission Unit Listing for OFS Brightwave Solutions			
Emission Unit ID No.	Emission Unit Description	Applicable Emission Unit Groups	Comments
B001	Steam boiler	BG01	51.5 MMBtu/hr boiler. Installed in October 1971. Has a low NO _x burner (B01C).
B002	Steam boiler	BG01	51.5 MMBtu/hr boiler. Installed in October 1971. Has a low NO _x burner (B02C).
B003	Steam boiler	BG01	51.5 MMBtu/hr boiler. Installed in October 1971. Has a low NO _x burner (B03C).
B004	Steam boiler	BG02	Boiler has a 30 MMBtu/hr natural gas burner and a 48 MMBtu/hr fuel oil burner. Installed in 1998. Has a low NO _x burner (B04C).
B005	Hot water generator	BG02	48 MMBtu/hr boiler. Installed in 1998. Has a low NO _x burner (B05C).

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Emission Unit Listing for OFS Brightwave Solutions			
Emission Unit ID No.	Emission Unit Description	Applicable Emission Unit Groups	Comments
B007	Hot water generator	BG02	10 MMBtu/hr to 48 MMBtu/hr boiler, inclusive. Installed in 1998. Has a low NO _x burner (B07C).
CPE1	Cooling pump engine		
EG03	Emergency generator	EM01	Has an output of 475 kW. Installed before April 1, 2000. Fires diesel fuel.
EG04	Emergency generator	EM01	Has an output of 594 kW. Installed before April 1, 2000. Fires diesel fuel.
L73-138	MCVD lathes	CVD1	.
L139-198	MCVD lathes	CVD2	(MCVD Lathe Area II).
PD01-PD56	Post draw coloring lines	FC01	
PD57-PD76	Post draw coloring lines	FC02	
RL01-RL09	Fiber draw ribbon lines	FRA1	
RL11-RL29	Fiber draw ribbon lines	FRA2	
RL30-RL39	Fiber draw ribbon lines	FRA3	
UT13-UT36	Ultra tall fiber draw towers	FDT1	
VA01	VAD deposition equipment	VAD1	Equipment for fabrication of glass soot boules for preform cores or jacket.
VA02	VAD consolidation furnaces	VAD1	Furnace used for fusing of the glass soot on core bodies and jacket bodies.

Air Pollution Control Device Listing for OFS Brightwave Solutions				
APCD ID No.	APCD Description	Applicable Emission Unit Groups	Applicable Emission Unit ID Number	Comments
B01C	Low NO _x burner	BG01	B001	
B02C	Low NO _x burner	BG01	B002	
B03C	Low NO _x burner	BG01	B003	
B04C	Low NO _x burner	BG02	B004	
B05C	Low NO _x burner	BG02	B005	
B07C	Low NO _x burner	BG02	B007	
CPC1	Chemical purification building scrubber	NA		Controls HCl emissions from MCVD SiCl ₄ bulk storage tank venting.
LAC3	MCVD WESP scrubber	CVD1	L73 – L138	Controls acid mist emissions.
LAC6	MCVD Area II WESP/Scrubber	CVD2	L139 – L198	Controls HCl, HF, and Cl ₂ emissions.
LAC7	MCVD Area II scrubber	CVD2	L139 – L198	Back-up to LAC6.
RC01-RC09	Catalytic oxidizers	FRA1	RL01-RL09	Oxidizers are considered an inherent part of ribbon line.
RC11-RC29	Catalytic oxidizers	FRA2	RL11-RL29	Oxidizers are considered an inherent part of ribbon line.
RC30-RC39	Catalytic oxidizers	FRA3	RL30-RL39	Oxidizers are considered an inherent part of ribbon line.
TFC1	Two-stage thermal oxidizer	None.	TF04	Controls process odors.
TFC2	Chlorine scrubber	None.	TF04	Controls Cl ₂ emissions.
TFC3	Carbon adsorber	None.	TF04	Controls process odors (back-up to TF01).
TWC2	Wet scrubber	None.	TW02	Controls acid mist emissions.
TWC3	Wet scrubber	None.	TW03	Control acid mist emissions.
VAC1	Ionizing wet scrubber	VAD1	VA01, VA02	Controls HCl, HF, and Cl ₂ emissions.
VAC3	VAD bulk supply scrubber	NA		Control HCl emissions from VAD SiCl ₄ bulk storage tank venting. Back-up to VAC1.
VAC4	Ionizing wet scrubber	VAD2	VA04, VA05	Controls HCl, HF, and Cl ₂ emissions.

3.2 Equipment Emission Caps and Operating Limits

Boilers

- 3.2.1 Fuel oil fired in boilers in Emission Unit Group BG01 shall be distillate fuel oil and shall not contain more than 0.5 percent sulfur by weight. Distillate fuel oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396, "Standard Specification for Fuel Oil."
[391-3-1-.03(2)c and 391-3-1-.02(2)(g)2(subsumed)]
- 3.2.2 The Permittee shall not discharge, or cause the discharge, from boilers in Emission Unit Group BG02 on a combined basis, total NO_x emissions in amounts equal to or exceeding 18.8 tons during any twelve consecutive months.
[Nonattainment NSR Avoidance]

Stationary IC Engines

- 3.2.3 The Permittee shall not cause, suffer, permit, or allow the operation of the auxiliary cooling water pump engine CPE1 to exceed 100 hours during any twelve consecutive months.
[Nonattainment NSR Avoidance]
- 3.2.4 The Permittee shall not cause, suffer, permit, or allow the operation of the diesel-fired generators in Emission Unit Group EM01 to exceed 125 hours, each, during any twelve consecutive months.
[Nonattainment NSR Avoidance and 391-3-1-.02(2)(mmm)4(i)]
- 3.2.5 The Permittee shall not operate generators in Emission Unit Group EM01 unless electric power from the local utility is not available.
[391-3-1-.02(2)(mmm)4(i)]

Tube Fabrication

- 3.2.6 The Permittee shall operate thermal oxidizer TFC1, or back-up carbon adsorber TFC3, and scrubber TFC2 at all times that the glass tube manufacturing process TF04 is in operation.
[391-3-1-.03(2)(c)]
- 3.2.7 The Permittee shall maintain the combustion zone temperature of thermal oxidizer TFC1 at or above 1300 degrees Fahrenheit (or the value determined in the performance test required in Condition 4.2.3) during operation of glass tube manufacturing process TF04. For the purpose of this condition, a combustion zone temperature is defined as the three-hour rolling average of a thermal oxidizer's combustion zone.
[391-3-1-.03(2)(c)]

Tube Washing

- 3.2.8 The Permittee shall not discharge, or cause the discharge, from scrubber TWC3 (controlling tube wash facility TW03), hydrofluoric acid emissions in amount exceeding 0.147 pounds per hour.
[391-3-1-.03(2)(c) - Georgia Air Toxics Guideline]

Chemical Deposition

- 3.2.9 The Permittee shall not discharge, or cause the discharge, from scrubber/WESP LAC3, chlorine emissions in amounts exceeding 15.36 pounds per day.
[391-3-1-.03(2)(c) – Georgia Air Toxics Guideline]
- 3.2.10 The Permittee shall not discharge, or cause the discharge, from primary scrubber LAC6 and from back-up scrubber LAC7 (controlling MCVD lathes in Emission Unit Group CVD2), any gases which:
[391-3-1-.03(2)(c) – Georgia Air Toxics Guideline]
- a. Contain chlorine in excess of 0.12 pounds per hour;
 - b. Contain hydrochloric acid in excess of 0.0797 pounds per hour;
 - c. Contain hydrofluoric acid in excess of 0.0023 pounds per hour.
- 3.2.11 The Permittee shall operate scrubber VAC4 at all times that the process units in Emission Unit Group VAD2 or the bulk storage tank VAT2 are in operation.
[391-3-1-.03(2)(c) – Georgia Air Toxics Guideline]
- 3.2.12 The Permittee shall not discharge, or cause the discharge, from scrubber VAC4 (controlling process units in Emission Unit Group VAD2 and bulk storage tank VAT2), any gases that contain hydrochloric acid in excess of 1.81 pounds per hour.
[391-3-1-.03(2)(c) – Georgia Air Toxics Guideline and Avoidance of Section 112(g) of CAAA]

3.3 Equipment Federal Rule Standards***Boilers***

- 3.3.1 The Permittee shall comply with all applicable provisions of the New Source Performance Standards (NSPS) as found in 40 CFR Part 60, Subpart A, “General Provisions”, and Subpart Dc, “Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units”, for operation of boilers in Emission Unit Group BG02. [40 CFR 60 Subpart Dc]
- 3.3.2 The Permittee shall not discharge, or cause the discharge, from each boiler in Emission Unit Group BG02, visible emissions the opacity of which is greater than 20 percent, except for one 6-minute period per hour of not more than 27 percent opacity.
[40 CFR 60.43c(c) and 391-3-1-.02(2)(d)3(subsumed)]
- 3.3.3 Fuel oil fired in each boiler in Emission Unit Group BG02 shall be distillate fuel oil and shall not contain more than 0.5 percent sulfur by weight. Distillate fuel oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396, “Standard Specification for Fuel Oil.”
[40 CFR 60.42c(d) and 391-3-1-.02(2)(g)2(subsumed)]

3.4 Equipment SIP Rule Standards

Boilers

- 3.4.1 The Permittee shall not discharge, or cause the discharge, from each boiler in Emission Unit Group BG01, particulate matter in amounts equal to or exceeding the allowable rates specified in the equation $P = 0.7(10/R)^{0.202}$; where P equals the allowable emission rate in pound per million Btu heat input and R equals the heat input in million Btu/hr.
[391-3-1-.02(2)(d)1.(ii)]
- 3.4.2 The Permittee shall not discharge, or cause the discharge, from each boiler in Emission Unit Group BG01, visible emissions the opacity of which is equal to or greater than forty (40) percent.
[391-3-1-.02(2)(b)]
- 3.4.3 The Permittee shall not discharge, or cause the discharge, from each boiler in Emission Unit Group BG02, particulate matter in amounts equal to or exceeding the allowable rates specified in the equation $P = 0.5(10/R)^{0.5}$; where P equals the allowable emission rate in pound per million Btu heat input and R equals the heat input in million Btu/hr.
[391-3-1-.02(2)(d)2(ii)]
- 3.4.4 The sulfur content of the natural gas combusted in each boiler in Emission Unit Groups BG01 and BG02 shall not exceed 2.5 weight percent.
[391-3-1-.02(2)(g)2]

Stationary IC Engines

- 3.4.5 The sulfur content of fuels combusted in engines in Emission Unit Group EM01 and cooling pump engine CPE1 shall not exceed 2.5 weight percent.
[391-3-1-.02(2)(g)2]
- 3.4.6 The Permittee shall not discharge, or cause the discharge, from each engine in Emission Unit Group EM01 and cooling pump engine CPE1 visible emissions the opacity of which is equal to or greater than forty (40) percent.
[391-3-1-.02(2)(b)]

VOC RACT

- 3.4.7 The Permittee shall not utilize coatings in the fiber draw tower operation (Emission Unit Group FDT1) that contain more than two percent by weight processing volatiles. For the purposes of this Permit, "processing volatiles" shall be defined as in ASTM Method D5403.
[391-3-1-.02(2)(tt)]
- 3.4.8 The Permittee shall not utilize inks in fiber coloring lines defined by Equipment Groups FC01 and FC02 which contain VOC in excess of fifteen (15) percent by weight.
[391-3-1-.02(2)(tt)]
- 3.4.9 The Permittee shall not use a matrix compound in ribbon lines defined by Equipment Groups FRA1 and FRA2 which contain VOC in excess of fifteen (15) percent by weight.
[391-3-1-.02(2)(tt)]

- 3.4.10 The ink jet printers in ribbon lines defined by Equipment Groups FRA1, FRA2, and FRA3 shall be equipped with catalytic oxidizers.
[391-3-1-.02(2)(tt)]

Process Groups

- 3.4.11 The Permittee shall not discharge, or cause the discharge, into the atmosphere from the tube fabrication process group TF04, gases which contain particulate matter in excess of the rate derived from the equation noted below:
[391-3-1-.02(2)(e)]

- a. For process input weight rate up to and including 30 tons per hour:
 $E = 4.1P^{0.67}$; or
- b. For process input weight rate above 30 tons per hour:
 $E = 55P^{0.11} - 40$

where E equals the allowable particulate matter emission rate in pounds per hour and P equals the total dry process weight input rate in tons per hour.

- 3.4.12 The Permittee shall not discharge, or cause the discharge, into the atmosphere from any tube washing facility (Emission Unit Groups TW02 and TW03) gases which contain particulate matter in excess of the rate derived from the equation noted below:
[391-3-1-.02(2)(e)]

- a. For process input weight rate up to and including 30 tons per hour:
 $E = 4.1P^{0.67}$; or
- b. For process input weight rate above 30 tons per hour:
 $E = 55P^{0.11} - 40$

where E equals the allowable particulate matter emission rate in pounds per hour and P equals the total dry process weight input rate in tons per hour.

- 3.4.13 The Permittee shall not discharge, or cause the discharge, into the atmosphere from Emission Unit Group CVD1 gases which contain particulate matter in excess of the rate derived from the equation noted below:
[391-3-1-.02(2)(e)]

- a. For process input weight rate up to and including 30 tons per hour:
 $E = 4.1P^{0.67}$; or
- b. For process input weight rate above 30 tons per hour:
 $E = 55P^{0.11} - 40$

where E equals the allowable particulate matter emission rate in pounds per hour and P equals the total dry process weight input rate in tons per hour.

3.4.14 The Permittee shall not discharge, or cause the discharge, into the atmosphere from Emission Unit Group CVD2 gases which contain particulate matter in excess of the rate derived from the equation noted below:
[391-3-1-.02(2)(e)]

- a. For process input weight rate up to and including 30 tons per hour:
 $E = 4.1P^{0.67}$; or
- b. For process input weight rate above 30 tons per hour:
 $E = 55P^{0.11} - 40$

where E equals the allowable particulate matter emission rate in pounds per hour and P equals the total dry process weight input rate in tons per hour.

3.4.15 The Permittee shall not discharge, or cause the discharge, into the atmosphere from the fiber draw tower operation (Emission Unit Group FDT1), and the VAD Deposition Emission Unit Group ID Nos. VAD1, and VAD2, each, gases which contain particulate matter in excess of the rate derived from the equation noted below:
[391-3-1-.02(2)(e)]

- a. For process input weight rate up to and including 30 tons per hour:
 $E = 4.1P^{0.67}$; or
- b. For process input weight rate above 30 tons per hour:
 $E = 55P^{0.11} - 40$

where E equals the allowable particulate matter emission rate in pounds per hour and P equals the total dry process weight input rate in tons per hour.

3.4.16 The Permittee shall not discharge, or cause the discharge, into the atmosphere from the fiber coloring/fiber ribbon assembly/cable formation Process Groups (Emission Unit Groups FC01, FC02, FRA1, FRA2 and FRA3) gases which contain particulate matter in excess of the rate derived from the equation noted below:
[391-3-1-.02(2)(e)]

- a. For process input weight rate up to and including 30 tons per hour:
 $E = 4.1P^{0.67}$; or
- b. For process input weight rate above 30 tons per hour:
 $E = 55P^{0.11} - 40$

where E equals the allowable particulate matter emission rate in pounds per hour and P equals the total dry process weight input rate in tons per hour.

3.4.17 The Permittee shall not discharge, or cause the discharge, from each of the following, visible emissions the opacity of which is equal to or greater than forty (40) percent.
[391-3-1-.02(2)(b)]

- a. Tube washing facilities (Emission Unit Groups TW02 and TW03);
- b. MCVD lathes in Emission Unit Groups CVD1 and CVD2;

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- c. Fiber draw tower operations (Emission Unit Group FDT1);
- d. Fiber Coloring/Fiber Ribbon Assembly/Cable Formation Process Groups (Emission Unit Groups FC01, FC02, FRA1, FRA2 and FRA3);
- e. Emission Unit Groups VAD1 and VAD2; and
- f. Tube Fabrication TF04.

3.5 Equipment Standards Not Covered by a Federal or SIP Rule and Not Instituted as an Emission Cap or Operating Limit

Not Applicable.

PART 4.0 REQUIREMENTS FOR TESTING**4.1 General Testing Requirements**

- 4.1.1 The Permittee shall cause to be conducted a performance test at any specified emission point when so directed by the Environmental Protection Division (“Division”). The test results shall be submitted to the Division within 30 days of the completion of the testing. Any tests shall be performed and conducted using methods and procedures that have been previously specified or approved by the Division.
[391-3-1-.02(6)(b)1(i)]
- 4.1.2 The Permittee shall provide the Division thirty (30) days prior written notice of the date of any performance test(s) to afford the Division the opportunity to witness and/or audit the test, and shall provide with the notification a test plan in accordance with Division guidelines.
[391-3-1-.02(3)(a)]
- 4.1.3 Performance and compliance tests shall be conducted and data reduced in accordance with applicable procedures and methods specified in the Division’s **Procedures for Testing and Monitoring Sources of Air Pollutants**. The methods for the determination of compliance with emission limits listed under Sections 3.2, 3.3, 3.4 and 3.5 which pertain to the emission units listed in Section 3.1 are as follows:
- a. Method 1 for sample point locations,
 - b. Method 2 for the determination of flow rate,
 - c. Method 3 for the determination of stack gas molecular weight,
 - d. Method 4 for the determination of stack moisture,
 - e. Method 5 for the determination of particulate matter emissions FOR WHICH POINTS?.,
 - f. Method 7 or 7E for the determination of nitrogen oxide emissions. The sampling time shall be 60 minutes.
 - g. Method 9 and the procedures of Section 1.3 for the determination of the opacity of emissions,
 - h. Method 24 for the determination of volatile matter content, water content, density, volume solids, and weight solids in surface coatings,
 - i. Method 25 for the determination of total gaseous nonmethane organic emissions as carbon,
 - j. Method 25D for the determination of volatile organic concentration of waste samples,
 - k. Method 26A for the determination of hydrogen halide and halogen emissions,
 - l. ASTM D396, standard specification for fuel oils,
 - m. ASTM-D5403, standard test method for volatile content of radiation curable materials.

Minor changes in methodology may be specified or approved by the Director or his designee when necessitated by process variables, changes in facility design, or improvement or corrections that, in his opinion, render those methods or procedures, or portions thereof, more reliable.
[391-3-1-.02(3)(a)]

4.2 Specific Testing Requirements

Boilers

- 4.2.1 Within 120 days after the effective date of this Permit, the Permittee shall conduct a performance test for nitrogen oxides (NO_x) emissions from boilers B001, B002 and B003 while the applicable boiler is firing natural gas. The Permittee shall, using the results of this performance test, verify the NO_x emission factor (0.0364 lb/MMBtu) used in Condition No. 6.2.6 to calculate NO_x emissions (tons/month) while boiler B001 is firing natural gas. Should the performance test results indicate NO_x emissions greater than 0.0364 lb/MMBtu, the emission factor for use in Condition No. 6.2.5 shall be the arithmetic average of the three performance test runs.
[391-3-1-.02(6)(b)1]
- 4.2.2 Within 120 days after the effective date of this Permit, the Permittee shall conduct a performance test for nitrogen oxides (NO_x) emissions from boiler B001, B002 and B003 while the applicable boiler is firing distillate fuel oil. The Permittee shall, using the results of this performance test, verify the NO_x emission factor (0.135 lb/MMBtu) used in Condition No. 6.2.6 to calculate NO_x emissions (tons/month) while boiler B001 is firing distillate fuel oil. Should the performance test results indicate NO_x emissions greater than 0.135 lb/MMBtu, the emission factor for use in Condition No. 6.2.5 shall be the arithmetic average of the three performance test runs.
[391-3-1-.02(6)(b)1]

Tube Fabrication

- 4.2.3 Within 180 days after the restart of glass tube manufacturing process TF04, the Permittee shall conduct the following performance tests and furnish to the Division a written report of the results of such performance tests:
[391-3-1-.02(6)(b)1(i)]
- A performance test to determine the volatile organic compound destruction efficiency exhibited by thermal oxidizer TFC1. During the performance test for the thermal oxidizer, the thermal oxidizer shall be operated at a combustion zone temperature of 1300 degrees Fahrenheit or greater.
 - A performance test to determine the concentration of volatile organic compounds at the outlet of back-up carbon adsorber TFC3 that indicates breakthrough of the pollutant through the bed.
 - A performance test to determine the volatile organic compound capture efficiency exhibited by furnace TF04. The average minimum negative pressure within the hood shall be established during testing.
 - A performance test to determine the inlet and outlet hourly mass emission rate of nitrogen oxides exhibited by thermal oxidizer TFC1.

For purposes of this condition, restart shall mean the startup of tube fabrication line TF04 for its intended purpose.

- 4.2.4 During the performance tests required by Condition No. 4.2.3.a, the Permittee shall measure and record the combustion zone temperature at least once per ten minutes and shall determine the average combustion zone temperature from the recorded values. The combustion zone temperature for reporting excursions, as specified in Condition No. 6.1.7, shall be 50 degrees Fahrenheit below the average combustion zone temperature or 1300 degrees Fahrenheit, whichever is greater. The Permittee shall submit with the performance test report, the average combustion zone temperature for the thermal oxidizer and the combustion zone temperature data recorded during the performance test. [391-3-1-.02(6)(b)1(i)]

Tube Washing

- 4.2.5 Within 180 days after tube wash facility TW03 is fully installed and operating, the Permittee shall conduct a performance test for hydrofluoric acid emissions from scrubber TWC3 and furnish to the Division a written report of the results of such performance tests. [391-3-1-.02(6)(b)1(i)]
- 4.2.6 During the performance test required in Condition No. 4.2.5, the Permittee shall measure and record the scrubbant pH, scrubbant flow rate and the gas stream pressure drop at least once per ten minutes. The Permittee shall determine the minimum and maximum values for each parameter for scrubber TWC3 from the recorded values. The Permittee shall submit with each performance test report, the minimum and maximum values for each parameter and the data recorded during the performance test. [391-3-1-.02(6)(b)1(i)]

Chemical Deposition

- 4.2.7 Within 180 days after Emission Unit Group CVD2 begins operation, the Permittee shall conduct the following performance tests on ionizing wet scrubber LAC6 and LAC7 and furnish to the Division a written report of the results of such performance tests: [391-3-1-.02(6)(b)1(i)]
- a. Performance test for chlorine emissions;
 - b. Performance test for hydrochloric acid emissions;
 - c. Performance test for hydrofluoric acid emissions.
- 4.2.8 Within 180 days after the initial startup of the VAD deposition equipment in Emission Unit Group VAD2, the Permittee shall conduct a performance test for hydrochloric acid emissions from ionizing wet scrubber VAC4 and furnish to the Division a written report of the results of such performance tests. [391-3-1-.02(6)(b)1(i)]
- 4.2.9 During the performance tests required by Condition Nos. 4.2.7 and 4.2.8, the Permittee shall measure and record the scrubbant pH, scrubbant flow rate, the gas stream pressure drop, and the secondary (DC) voltage at least once per ten minutes. The Permittee shall determine the minimum and maximum values for each parameter for each control device (ionizing wet scrubbers LAC6, LAC7, and VAC4, respectively) from the recorded values. The Permittee shall submit with each performance test report, the minimum and maximum values for each parameter and the data recorded during the performance test. [391-3-1-.02(6)(b)1(i)]
- 4.2.10 Within 180 days of the effective date of Permit issuance, the Permittee shall determine the minimum secondary (DC) voltage for ionizing wet scrubber VAC1 representative of normal operation and submit the results and basis for determination to the Division. [391-3-1-.02(6)(b)1(i)]

- 4.2.11 Within 180 days of the effective date of Permit issuance, the Permittee shall determine (1) the minimum secondary (DC) voltage for ionizing wet scrubber LAC3, (2) the minimum scrubbant flow rate in gallons per minute, (3) the acceptable range for the gas stream pressure drop, and (4) the minimum scrubbant pH representative of normal operation of LAC3. The Permittee shall submit the results and basis for determination to the Division within 180 days of the effective date of the Permit. [391-3-1-.02(2)(6)(b)1(i)]
- 4.2.12 Within 180 days after the effective date of Permit issuance, the Permittee shall determine (1) the minimum scrubbant flow rate, (2) the acceptable range for the gas stream pressure drop, and (3) the minimum scrubbant pH representative of normal operation of scrubber VAC3. The Permittee shall submit the results and basis for determination to the Division within 180 days of the effective date of the Permit. [391-3-1-.02(2)(6)(b)1(i)]

Process Groups

- 4.2.13 Within 180 days after effective date of Permit issuance, the Permittee shall determine the volatile organic compound capture efficiency exhibited by catalytic oxidizers RC01 through RC29. The minimum average inlet and outlet catalyst bed temperature shall be established during testing.
- 4.2.14 Within 180 days after the startup of ribbon lines defined by Equipment Group FRA3, the Permittee shall determine the volatile organic compound capture efficiency exhibited by catalytic oxidizers RC30 through RC39. The minimum average inlet and outlet catalyst bed temperature shall be established during testing.

PART 5.0 REQUIREMENTS FOR MONITORING (Related to Data Collection)**5.1 General Monitoring Requirements**

- 5.1.1 Any continuous monitoring system required by the Division and installed by the Permittee shall be in continuous operation and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Data shall be recorded during calibration checks and zero and span adjustments. Maintenance or repair shall be conducted in the most expedient manner to minimize the period during which the system is out of service.
[391-3-1-.02(6)(b)1]

5.2 Specific Monitoring Requirements

- 5.2.1 The Permittee shall install, calibrate, maintain, and operate a system to continuously monitor and record the indicated parameters on the following equipment. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]
- The combustion zone temperature of thermal oxidizer TFC1. This permit condition becomes effective upon restart of tube fabrication line TF04. For purposes of this condition, restart shall mean the startup of tube fabrication line TF04 for any purpose.
 - The concentration of volatile organic compounds at the outlet of back-up carbon adsorber TFC3 to indicate breakthrough of the pollutant through the bed. This permit condition becomes effective: (1) upon startup of tube furnace line TF04, and (2) when thermal oxidizer TFC1 is not operational. For purposes of this condition, restart shall mean the startup of tube furnace line TF04 for any purpose.
 - The catalyst bed inlet and outlet temperatures for each catalytic oxidizer RC01 through RC39 at a location before any significant temperature drop occurs during the operation of their respective ribbon lines defined by Equipment Groups FRA1, FRA2 and FRA3.
- 5.2.2 The Permittee shall install, calibrate, maintain, and operate monitoring devices for the measurement of the indicated parameters on the following equipment. Data shall be recorded at the frequency specified below. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]
- Scrubbant flow rate in gallons per minute for each of the following devices: VAC1, VAC3, VAC4, CPC1, TFC2, TWC2, TWC3, LAC3, LAC7 and LAC6. Data shall be recorded once per operating day of applicable process equipment.
 - Scrubbant pH for each of the following devices: VAC1, VAC3, VAC4, CPC1, TFC2, TWC2, TWC3, LAC3, LAC7, and LAC6. Data shall be recorded once per operating day of applicable process equipment.
 - Gas stream pressure drop in inches of water column for each of the following devices: VAC1, VAC3, VAC4, CPC1, TFC2, TWC2, TWC3, LAC3, LAC6 and LAC7. Data shall be recorded once per operating day of applicable process equipment.

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- d. Secondary (DC) voltage for each field for each ionizing scrubber VAC1, VAC4, LAC3, LAC6 and LAC7. Such devices shall have a required accuracy of ± 2 percent. Data shall be recorded at least once per operating hour of applicable process equipment.
- e. Cumulative total hours of operation, during all periods of operation for each internal combustion engine in Emission Unit Group EM01 and cooling pump engine CPE1. Data shall be recorded monthly.
- f. Volume of natural gas (in million cubic feet) consumed by boilers B001, B002, B003, B004, B005, and B007. Volume shall be recorded monthly.
- g. Volume of distillate fuel oil (in gallons) consumed by boilers B001, B002, B003, B004, B005, and B007. Volume shall be recorded monthly.

5.2.3 The Permittee shall monitor the sulfur content of the fuel oil burned in the boilers in Emission Unit Groups BG01 and BG02 by either of the following methods:

- a. Fuel oil receipts obtained from the fuel supplier certifying that the fuel oil is No. 1 or 2 as defined in ASTM D396 and contains less than or equal to 0.5 percent sulfur, by weight.
- b. Analysis of the fuel oil conducted by methods of sampling and analysis which have been specified or approved by the Division which demonstrates that the fuel oil contains less than or equal to 0.5 percent sulfur, by weight, and meets the specifications for No. 1 or 2, as defined in ASTM D396.

For the purpose of demonstrating compliance multiple truckloads of fuel oil may constitute a single shipment, provided such trucks arrive at the facility in a contemporaneous manner.

[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), and 40 CFR 60.48c(f)1 for boilers in Emission Unit Group BG02 (boilers B004, B005, and B007)]

5.2.4 The Permittee shall monitor the sulfur content of fuel oil burned in Emission Unit Group EM01 by fuel oil receipts obtained from the fuel supplier certifying that the fuel oil contains less than or equal to 2.5 percent sulfur, by weight.
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

5.2.5 Within 90 days after the effective date of Permit issuance, the Permittee shall monitor emissions of nitrogen oxides (NO_x) from each boiler in Emission Unit Group BG01 using the following protocol:
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

- a. For any calendar month during which applicable boiler is operated on natural gas for more than 168 hours and/or is operated on fuel oil for more than 168 hours, except as provided for in (e) of this condition, the Permittee shall conduct measurements of nitrogen oxides NO_x and oxygen in the exhaust gas of the unit. The measurement period shall consist of one (1) test run thirty minutes in duration.
- b. Measurements of NO_x and oxygen concentrations shall be conducted using the procedures of Gas Research Institute Method GRI-96/0008, EPA/EMC Conditional Test Method (CTM-30) *Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters Using Portable Analyzers*.

- c. NO_x emissions (lb/MMBtu) shall be determined using the following equation:

$$E = K C_d F_d \frac{20.9}{20.9 - O_2}$$

Where:

E = NO_x emissions (lb/MMBtu);

K = Conversion factor for NO_x, 1.194×10^7 ([lb/scf]/ppm);

C_d = Concentration of NO_x (ppm by volume, dry basis);

F_d = F-factor [fuel oil = 9190 (dscf/MMBtu), natural gas = 8710 (dscf/MMBtu)]; and

O₂ = Exhaust Gas Oxygen Concentration (percent by volume, dry basis).

- d. Following any monthly measurement of NO_x emissions (lb/MMBtu) which is determined to be greater than the applicable NO_x emission factor for natural gas (0.0364 lb/MMBtu or the value determined by Condition No. 4.2.1) or for fuel oil (0.135 lb/MMBtu or the value determined by Condition No. 4.2.2), the Permittee shall make adjustments to the boiler and conduct a new measurement within one day. Daily measurements shall be continued until a measurement shows the NO_x emissions are less than or equal to the applicable NO_x emission factor.
- e. Following two (2) consecutive monthly measurements determined to be equal to or less than the applicable NO_x emission factor for natural gas or for fuel oil, the measurement may be conducted on the applicable boiler at a frequency of one per calendar quarter (quarters ending March 31, June 30, September 30, and December 31). Following any quarterly measurement determined to be greater than the applicable NO_x emission factor, the Permittee shall make adjustments to the applicable boiler and conduct a new measurement within one day. Daily measurements shall be continued until a measurement shows the NO_x emissions to be less than or equal to the applicable emission factor, at which time monthly measurements may be resumed. Measurements shall be conducted each month until two (2) consecutive monthly measurements are determined to be less than or equal to the applicable emission factor at which time measurements at a frequency of one per calendar quarter may be conducted.
- f. A record of the NO_x monitoring shall be kept in a form suitable for inspection or submittal for a period of five (5) years. The record shall at a minimum contain the cause and corrective action for all excursions and all measurements of concentrations of NO_x and oxygen.
- g. The Permittee may petition the Division to revise these and other specific monitoring requirements once the data on actual burner performance for the applicable boiler are available for review.

5.2.6 Within 90 days after the effective date of Permit issuance, the Permittee shall monitor emissions of nitrogen oxides (NO_x) from each boiler in Emission Unit Group BG02 using the following protocol: [391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

- a. For any calendar month during which applicable boiler is operated on natural gas for more than 168 hours and/or is operated on fuel oil for more than 168 hours, except as provided for in (e) of this condition, the Permittee shall conduct measurements of nitrogen oxides NO_x and oxygen in the exhaust gas of the unit. The measurement period shall consist of one (1) test run thirty minutes in duration.

- b. Measurements of NO_x and oxygen concentrations shall be conducted using the procedures of Gas Research Institute Method GRI-96/0008, EPA/EMC Conditional Test Method (CTM-30) *Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters Using Portable Analyzers*.
- c. NO_x emissions (lb/MMBtu) shall be determined using the following equation:

$$E = K C_d F_d \frac{20.9}{20.9 - O_2}$$

Where:

E = NO_x emissions (lb/MMBtu);
 K = Conversion factor for NO_x, 1.194×10^{-7} ([lb/scf]/ppm);
 C_d = Concentration of NO_x (ppm by volume, dry basis);
 F_d = F-factor [fuel oil = 9190 (dscf/MMBtu), natural gas = 8710 (dscf/MMBtu)]; and
 O₂ = Exhaust Gas Oxygen Concentration (percent by volume, dry basis).

- d. Following any monthly measurement of NO_x emissions (lb/MMBtu) which is determined to be greater than the applicable NO_x emission factor for natural gas (0.0364 lb/MMBtu) or for fuel oil (0.146 lb/MMBtu), the Permittee shall make adjustments to the boiler and conduct a new measurement within one day. Daily measurements shall be continued until a measurement shows the NO_x emissions are less than or equal to the applicable NO_x emission factor.
 - e. Following two (2) consecutive monthly measurements determined to be equal to or less than the applicable NO_x emission factor for natural gas or for fuel oil, the measurement may be conducted on the applicable boiler at a frequency of one per calendar quarter (quarters ending March 31, June 30, September 30, and December 31). Following any quarterly measurement determined to be greater than the applicable NO_x emission factor, the Permittee shall make adjustments to the applicable boiler and conduct a new measurement within one day. Daily measurements shall be continued until a measurement shows the NO_x emissions to be less than or equal to the applicable emission factor, at which time monthly measurements may be resumed. Measurements shall be conducted each month until two (2) consecutive monthly measurements are determined to be less than or equal to the applicable emission factor at which time measurements at a frequency of one per calendar quarter may be conducted.
 - f. A record of the NO_x monitoring shall be kept in a form suitable for inspection or submittal for a period of five (5) years. The record shall at a minimum contain the cause and corrective action for all excursions and all measurements of concentrations of NO_x and oxygen.
 - g. The Permittee may petition the Division to revise these and other specific monitoring requirements once the data on actual burner performance for the applicable boiler are available for review.
- 5.2.7 Within 60 days after the effective date of Permit issuance, the Permittee shall conduct an inspection at least once per month concerning the requirements of Condition No. 2.3.3 (the prevention of residual alcohol evaporation) to verify compliance with Georgia Rule (tt). The Permittee shall maintain an inspection log in a permanent form suitable for inspection or submittal to the Division. [391-3-1-.02(6)(b)1(i) and 40 CFR 70.6(a)(3)(i)]

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

- 5.3.1 The Permittee shall, in accordance with the requirements of Condition Nos. 6.1.1 and 6.1.6 of this Permit, maintain records of all data and information required by Condition Nos. 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.2.6, and 5.2.7. Reports shall be submitted in accordance with the requirements of Condition No. 6.1.4 of this Permit.
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

PART 6.0 OTHER RECORD KEEPING AND REPORTING REQUIREMENTS**6.1 General Record Keeping and Reporting Requirements**

6.1.1 Unless otherwise specified, all records required to be maintained by this Permit shall be recorded in a permanent form suitable for inspection and submission to the Division and to the EPA. The records shall be retained for at least five (5) years following the date of entry.
[391-3-1-.02(6)(b)1(i) and 40 CFR 70.6(a)(3)]

6.1.2 In addition to any other reporting requirements of this Permit, the Permittee shall report to the Division in writing, within seven (7) days, any deviations from applicable requirements associated with any malfunction or breakdown of process, fuel burning, or emissions control equipment for a period of four hours or more which results in excessive emissions.

The Permittee shall submit a written report that shall contain the probable cause of the deviation(s), duration of the deviation(s), and any corrective actions or preventive measures taken.
[391-3-1-.02(6)(b)1(iv), 391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(3)(iii)(B)]

6.1.3 The Permittee shall submit written reports of any failure to meet an applicable emission limitation or standard contained in this permit and/or any failure to comply with or complete a work practice standard or requirement contained in this permit which are not otherwise reported in accordance with Condition Nos. 6.1.2 or 6.1.4. Such failures shall be determined through observation, data from any monitoring protocol, or by any other monitoring which is required by this permit. The reports shall cover each semiannual period ending June 30 and December 31 of each year, shall be postmarked by the 30th day following the end of each reporting period, July 30 and January 30, respectively, and shall contain the probable cause of the failure(s), duration of the failure(s), and any corrective actions or preventive measures taken.
[391-3-1-.03(10)(d)1.(i) and 40 CFR 70.6(a)(3)(iii)(B)]

6.1.4 The Permittee shall submit a written report containing any excess emissions, exceedances, and/or excursions as described in this permit and any monitor malfunctions for each semiannual period ending June 30 and December 31 of each year. All reports shall be postmarked by the 30th day following the end of each reporting period, July 30 and January 30, respectively. In the event that there have not been any excess emissions, exceedances, excursions or malfunctions during a reporting period, the report should so state. Otherwise, the contents of each report shall be as specified by the Division's **Procedures for Testing and Monitoring Sources of Air Pollutants** and shall contain the following:
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(iii)(A)]

- a. A summary report of excess emissions, exceedances and excursions, and monitor downtime, in accordance with Section 1.5(c) and (d) of the above referenced document, including any failure to follow required work practice procedures.
- b. Total process operating time during each reporting period.
- c. The magnitude of all excess emissions, exceedances and excursions computed in accordance with the applicable definitions as determined by the Director, and any conversion factors used, and the date and time of the commencement and completion of each time period of occurrence.

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- d. Specific identification of each period of such excess emissions, exceedances, and excursions that occur during startups, shutdowns, or malfunctions of the affected facility. Include the nature and cause of any malfunction (if known), the corrective action taken or preventive measures adopted.
 - e. The date and time identifying each period during which any required monitoring system or device was inoperative (including periods of malfunction) except for zero and span checks, and the nature of the repairs, adjustments, or replacement. When the monitoring system or device has not been inoperative, repaired, or adjusted, such information shall be stated in the report.
 - f. Certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- 6.1.5 Where applicable, the Permittee shall keep the following records:
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(3)(ii)(A)]
- a. The date, place, and time of sampling or measurement;
 - b. The date(s) analyses were performed;
 - c. The company or entity that performed the analyses;
 - d. The analytical techniques or methods used;
 - e. The results of such analyses; and
 - f. The operating conditions as existing at the time of sampling or measurement.
- 6.1.6 The Permittee shall maintain files of all required measurements, including continuous monitoring systems, monitoring devices, and performance testing measurements; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices. These files shall be kept in a permanent form suitable for inspection and shall be maintained for a period of at least five (5) years following the date of such measurements, reports, maintenance and records.
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6 (a)(3)(ii)(B)]
- 6.1.7 For the purpose of reporting excess emissions, exceedances or excursions in the report required in Condition 6.1.4, the following excess emissions, exceedances, and excursions shall be reported:
- a. Excess emissions: (means for the purpose of this Condition and Condition No. 6.1.4, any condition that is detected by monitoring or record keeping which is specifically defined, or stated to be, excess emissions by an applicable requirement)
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]
- None required to be reported in accordance with Condition No. 6.1.4.

- b. Exceedances: (means for the purpose of this Condition and Condition No. 6.1.4, any condition that is detected by monitoring or record keeping that provides data in terms of an emission limitation or standard and that indicates that emissions (or opacity) do not meet the applicable emission limitation or standard consistent with the averaging period specified for averaging the results of the monitoring)

Facility-Wide Requirements

- i. Any facility-wide twelve consecutive month total NO_x emissions that equals or exceeds 50 tons.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), and Georgia Rule (yy) Avoidance]
- ii. Any facility-wide twelve consecutive month total SO₂ emissions that equals or exceeds 100 tons.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), and PSD Avoidance]

Boilers

- iii. Any twelve consecutive month total NO_x emissions from boilers in Emission Unit Group BG02, on a combined basis, that equals or exceeds 18.8 tons.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), and NAA/NSR Avoidance]
- iv. Any time fuel oil combusted in boilers in Emission Unit Groups BG01 and BG02 exceeds 0.5 percent sulfur by weight.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), 391-3-1-.03(2)(c) and 40 CFR 60.42c(d)]

Stationary IC Engines

- v. Any twelve consecutive month total hours of operation of cooling pump engine CPE1 that is in excess of 100 hours.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), and NAA/NSR Avoidance]
- vi. Any twelve consecutive month total hours of operation of emergency generator EG03 that is in excess of 125 hours.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), and NAA/NSR Avoidance]
- vii. Any twelve consecutive month total hours of operation of emergency generator EG04 that is in excess of 125 hours.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), and NAA/NSR Avoidance]

VOC RACT Requirements

- viii. Any coating used in any fiber draw tower operation (Emission Unit Group FDT1) which contains greater than two (2) percent processing volatiles by weight.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), and 391-3-1-.02(2)(tt)]
- ix. Any ink used in fiber coloring operations defined by Equipment Groups FC01 and FC02 which contains greater than fifteen (15) percent by VOC by weight.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), and 391-3-1-.02(2)(tt)]

- x. Any matrix compound used in ribbon lines defined by Equipment Groups FRA1 and FRA2 which contains greater than fifteen (15) percent VOC by weight.
[391-3-1-.02(6)(b)1, 40 CFR 70.6(a)(3)(i), and 391-3-1-.02(2)(tt)]
- c. Excursions: (means for the purpose of this Condition and Condition No. 6.1.4, any departure from an indicator range or value established for monitoring consistent with any averaging period specified for averaging the results of the monitoring)
[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

Facility-Wide Requirements

- i. Any inspection required by Condition 5.2.7 that indicates that alcohol cleaning pads not immediately placed in containers after their use and/or these containers are not covered, closed or sealed when pads are not being directed into them.

Tube Fabrication

- ii. Any two consecutive measurements taken in accordance with 5.2.2.a that is less than scrubant flow rate of 40 gallons per minute for scrubber TFC2. This condition becomes effective upon restart of process TF04 for its intended purpose.
- iii. Any two consecutive measurements taken in accordance with Condition 5.2.2.b that is less than the scrubant pH of 10.0 for scrubber TFC2. This condition becomes effective upon restart of process TF04 for its intended purpose.
- iv. Any two consecutive measurements taken in accordance with Condition 5.2.2.c that is outside the gas stream pressure drop range of 1 to 8 inches water column for scrubber TFC2. This condition becomes effective upon restart of process TF04 for its intended purpose.
- v. Any three-hour rolling period, during operation of process TF04, in which the average combustion zone temperature of thermal oxidizer TFC1 is 50 degrees Fahrenheit below the average combustion zone temperature derived in Condition 4.2.3.a or is below 1300 degrees Fahrenheit, whichever is greater.
- vi. Any three-hour rolling period, during the operation of TF04 and when thermal oxidizer TFC1 is not operational, in which the concentration of volatile organic compounds at the outlet of back-up carbon adsorber TFC3 is greater than the pollutant concentration determined in Condition 4.2.3.b.
- vii. Any time process TF04 is in operation without its exhaust be routed to thermal oxidizer TFC1, or back-up carbon adsorber TFC3, and scrubber TFC2.

Tube Washing

- viii. Any two consecutive measurements taken in accordance with 5.2.2.a that is less than scrubant flow rate of 40 gallons per minute for scrubber TWC2.
- ix. Any two consecutive measurements taken in accordance with Condition 5.2.2.b that is less than the scrubant pH of 10.0 for scrubber TWC2.

- x. Any two consecutive measurements taken in accordance with Condition 5.2.2.c that is outside the gas stream pressure drop range of 0.5 to 3 inches water column for scrubber TWC2.
- xi. Any two consecutive measurements taken in accordance with 5.2.2.a that is less than scrubant flow rate of 40 gallons per minute for scrubber TWC3.
- xii. Any two consecutive measurements taken in accordance with Condition 5.2.2.b that is less than the scrubant pH of 10.0 for scrubber TWC3.
- xiii. Any two consecutive measurements taken in accordance with Condition 5.2.2.c that is outside the gas stream pressure drop range of 0.5 to 3 inches water column for scrubber TWC3.

Chemical Deposition

- xiv. Any two consecutive measurements taken in accordance with Condition 5.2.2.a that is less than the recorded scrubant flow rate of 6 gallons per minute for ionizing scrubber VAC1.
- xv. Any two consecutive measurements taken in accordance with Condition 5.2.2.b that is less than the scrubant pH of 10.0 for ionizing scrubber VAC1.
- xvi. Any two consecutive measurements taken in accordance with Condition 5.2.2.c that is outside the gas stream pressure drop range of 4 to 9 inches water column for ionizing scrubber VAC1.
- xvii. Any two consecutive measurements taken in accordance with Condition 5.2.2.a that is less than the scrubant flow rate for scrubber VAC3 established in Condition No. 4.2.12.
- xviii. Any two consecutive measurements taken in accordance with Condition 5.2.2.b that is below the scrubant pH for scrubber VAC3 is established in Condition No. 4.2.12.
- xix. Any two consecutive measurements taken in accordance with Condition 5.2.2.c that is outside the gas stream pressure drop range for scrubber VAC3 established in Condition No. 4.2.12.
- xx. Any two consecutive measurements taken in accordance with Condition 5.2.2.d that is below the secondary (DC) voltage of zero for ionizing scrubber VAC1 established in Condition 4.2.10.
- xxi. Any two consecutive measurements taken in accordance with Condition 5.2.2.a that is less than the scrubant flow rate for ionizing wet scrubber VAC4 established in Condition No. 4.2.9.
- xxii. Any two consecutive measurements taken in accordance with Condition 5.2.2.b that is below the scrubant pH for ionizing wet scrubber VAC4 is established in Condition No. 4.2.9.
- xxiii. Any two consecutive measurements taken in accordance with Condition 5.2.2.c that is outside the gas stream pressure drop range for ionizing wet scrubber VAC4 established in Condition No. 4.2.9.

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- xxiv. Any two consecutive measurements taken in accordance with Condition 5.2.2.d that is below the secondary (DC) voltage for ionizing wet scrubber VAC4 established in Condition No. 4.2.9.
- xxv. Any two consecutive measurements taken in accordance with Condition 5.2.2.a that is less than the scrubbant flow rate for ionizing wet scrubber LAC3 established in Condition No. 4.2.11.
- xxvi. Any two consecutive measurements taken in accordance with Condition 5.2.2.b that is below the scrubbant pH for ionizing wet scrubber LAC3 is established in Condition No. 4.2.11.
- xxvii. Any two consecutive measurements taken in accordance with Condition 5.2.2.c that is outside the gas stream pressure drop range for ionizing wet scrubber LAC3 established in Condition No. 4.2.11.
- xxviii. Any two consecutive measurements taken in accordance with Condition 5.2.2.d that is below the secondary (DC) voltage for ionizing wet scrubber LAC3 established in Condition No. 4.2.11.
- xxix. Any two consecutive measurements taken in accordance with Condition 5.2.2.a that is less than the scrubbant flow rate for ionizing wet scrubber LAC6 established in Condition No. 4.2.9.
- xxx. Any two consecutive measurements taken in accordance with Condition 5.2.2.b that is below the scrubbant pH for ionizing wet scrubber LAC6 is established in Condition No. 4.2.9.
- xxxi. Any two consecutive measurements taken in accordance with Condition 5.2.2.c that is outside the gas stream pressure drop range for ionizing wet scrubber LAC6 established in Condition No. 4.2.9.
- xxxii. Any two consecutive measurements taken in accordance with Condition 5.2.2.d that is below the secondary (DC) voltage for ionizing wet scrubber LAC6 established in Condition No. 4.2.9.
- xxxiii. Any two consecutive measurements taken in accordance with Condition 5.2.2.a that is less than the scrubbant flow rate for ionizing wet scrubber LAC7 established in Condition No. 4.2.9.
- xxxiv. Any two consecutive measurements taken in accordance with Condition 5.2.2.b that is below the scrubbant pH for ionizing wet scrubber LAC7 is established in Condition No. 4.2.9.
- xxxv. Any two consecutive measurements taken in accordance with Condition 5.2.2.c that is outside the gas stream pressure drop range for ionizing wet scrubber LAC7 established in Condition No. 4.2.9.
- xxxvi. Any two consecutive measurements taken in accordance with Condition 5.2.2.d that is below the secondary (DC) voltage for ionizing wet scrubber LAC7 established in Condition No. 4.2.9.

- xxxvii. Any two consecutive measurements taken in accordance with Condition 5.2.2.d that is outside the gas stream pressure drop range of 1 to 5 inches water column for scrubber CPC1.
- xxxviii. Any two consecutive measurements taken in accordance with Condition 5.2.2.a that is outside the scrubbant flow rate range of 5 to 10 gallons per minute for scrubber CPC1.
- xxxix. Any two consecutive measurements taken in accordance with Condition 5.2.2.b that is less than the scrubbant pH of 10.0 for scrubber CPC1.

Process Groups

- xl. Any three-hour rolling period, during the operation of respective ribbon lines defined by Equipment Groups FRA1, FRA2 and FRA3, in which the average catalyst bed temperature(s) of catalytic oxidizers RC01 through RC39 measured in Condition 5.2.1.c falls below the temperature(s) derived in Condition 4.2.13 and 4.2.14.

6.2 Specific Record Keeping and Reporting Requirements

General Record Keeping Requirements

- 6.2.1 The Permittee shall retain the following monthly records including calculations and heating value (in lb/MMcf or lb/gallon, whichever applicable) of natural gas and distillate fuel oil used: [Nonattainment NSR Avoidance and Georgia Rule 391-3-1-.02(2)(yy) Avoidance]
 - a. The volume of natural gas (in million cubic feet) consumed by Equipment Group BG01;
 - b. The volume of fuel oil (in gallons) consumed by consumed by Equipment Group BG01;
 - c. The actual heat input of natural gas (in MMBtu/hr) consumed by consumed by Equipment Group BG01;
 - d. The actual heat input of distillate fuel oil (in MMBtu/hr) consumed by consumed by Equipment Group BG01;
- 6.2.2 The Permittee shall retain the following monthly records including calculations and heating value (lb/MMcf or lb/gal, whichever is applicable) of natural gas and distillate fuel oil used: [Nonattainment NSR Avoidance; Georgia Rule 391-3-1-.02(2)(yy) Avoidance; and Alternative Monitoring of Fuel Consumption under NSPS Subpart Dc, approved by US EPA Region 4 on August 14, 1996]
 - a. The volume of natural gas (in million cubic feet) consumed by each boiler in Equipment Group BG02;
 - b. The volume of fuel oil (in gallons) consumed by each boiler in Equipment Group BG02;
 - c. The actual heat input of natural gas (in MMBtu/hr) consumed by each boiler in Equipment Group BG02; and
 - d. The actual heat input of distillate fuel oil (in MMBtu/hr) consumed by each boiler in Equipment Group BG02.

Georgia Rule (tt) Record Keeping

- 6.2.3 The Permittee shall maintain records (including calculations) which demonstrate the following:
[391-3-1-.02(6)(b)1, 391-3-1.02(2)(tt), RACT]
- Each coating at the draw tower operation (Emission Unit Group FDT1) contains less than or equal to 2 percent processing volatiles by weight.
 - Each ink used in fiber coloring \lines defined by Equipment Groups FC01 and FC02 contain less than or equal to fifteen (15) percent VOC by weight.
 - Each matrix compound used in ribbon lines defined by Equipment Groups FRA1 and FRA2 contain less than or equal to fifteen (15) percent VOC by weight.

Verification of Compliance with NO_x Emissions Limits

- 6.2.4 The Permittee shall retain the following monthly records including calculations, fuel type, and heating value of applicable fuel (lb/MMcf or lb/gallon, whichever is applicable) for facility-wide equipment not specified in Condition Nos. 6.2.5 and 6.2.7:
[Nonattainment NSR Avoidance; Georgia Rule 391-3-1-.02(2)(yy) Avoidance; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]
- The monthly fuel usage for each fuel-burning source;
 - The applicable AP-42 or other Division approved NO_x emission factor for each fuel burning source;
 - The monthly NO_x emissions for each fuel burning source;
 - The twelve month rolling total NO_x emissions for each fuel burning source;
- 6.2.5 The Permittee shall calculate monthly NO_x emissions from each boiler in Emission Unit Group BG01, using the applicable NO_x emission factor and fuel usage records for each month of applicable boiler operation. Monthly NO_x emissions shall be calculated using the following equation:

$$E = \frac{[(NG)(EF_{ng})] + [(OIL)(EF_{io})]}{\left(\frac{2000 \text{ lb}}{\text{ton}} \right)}$$

Where:

- E = Monthly NO_x emissions (tons);
 NG = Monthly natural gas usage (in MMBtu heat input);
 EF_{ng} = Applicable natural gas emission factor (i.e., the greater of 0.0364 lb/MMBtu or the emission factor established by performance tests for this emission unit);
 OIL = Monthly fuel oil usage (in MMBtu heat input); and
 EF_{io} = Applicable distillate fuel oil emission factor (i.e., the greater of 0.146 lb/MMBtu or the emission factor established by performance tests for this emission unit).

Records of monthly NO_x emissions (including calculations) shall be kept available for inspection or submittal either in written or electronic form for a period of five years from the date of record.
[Nonattainment NSR Avoidance; Georgia Rule 391-3-1-.02(2)(yy) Avoidance; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

6.2.6 The Permittee shall use the records of monthly NO_x emissions required in Condition No. 6.2.5 to calculate the twelve consecutive month total NO_x emissions from each boiler in Emission Unit Group BG01, on a combined basis. The twelve consecutive month total shall be calculated each month by adding that month's NO_x emissions to the monthly NO_x emission from the previous eleven months. Records of NO_x emissions (including calculations) shall be kept available for inspection or submittal either in written or electronic form for a period of five years from the date of record.
[Nonattainment NSR Avoidance; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

6.2.7 The Permittee shall calculate monthly NO_x emissions from each boiler in Emission Unit Group BG02, using the applicable NO_x emission factor and fuel usage records for each month of applicable boiler operation. Monthly NO_x emissions shall be calculated using the following equation:

$$E = \frac{[(NG)(EF_{ng})] + [(OIL)(EF_{fo})]}{\left(\frac{2000 \text{ lb}}{\text{ton}} \right)}$$

Where:

E = Monthly NO_x emissions (tons);
NG = Monthly natural gas usage (in MMBtu heat input);
EF_{ng} = Applicable natural gas emission factor (i.e., 0.0716 lb/MMBtu);
OIL = Monthly fuel oil usage (in MMBtu heat input); and
EF_{fo} = Applicable distillate fuel oil emission factor (i.e., 0.146 lb/MMBtu).

Records of monthly NO_x emissions (including calculations) shall be kept available for inspection or submittal either in written or electronic form for a period of five years from the date of record.
[Nonattainment NSR Avoidance; Georgia Rule 391-3-1-.02(2)(yy) Avoidance; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

6.2.8 The Permittee shall use the records of monthly NO_x emissions required in Condition No. 6.2.6 to calculate the twelve consecutive month total NO_x emissions from each boiler in Emission Unit Group BG02, on a combined basis. The twelve consecutive month total shall be calculated each month by adding that month's NO_x emissions to the monthly NO_x emission from the previous eleven months. Records of NO_x emissions (including calculations) shall be kept available for inspection or submittal either in written or electronic form for a period of five years from the date of record.
[Nonattainment NSR Avoidance; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

- 6.2.9 The Permittee shall calculate monthly NO_x emissions from cooling pump engine CPE1 and each generator in Emission Unit Group EM01, using the applicable NO_x emission factor and fuel usage records for each month of generator operation. Monthly NO_x emissions shall be calculated using the following equations:

[Nonattainment NSR Avoidance; Georgia Rule 391-3-1-.02(2)(yy) Avoidance; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

- a. For cooling pump engine CPE1:

$$E = \frac{Q_d H (EF_{ng})}{\left(\frac{2000 \text{ lb}}{\text{ton}} \right)}$$

Where:

E = Monthly NO_x emissions (tons)
 Q_d = Design heat input capacity of engine (MMBtu/hr);
 H = Monthly hours of operation for engine (hrs/month);
 EF_{ng} = Applicable natural gas emission factor (MMBtu/hr).

- b. For generators in Emission Unit Group EM01:

$$E = \frac{GH (EF_{fo}) \left(1.34 \frac{\text{hp}}{\text{kW}} \right)}{\left(\frac{2000 \text{ lb}}{\text{ton}} \right)}$$

Where:

E = Monthly NO_x emissions (tons)
 G = Generating capacity of generator (kW);
 H = Monthly hours of operation for generator (hrs/month);
 EF_{fo} = Applicable fuel oil emission factor (i.e., 0.031 lb NO_x/hp-hr).

- 6.2.10 The Permittee shall use the records of monthly NO_x emissions required in Condition No. 6.2.9a to calculate the twelve consecutive month total NO_x emissions from cooling pump engine CPE1. The twelve consecutive month total shall be calculated each month by adding that month's NO_x emissions to the monthly NO_x emission from the previous eleven months. Records of NO_x emissions (including calculations) shall be kept available for inspection or submittal either in written or electronic form for a period of five years from the date of record.

[Nonattainment NSR Avoidance; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

- 6.2.11 The Permittee shall use the records of NO_x emissions required in Condition No. 6.2.9b to calculate the twelve consecutive month total NO_x emissions from each generator in Emission Unit Group EM01, on a combined basis. The twelve consecutive month total shall be calculated each month by adding that month's NO_x emissions to the monthly NO_x emission from the previous eleven months. Records of NO_x emissions (including calculations) shall be kept available for inspection or submittal either in written or electronic form for a period of five years from the date of record.

[Nonattainment NSR Avoidance; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

- 6.2.12 The Permittee shall calculate monthly NO_x emissions from the glass tube furnace TF04, using the applicable NO_x emission factor and fuel usage records for each month of furnace operation. Monthly NO_x emissions shall be calculated using the following equation:
[Nonattainment NSR Avoidance; Georgia Rule 391-3-1-.02(2)(yy) Avoidance; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

$$E = \frac{[(NG)(EF_{ng})] + [(OIL)(EF_{fo})]}{\left(\frac{2000 \text{ lb}}{\text{ton}} \right)}$$

Where:

E = Monthly NO_x emissions (tons);
 NG = Monthly natural gas usage (MMBtu heat input);
 EF_{ng} = Applicable natural gas emission factor (lb/MMBtu);
 OIL = Monthly fuel oil usage (MMBtu heat input); and
 EF_{fo} = Applicable distillate fuel oil emission factor (lb/MMBtu).

- 6.2.13 The Permittee shall use the records of monthly NO_x emissions required in Condition No. 6.2.12 to calculate the twelve consecutive month total NO_x emissions from the glass tube furnace TF04. The twelve consecutive month total shall be calculated each month by adding that month's NO_x emissions to the monthly NO_x emission from the previous eleven months. Records of NO_x emissions (including calculations) shall be kept available for inspection or submittal either in written or electronic form for a period of five years from the date of record.
[Nonattainment NSR Avoidance; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]
- 6.2.14 The Permittee shall use the records of monthly NO_x emissions required in Condition Nos. 6.2.4, 6.2.6, 6.2.8, 6.2.10, 6.2.11 and 6.2.13 to calculate the facility-wide monthly and twelve consecutive month total NO_x emissions. The twelve consecutive month total shall be calculated each month by adding that month's NO_x emissions to the monthly NO_x emission from the previous eleven months. The Permittee shall notify the Division in writing if the NO_x emissions for the facility exceed 4.17 tons during any calendar month or 50 tons during any twelve consecutive month period. This notification shall be postmarked by the thirtieth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the annual limit stated in Condition No. 2.1.1. Records of NO_x emissions (including calculations) shall be kept available for inspection or submittal either in written or electronic form for a period of five years from the date of record.
[Avoidance of Georgia Rule 391-3-1-.02(2)(yy); 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

Verification of Compliance with SO₂ PSD Avoidance Emissions Limit

- 6.2.15 The Permittee shall retain the following monthly records including calculations, fuel type, and heating value of applicable fuel (lb/MMcf or lb/gal, whichever is applicable) for facility-wide equipment not specified in Condition Nos. 6.2.15:
[PSD Avoidance – 40 CFR 52.21, 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]
- The applicable AP-42 or other Division approved SO₂ emission factor for each fuel burning source;
 - The monthly SO₂ emissions for each fuel-burning source; and

c. The twelve month rolling total SO₂ emissions for each fuel burning source.

- 6.2.16 The Permittee shall calculate monthly SO₂ emissions from each boiler in Emission Unit Groups BG01 and BG02 using the applicable SO₂ emission factor and fuel usage records for each month of boiler operation. Monthly SO₂ emissions shall be calculated using the following equation:

$$E = \frac{[(NG)(EF_{ng})] + [(OIL)(EF_{fo})]}{\left(\frac{2000 \text{ lb}}{\text{ton}} \right)}$$

Where:

E = Monthly SO₂ emissions (tons);
 NG = Monthly natural gas usage (in MMBtu heat input);
 EF_{ng} = Applicable natural gas emission factor (0.0006 lb/MMBtu);
 OIL = Monthly fuel oil usage (in MMBtu heat input); and
 EF_{fo} = Applicable distillate fuel oil emission factor (0.518 lb/MMBtu).

Records of monthly SO₂ emissions (including calculations) shall be kept available for inspection or submittal either in written or electronic form for a period of five years from the date of record.

[PSD Avoidance – 40 CFR 52.21; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

- 6.2.17 The Permittee shall calculate monthly SO₂ emissions from each generator in Emission Unit Group EM01 using the applicable SO₂ emission factor and fuel usage records for each month of generator operation. Monthly SO₂ emissions shall be calculated using the following equation:

$$E = \frac{GH(EF_{fo}) \left(1.341 \frac{\text{hp}}{\text{kw}} \right)}{2000}$$

Where:

E = Monthly SO₂ emissions (tons)
 G = Generating capacity of diesel generator (kW);
 H = Monthly hours of operation for diesel generator (hrs/month);
 EF_{fo} = Applicable fuel oil emission factor (i.e., 2.05 x 10⁻³ lb SO₂/hp-hr).

- 6.2.18 The Permittee shall use the records of monthly SO₂ emissions required in Condition Nos. 6.2.16 and 6.2.17 to calculate the facility-wide monthly and twelve consecutive month total SO₂ emissions. The twelve consecutive month total shall be calculated each month by adding that month's SO₂ emissions to the monthly SO₂ emission from the previous eleven months. The Permittee shall notify the Division in writing if the SO₂ emissions for the facility exceed 8.3 tons during any calendar month or 100 tons during any twelve consecutive month period. This notification shall be postmarked by the thirtieth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the annual limit stated in Condition No. 2.1.2. Records of SO₂ emissions (including calculations) shall be kept available for inspection or submittal either in written or electronic form for a period of five years from the date of record.

[PSD Avoidance – 40 CFR 52.21; 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

Verification of Compliance with Operational Limits for Stationary IC Engines

- 6.2.19 The Permittee shall use the hour meters required by Condition Nos. 5.2.2e to determine and record the following:
[Nonattainment NSR Avoidance, 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]
- a. The net operating hours for each emergency generator in Emission Unit Group EM01 during every calendar month.
 - b. The net operating hours for cooling pump engine CPE1 during every calendar month.
 - c. The total operating hours for each emergency generator in Emission Unit Group EM01 for the twelve consecutive month period ending with each calendar month.
 - d. The total operating hours for cooling pump engine CPE1 for the twelve consecutive month period ending with each calendar month.

Verification of Compliance with Net Emissions Increase Limit

- 6.2.20 The Permittee shall maintain a record available and suitable for inspection or submittal which shall contain the facility-wide net emissions increase of NO_x and VOC for each five consecutive calendar year period that ends during the term of this Permit. The Permittee shall include, as part of these records, the following information: (1) Description of each added and shutdown/removed emission unit; (2) Date unit is added or shutdown/removed; (3) the unit's Emission Unit ID No. and facility location; (4) the potential NO_x and VOC emissions for each added emission unit; and (5) the actual NO_x and VOC emissions for each unit shutdown/removed, where actual emissions is as defined in 40 CFR 52.21(b). In addition, the Permittee shall submit these records to the Division annually. The report shall be postmarked no later than January 30 following the calendar year of record.
[Nonattainment NSR Avoidance, 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

Other Reporting Requirements

- 6.2.21 The Permittee shall submit a report of the following information for each semiannual period ending June 30 and December 31 of each year. The reports shall be postmarked by the 30th day following the end of the quarterly period (July 30 and January 30, respectively).
[PSD/NSR Avoidance – 40 CFR 52.21 and 40 CFR 60.7]
- a. Hours of operation for each of the following emission units: emergency generators in Emission Unit Group EM01, and cooling pump engine CPE1. This information shall include each month of the semiannual reporting period required by Condition No. 6.1.4.
 - b. The rolling twelve-month total of hours of operation for each emergency generator in Emission Unit Group EM01 and the cooling pump engine CPE1 for each month in the semiannual reporting period.
 - c. The rolling twelve-month total of facility-wide NO_x emissions for each month in the semiannual reporting period.
 - d. The rolling twelve-month total facility-wide SO₂ emissions for each month in the semiannual reporting period.

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- e. The rolling twelve-month total NO_x emissions for boilers in Emission Unit Group BG02, on a combined basis, for each month in the semiannual reporting period.
 - f. Certification by a Responsible Official that all distillate fuel oil combusted in boilers in Emission Unit Groups BG01 and BG02 does not contain more than 0.5 percent sulfur by weight.
 - g. Certification by a Responsible Official that all fuel combusted in emergency generator in Emission Unit Group EM01 does not contain more than 2.5 percent sulfur by weight.
- 6.2.22 The Permittee shall submit any notifications and/or any applications as required per 40 CFR 63.50 through 63.56 [implements Section 112(j) of the CAA] pertaining to the boilers and reciprocating internal combustion engines (RICE) provided that the US EPA does not do either one of the following prior to the applicable deadlines:
[40 CFR 63.50 through 63.56]
- a. Promulgate a standard for such emission unit(s) per Section 112(d) of the Clean Air Act, or
 - b. Delist the emission unit(s) source category from the list that is specified per Section 112(c) of the CAA.
- 6.2.23 The Permittee shall furnish the Division written notification as to the actual date of initial startup of following equipment within 15 days after such date. For the purposes of this permit, “startup” shall mean the setting in operation of a source for its intended purpose.
[391-3-1-.03(10)(d)1(i)]

Process	Unit I.D.'s
Premise cable	PC18, PC24 through PC31
Ribbon line	RL15 through RL21, and RL26 through RL39
Sheathing line	SH17 through SH21
Draw towers	UT13 through UT36
Post draw lines	PD44 through PD56, PD56 through PD76
MCVD lathes	L139 through L198
Apparatus	AP01, AP02, AP03, AP04
RIT Etch	RT03 through RT40
Control equipment	LAC6, LAC7, VAC4
Chemical Deposition	VA04, VA05

- 6.2.24 The Permittee shall submit the following information within 90 days of the effective date of this permit as it relates to the installation and operation of low NO_x burners in boilers with boilers B001, B002 and B003. This information will be used to determine if the installation and operation of these burners constitutes a “modification” under New Source Review and thereby subjecting these boilers to additional permit requirements:
[Nonattainment NSR Avoidance and 391-3-1-.03(2)(c)]
- a. Documentation describing, if applicable, how the installation and operation of a low NO_x burners in boilers B001, B002, and B003 is environmentally beneficial. For purposes of this condition, the term “environmentally beneficial” is defined in a July 1, 1994 U.S. EPA

Memorandum entitled, Pollution Control Projects and New Source Review (NSR) Applicability.

- b. Documentation that any resulting increase in a regulated criteria air pollutant's short term emission rate (i.e., lb/hr) resulting from the operation of each retrofitted boiler will not cause or contribute to a violation of applicable NAAQS or PSD increment limitation or standard.

6.2.25 The Permittee shall submit documentation to the Division within 90 days of the effective date of this permit which contains the facility-wide net emissions increase of NO_x and VOC for the following five-consecutive calendar year periods: (1) 1998 through 2002, and (2) 1999 through 2003. The Permittee shall include, as part of these records, the following information: (1) Description of each added and shutdown/removed emission unit; (2) Date unit is added, shutdown, and/or removed; (3) the unit's Emission Unit ID No. and location within in the facility; (4) the potential NO_x and VOC emissions for each added emission unit; and (5) the actual NO_x and VOC emissions for each unit shutdown and/or removed, where actual emissions is as defined in 40 CFR 52.21(b).

[Nonattainment NSR Avoidance, 391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

PART 7.0 OTHER SPECIFIC REQUIREMENTS**7.1 Operational Flexibility**

- 7.1.1 The Permittee may make Section 502(b)(10) changes as defined in 40 CFR 70.2 without requiring a Permit revision, if the changes are not modifications under any provisions of Title I of the Federal Act and the changes do not exceed the emissions allowable under the Permit (whether expressed therein as a rate of emissions or in terms of total emissions). For each such change, the Permittee shall provide the Division and the EPA with written notification as required below in advance of the proposed changes and shall obtain any Permits required under Rules 391-3-1-.03(1) and (2). The Permittee and the Division shall attach each such notice to their copy of this Permit.
[391-3-1-.03(10)(b)5 and 40 CFR 70.4(b)(12)(i)]
- a. For each such change, the Permittee's written notification and application for a construction Permit shall be submitted well in advance of any critical date (typically at least 90 days in advance of any commencement of construction, Permit issuance date, etc.) involved in the change, but no less than seven (7) days in advance of such change and shall include a brief description of the change within the Permitted facility, the date on which the change is proposed to occur, any change in emissions, and any Permit term or condition that is no longer applicable as a result of the change.
 - b. The Permit shield described in Condition 8.16.1 shall not apply to any change made pursuant to this condition.

7.2 Off-Permit Changes

- 7.2.1 The Permittee may make changes that are not addressed or prohibited by this Permit, other than those described in Condition 7.2.2 below, without a Permit revision, provided the following requirements are met:
[391-3-1-.03(10)(b)6 and 40 CFR 70.4(b)(14)]
- a. Each such change shall meet all applicable requirements and shall not violate any existing Permit term or condition.
 - b. The Permittee must provide contemporaneous written notice to the Division and to the EPA of each such change, except for changes that qualify as insignificant under Rule 391-3-1-.03(10)(g). Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.
 - c. The change shall not qualify for the Permit shield in Condition 8.16.1.
 - d. The Permittee shall keep a record describing changes made at the source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the Permit, and the emissions resulting from those changes.
 - e. The source shall obtain any Permits required under Rules 391-3-1-.03(1) and (2).

- 7.2.2 The Permittee shall not make, without a Permit revision, any changes that are not addressed or prohibited by this Permit, if such changes are subject to any requirements under Title IV of the Federal Act or are modifications under any provision of Title I of the Federal Act.
[Rule 391-3-1-.03(10)(b)7 and 40 CFR 70.4(b)(15)]

7.3 Alternative Requirements

[White Paper #2]

Not Applicable.

7.4 Insignificant Activities

(see Attachment B for the list of Insignificant Activities in existence at the facility at the time of permit issuance)

7.5 Temporary Sources

[391-3-1-.03(10)(d)5 and 40 CFR 70.6(e)]

Not Applicable.

7.6 Short-term Activities

(see Section 4.40 of Permit application and White Paper #1)

Not Applicable.

7.7 Compliance Schedule/Progress Reports

[391-3-1-.03(10)(d)3 and 40 CFR 70.6(c)(4)]

Not Applicable.

7.8 Emissions Trading

[391-3-1-.03(10)(d)1(ii) and 40 CFR 70.6(a)(10)]

Not Applicable.

7.9 Acid Rain Requirements

Not Applicable.

7.10 Prevention of Accidental Releases (Section 112(r) of the 1990 CAAA)

[391-3-1-.02(10)]

- 7.10.1 When and if the requirements of 40 CFR Part 68 become applicable, the Permittee shall comply with all applicable requirements of 40 CFR Part 68, including the following.
- a. The Permittee shall submit a Risk Management Plan (RMP) as provided in 40 CFR Part 68.150 through 68.185. The RMP shall include a registration that reflects all covered processes.
 - b. For processes eligible for Program 1, as provided in 40 CFR 68.10, the Permittee shall comply with 7.10.1.a. and the following additional requirements:

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- i. Analyze the worst-case release scenario for the process(es), as provided in 40 CFR 68.25; document that the nearest public receptor is beyond the distance to a toxic or flammable endpoint defined in 40 CFR 68.22(a); and submit in the RMP the worst-case release scenario as provided in 40 CFR 68.165.
 - ii. Complete the five-year accident history for the process as provided in 40 CFR 68.42 and submit in the RMP as provided in 40 CFR 68.168
 - iii. Ensure that response actions have been coordinated with local emergency planning and response agencies
 - iv. Include a certification in the RMP as specified in specified in 40 CFR 68.12(b)(4)
- c. For processes subject to Program 2, as provided in 40 CFR 68.10, the Permittee shall comply with 7.10.1.a., 7.10.1.b. and the following additional requirements:
 - i. Develop and implement a management system as provided in 40 CFR 68.15
 - ii. Conduct a hazard assessment as provided in 40 CFR 68.20 through 68.42
 - iii. Implement the Program 2 prevention steps provided in 40 CFR 68.48 through 68.60 or implement the Program 3 prevention steps provided in 40 CFR 68.65 through 68.87
 - iv. Develop and implement an emergency response program as provided in 40 CFR 68.90 through 68.95
 - v. Submit as part of the RMP the data on prevention program elements for Program 2 processes as provided in 40 CFR 68.170
- d. For processes subject to Program 3, as provided in 40 CFR 68.10, the Permittee shall comply with 7.10.1.a., 7.10.1.b. and the following additional requirements:
 - i. Develop and implement a management system as provided in 40 CFR 68.15
 - ii. Conduct a hazard assessment as provided in 40 CFR 68.20 through 68.42
 - iii. Implement the prevention requirements of 40 CFR 68.65 through 68.87
 - iv. Develop and implement an emergency response program as provided in 40 CFR 68.90 through 68.95
 - v. Submit as part of the RMP the data on prevention program elements for Program 3 as provided in 40 CFR 68.175
- e. All reports and notification required by 40 CFR Part 68 must be submitted electronically (e.g., diskette or compact disc) to:

**Attention: RMP*Submit
RMP Reporting Center
P.O. Box 3346
Merrifield, VA 22116-3346**

Compliance with all requirements of this condition, including the registration and submission of the RMP, shall be included as part of the compliance certification submitted in accordance with Condition 8.14.1.

7.11 Stratospheric Ozone Protection Requirements (Title VI of the CAAA of 1990)

- 7.11.1 If the Permittee performs any of the activities described below or as otherwise defined in 40 CFR Part 82, the Permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for motor vehicle air conditioners (MVACs) in Subpart B:
- Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
 - Equipment used during the maintenance, service, repair, or disposal of appliance must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.
 - Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.
 - Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with record keeping requirements pursuant to 40 CFR 82.166.
[Note: "MVAC-like appliance" is defined in 40 CFR 82.152.]
 - Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to 40 CFR 82.156.
 - Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.
- 7.11.2 If the Permittee performs a service on motor (fleet) vehicles and if this service involves an ozone-depleting substance (refrigerant) in the MVAC, the Permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include air-tight sealed refrigeration systems used for refrigerated cargo, or air conditioning systems on passenger buses using HCFC-22 refrigerant.

7.12 Revocation of Existing Permits and Amendments

The following Air Quality Permits and Amendments are hereby revoked:

Air Quality Permit Number(s)	Dates of Original Permit Issuance or Amendment
3357-067-12538	8/27/97, amended 6/19/98, 12/3/98 and 3/22/99

7.13 Pollution Prevention

Not Applicable.

7.14 Specific Conditions

None applicable.

PART 8.0 GENERAL PROVISIONS**8.1 Terms and References**

- 8.1.1 Terms not otherwise defined in the Permit shall have the meaning assigned to such terms in the referenced regulation.
- 8.1.2 Where more than one condition in this Permit applies to an emission unit and/or the entire facility, each condition shall apply and the most stringent condition shall take precedence.
[391-3-1-.02(2)(a)2]

8.2 EPA Authorities

- 8.2.1 Except as identified as “State-only enforceable” requirements in this Permit, all terms and conditions contained herein shall be enforceable by the EPA and citizens under the Clean Air Act, as amended, 42 U.S.C. 7401, et seq.
[40 CFR 70.6(b)(1)]
- 8.2.2 Nothing in this Permit shall alter or affect the authority of the EPA to obtain information pursuant to 42 U.S.C. 7414, “Inspections, Monitoring, and Entry.”
[40 CFR 70.6(f)(3)(iv)]
- 8.2.3 Nothing in this Permit shall alter or affect the authority of the EPA to impose emergency orders pursuant to 42 U.S.C. 7603, “Emergency Powers.”
[40 CFR 70.6(f)(3)(i)]

8.3 Duty to Comply

- 8.3.1 The Permittee shall comply with all conditions of this operating Permit. Any Permit noncompliance constitutes a violation of the Federal Clean Air Act and the Georgia Air Quality Act and/or State rules and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a Permit renewal application. Any noncompliance with a Permit condition specifically designated as enforceable only by the State constitutes a violation of the Georgia Air Quality Act and/or State rules only and is grounds for enforcement action; for Permit termination, revocation and reissuance, or modification; or for denial of a Permit renewal application.
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(6)(i)]
- 8.3.2 The Permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the Permitted activity in order to maintain compliance with the conditions of this Permit.
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(6)(ii)]
- 8.3.3 Nothing in this Permit shall alter or affect the liability of the Permittee for any violation of applicable requirements prior to or at the time of Permit issuance.
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(f)(3)(ii)]
- 8.3.4 Issuance of this Permit does not relieve the Permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Director or any other federal, state, or local agency.
[391-3-1-.03(10)(e)1(iv) and 40 CFR 70.7(a)(6)]

8.4 Fee Assessment and Payment

- 8.4.1 The Permittee shall calculate and pay an annual Permit fee to the Division. The amount of fee shall be determined each year in accordance with the “Procedures for Calculating Air Permit Fees.”
[391-3-1-.03(9)]

8.5 Permit Renewal and Expiration

- 8.5.1 This Permit shall remain in effect for five (5) years from the effective date. The Permit shall become null and void after the expiration date unless a timely and complete renewal application has been submitted to the Division at least six (6) months, but no more than eighteen (18) months prior to the expiration date of the Permit.
[391-3-1-.03(10)(d)1(i), (e)2, and (e)3(ii) and 40 CFR 70.5(a)(1)(iii)]
- 8.5.2 Permits being renewed are subject to the same procedural requirements, including those for public participation and affected State and EPA review, that apply to initial Permit issuance.
[391-3-1-.03(10)(e)3(i)]
- 8.5.3 Notwithstanding the provisions in 8.5.1 above, if the Division has received a timely application for renewal, deemed it administratively complete, and failed to reissue the Permit for reasons other than cause, authorization to operate shall continue beyond the expiration date to the point of Permit modification, reissuance, or revocation.
[391-3-1-.03(10)(e)3(iii)]

8.6 Transfer of Ownership or Operation

- 8.6.1 This Permit is not transferable by the Permittee. Future owners and operators shall obtain a new Permit from the Director. The new Permit may be processed as an administrative amendment if no other change in this Permit is necessary, and provided that a written agreement containing a specific date for transfer of Permit responsibility coverage and liability between the current and new Permittee has been submitted to the Division at least thirty (30) days in advance of the transfer.
[391-3-1-.03(4)]

8.7 Property Rights

- 8.7.1 This Permit shall not convey property rights of any sort, or any exclusive privileges.
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(6)(iv)]

8.8 Submissions

- 8.8.1 Reports, test data, monitoring data, notifications, annual certifications, and requests for revision and renewal shall be submitted to:

**Georgia Department of Natural Resources
Environmental Protection Division
Air Protection Branch
Atlanta Tradeport, Suite 120
4244 International Parkway
Atlanta, Georgia 30354-3908**

- 8.8.2 Any records, compliance certifications, and monitoring data required by the provisions in this Permit to be submitted to the EPA shall be sent to:

**Air and EPCRA Enforcement Branch
U. S. EPA Region 4
61 Forsyth Street
Atlanta, Georgia 30303**

- 8.8.3 Any application form, report, or compliance certification submitted pursuant to this Permit shall contain a certification by a responsible official of its truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
[391-3-1-.03(10)(c)2, 40 CFR 70.5(d) and 40 CFR 70.6(c)(1)]
- 8.8.4 Unless otherwise specified, all submissions under this permit shall be submitted to the Division only.

8.9 Duty to Provide Information

- 8.9.1 The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the Permit application, shall promptly submit such supplementary facts or corrected information to the Division.
[391-3-1-.03(10)(c)5]
- 8.9.2 The Permittee shall furnish to the Division, in writing, information that the Division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the Permit, or to determine compliance with the Permit. Upon request, the Permittee shall also furnish to the Division copies of records that the Permittee is required to keep by this Permit or, for information claimed to be confidential, the Permittee may furnish such records directly to the EPA, if necessary, along with a claim of confidentiality.
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(6)(v)]

8.10 Modifications

- 8.10.1 Prior to any source commencing a modification as defined in 391-3-1-.01(pp) that may result in air pollution and not exempted by 391-3-1-.03(6), the Permittee shall submit a Permit application to the Division. The application shall be submitted sufficiently in advance of any critical date involved to allow adequate time for review, discussion, or revision of plans, if necessary. Such application shall include, but not be limited to, information describing the precise nature of the change, modifications to any emission control system, production capacity of the plant before and after the change, and the anticipated completion date of the change. The application shall be in the form of a Georgia air quality Permit application to construct or modify (otherwise known as a SIP application) and shall be submitted on forms supplied by the Division, unless otherwise notified by the Division.
[391-3-1-.03(1) through (8)]

8.11 Permit Revision, Revocation, Reopening and Termination

- 8.11.1 This Permit may be revised, revoked, reopened and reissued, or terminated for cause by the Director. The Permit will be reopened for cause and revised accordingly under the following circumstances:
[391-3-1-.03(10)(d)1(i)]
- a. If additional applicable requirements become applicable to the source and the remaining Permit term is one (1) year or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the Permit is due to expire;
[391-3-1-.03(10)(e)6(i)(I)]
 - b. If any additional applicable requirements of the Acid Rain Program become applicable to the source;
[391-3-1-.03(10)(e)6(i)(II)] (Acid Rain sources only)
 - c. The Director determines that the Permit contains a material mistake or inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Permit; or
[391-3-1-.03(10)(e)6(i)(III) and 40 CFR 70.7(f)(1)(iii)]
 - d. The Director determines that the Permit must be revised or revoked to assure compliance with the applicable requirements.
[391-3-1-.03(10)(e)6(i)(IV) and 40 CFR 70.7(f)(1)(iv)]
- 8.11.2 Proceedings to reopen and reissue a Permit shall follow the same procedures as applicable to initial Permit issuance and shall affect only those parts of the Permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable.
[391-3-1-.03(10)(e)6(ii)]
- 8.11.3 Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the Director at least thirty (30) days in advance of the date the Permit is to be reopened, except that the Director may provide a shorter time period in the case of an emergency.
[391-3-1-.03(10)(e)6(iii)]
- 8.11.4 All Permit conditions remain in effect until such time as the Director takes final action. The filing of a request by the Permittee for any Permit revision, revocation, reissuance, or termination, or of a notification of planned changes or anticipated noncompliance, shall not stay any Permit condition.
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(6)(iii)]
- 8.11.5 **State Only Enforceable Condition.**
At any time that the Director determines that additional control of emissions from the facility may reasonably be needed to provide for the continued protection of public health, safety and welfare, the Director reserves the right to amend the provisions of this Permit pursuant to the Director's authority as established in the Georgia Air Quality Act and the rules adopted pursuant to that Act.
[391-3-1-.02(2)(a)3]
- 8.11.6 A Permit revision shall not be required for changes that are explicitly authorized by the conditions of this Permit.

- 8.11.7 A Permit revision shall not be required for changes that are part of an approved economic incentive, marketable Permit, emission trading, or other similar program or process for change which is specifically provided for in this Permit.
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(8)]

8.12 Severability

- 8.12.1 Any condition or portion of this Permit which is challenged, becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this Permit.
[391-3-1-.03(10)(d)1(i) and 40 CFR 70.6(a)(5)]

8.13 Excess Emissions Due to an Emergency

- 8.13.1 An “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the Permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
[391-3-1-.03(10)(d)7 and 40 CFR 70.6(g)(1)]
- 8.13.2 An emergency shall constitute an affirmative defense to an action brought for noncompliance with the technology-based emission limitations if the Permittee demonstrates, through properly signed contemporaneous operating logs or other relevant evidence, that:
[391-3-1-.03(10)(d)7 and 40 CFR 70.6(g)(2) and (3)]
- a. An emergency occurred and the Permittee can identify the cause(s) of the emergency;
 - b. The Permitted facility was at the time of the emergency being properly operated;
 - c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in the Permit; and
 - d. The Permittee promptly notified the Division and submitted written notice of the emergency to the Division within two (2) working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.
- 8.13.3 In an enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency shall have the burden of proof.
[391-3-1-.03(10)(d)7 and 40 CFR 70.6(g)(4)]
- 8.13.4 The emergency conditions listed above are in addition to any emergency or upset provisions contained in any applicable requirement.
[391-3-1-.03(10)(d)7 and 40 CFR 70.6(g)(5)]

8.14 Compliance Requirements

8.14.1 Compliance Certification

The Permittee shall provide written certification to the Division and to the EPA, at least annually, of compliance with the conditions of this Permit. The annual written certification shall be postmarked no later than January 30 of each year and shall be submitted to the Division and to the EPA. The certification shall include, but not be limited to, the following elements:

[391-3-1-.03(10)(d)3 and 40 CFR 70.6(c)(5)]

- a. The identification of each term or condition of the Permit that is the basis of the certification;
- b. The status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the method or means designated in paragraph c below. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred;
- c. The identification of the method(s) or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period and whether such methods or other means provide continuous or intermittent data;
- d. Any other information that must be included to comply with section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information; and
- e. Any additional requirements specified by the Division.

8.14.2 Inspection and Entry

- a. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow authorized representatives of the Division to perform the following:
[391-3-1-.03(10)(d)3 and 40 CFR 70.6(c)(2)]
 - i. Enter upon the Permittee's premises where a Part 70 source is located or an emissions-related activity is conducted, or where records must be kept under the conditions of this Permit;
 - ii. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;
 - iii. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this Permit; and
 - iv. Sample or monitor any substances or parameters at any location during operating hours for the purpose of assuring Permit compliance or compliance with applicable requirements as authorized by the Georgia Air Quality Act.
- b. No person shall obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for Permit revocation and assessment of civil penalties.
[391-3-1-.07 and 40 CFR 70.11(a)(3)(i)]

8.14.3 Schedule of Compliance

- a. For applicable requirements with which the Permittee is in compliance, the Permittee shall continue to comply with those requirements.
[391-3-1-.03(10)(c)2 and 40 CFR 70.5(c)(8)(iii)(A)]
- b. For applicable requirements that become effective during the Permit term, the Permittee shall meet such requirements on a timely basis unless a more detailed schedule is expressly required by the applicable requirement.
[391-3-1-.03(10)(c)2 and 40 CFR 70.5(c)(8)(iii)(B)]
- c. Any schedule of compliance for applicable requirements with which the source is not in compliance at the time of Permit issuance shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based.
[391-3-1-.03(10)(c)2 and 40 CFR 70.5(c)(8)(iii)(C)]

8.15 Circumvention**8.15.1 State Only Enforceable Condition.**

The Permittee shall not build, erect, install, or use any article, machine, equipment or process the use of which conceals an emission which would otherwise constitute a violation of an applicable emission standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of the pollutants in the gases discharged into the atmosphere.

[391-3-1-.03(2)(c)]

8.16 Permit Shield

- 8.16.1 Compliance with the terms of this Permit shall be deemed compliance with all applicable requirements as of the date of Permit issuance provided that all applicable requirements are included and specifically identified in the Permit.

[391-3-1-.03(10)(d)6]

- 8.16.2 Any Permit condition identified as “State only enforceable” does not have a Permit shield.

8.17 Operational Practices

- 8.17.1 At all times, including periods of startup, shutdown, and malfunction, the Permittee shall maintain and operate the source, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on any information available to the Division that may include, but is not limited to, monitoring results, observations of the opacity or other characteristics of emissions, review of operating and maintenance procedures or records, and inspection or surveillance of the source.

[391-3-1-.02(2)(a)10]

- 8.17.2 No person owning, leasing, or controlling, the operation of any air contaminant sources shall willfully, negligently or through failure to provide necessary equipment or facilities or to take necessary precautions, cause, permit, or allow the emission from said air contamination source or sources, of such quantities of air contaminants as will cause, or tend to cause, by themselves, or in conjunction with other air contaminants, a condition of air pollution in quantities or characteristics or of a duration which is injurious or which unreasonably interferes with the enjoyment of life or use of property in such area of the State as is affected thereby. Complying with Georgia's Rules for Air Quality Control Chapter 391-3-1 and Conditions in this Permit, shall in no way exempt a person from this provision.
[391-3-1-.02(2)(a)1]

8.18 Visible Emissions

- 8.18.1 Except as may be provided in other provisions of this Permit, the Permittee shall not cause, let, suffer, permit or allow emissions from any air contaminant source the opacity of which is equal to or greater than forty (40) percent.
[391-3-1-.02(2)(b)1]

8.19 Fuel-burning Equipment

- 8.19.1 The Permittee shall not cause, let, suffer, permit, or allow the emission of fly ash and/or other particulate matter from any fuel-burning equipment with rated heat input capacity of less than 10 million Btu per hour, in operation or under construction on or before January 1, 1972 in amounts equal to or exceeding 0.7 pounds per million BTU heat input.
[391-3-1-.02(2)(d)]
- 8.19.2 The Permittee shall not cause, let, suffer, permit, or allow the emission of fly ash and/or other particulate matter from any fuel-burning equipment with rated heat input capacity of less than 10 million Btu per hour, constructed after January 1, 1972 in amounts equal to or exceeding 0.5 pounds per million BTU heat input.
[391-3-1-.02(2)(d)]
- 8.19.3 The Permittee shall not cause, let, suffer, permit, or allow the emission from any fuel-burning equipment constructed or extensively modified after January 1, 1972, visible emissions the opacity of which is equal to or greater than twenty (20) percent except for one six minute period per hour of not more than twenty-seven (27) percent opacity.
[391-3-1-.02(2)(d)]

8.20 Sulfur Dioxide

- 8.20.1 Except as may be specified in other provisions of this Permit, the Permittee shall not burn fuel containing more than 2.5 percent sulfur, by weight, in any fuel burning source that has a heat input capacity below 100 million Btu's per hour.
[391-3-1-.02(2)(g)]

8.21 Particulate Emissions

8.21.1 Except as may be specified in other provisions of this Permit, the Permittee shall not cause, let, permit, suffer, or allow the rate of emission from any source, particulate matter in total quantities equal to or exceeding the allowable rates shown below. Equipment in operation, or under construction contract, on or before July 2, 1968, shall be considered existing equipment. All other equipment put in operation or extensively altered after said date is to be considered new equipment. [391-3-1-.02(2)(e)]

- a. The following equations shall be used to calculate the allowable rates of emission from new equipment:

$$E = 4.1P^{0.67}; \text{ for process input weight rate up to and including 30 tons per hour.}$$
$$E = 55P^{0.11} - 40; \text{ for process input weight rate above 30 tons per hour.}$$

- b. The following equation shall be used to calculate the allowable rates of emission from existing equipment:

$$E = 4.1P^{0.67}$$

In the above equations, E = emission rate in pounds per hour, and
P = process input weight rate in tons per hour.

8.22 Fugitive Dust

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

8.22.1 Except as may be specified in other provisions of this Permit, the Permittee shall take all reasonable precautions to prevent dust from any operation, process, handling, transportation or storage facility from becoming airborne. Reasonable precautions that could be taken to prevent dust from becoming airborne include, but are not limited to, the following:

- a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;
- b. Application of asphalt, water, or suitable chemicals on dirt roads, materials, stockpiles, and other surfaces that can give rise to airborne dusts;
- c. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods can be employed during sandblasting or other similar operations;
- d. Covering, at all times when in motion, open bodied trucks, transporting materials likely to give rise to airborne dusts; and
- e. The prompt removal of earth or other material from paved streets onto which earth or other material has been deposited.

8.22.2 The opacity from any fugitive dust source shall not equal or exceed 20 percent.

8.23 Use of Any Credible Evidence or Information

- 8.23.1 Notwithstanding any other provisions of any applicable rule or regulation or requirement of this permit, for the purpose of submission of compliance certifications or establishing whether or not a person has violated or is in violation of any emissions limitation or standard, nothing in this permit or any Emission Limitation or Standard to which it pertains, shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.
[391-3-1-.02(3)(a)]

Attachments

- A. List of Standard Abbreviations and List of Permit Specific Abbreviations
- B. Insignificant Activities Checklist, Insignificant Activities Based on Emission Levels and Generic Emission Groups
- C. List of References

ATTACHMENT A

List Of Standard Abbreviations

AIRS	Aerometric Information Retrieval System
APCD	Air Pollution Control Device
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
BTU	British Thermal Unit
CAAA	Clean Air Act Amendments
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
CMS	Continuous Monitoring System(s)
CO	Carbon Monoxide
COM	Continuous Opacity Monitor
dscf / dscm	Dry Standard Cubic Foot / Dry Standard Cubic Meter
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
gr	Grain(s)
GPM (gpm)	Gallons per minute
H ₂ O (H ₂ O)	Water
HAP	Hazardous Air Pollutant
HCFC	Hydro-chloro-fluorocarbon
MACT	Maximum Achievable Control Technology
MMBtu	Million British Thermal Units
MMBtu/hr	Million British Thermal Units per hour
MVAC	Motor Vehicle Air Conditioner
MW	Megawatt
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO _x (NO _x)	Nitrogen Oxides
NSPS	New Source Performance Standards
OCGA	Official Code of Georgia Annotated
PM	Particulate Matter
PM ₁₀ (PM ₁₀)	Particulate Matter less than 10 micrometers in diameter
PPM (ppm)	Parts per Million
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
RMP	Risk Management Plan
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO ₂ (SO ₂)	Sulfur Dioxide
USC	United States Code
VE	Visible Emissions
VOC	Volatile Organic Compound

List of Permit Specific Abbreviations

Cl	Chlorine
HF	Hydrofluoric acid
HCl	Hydrochloric acid
MSDS	Material Safety Data Sheets
MCVD	Modified Chemical Vapor Deposition

Title V Draft Permit

OFS BrightWave Solutions, Inc.

Permit No.: 3357-135-0010-V-01-0

ATTACHMENT B

NOTE: Attachment B contains information regarding insignificant emission units/activities and groups of generic emission units/activities in existence at the facility at the time of Permit issuance. Future modifications or additions of insignificant emission units/activities and equipment that are part of generic emissions groups may not necessarily cause this attachment to be updated.

INSIGNIFICANT ACTIVITIES CHECKLIST

Category	Description of Insignificant Activity/Unit	Quantity
Mobile Sources	1. Cleaning and sweeping of streets and paved surfaces	x
Combustion Equipment	1. Fire fighting and similar safety equipment used to train fire fighters or other emergency personnel.	x
	2. Small incinerators that are not subject to any standard, limitation or other requirement under Section 111 or 112 (excluding 112(r)) of the Federal Act and are not considered a "designated facility" as specified in 40 CFR 60.32e of the Federal emissions guidelines for Hospital/Medical/Infectious Waste Incinerators, that are operating as follows:	
	i) Less than 8 million BTU/hr heat input, firing types 0, 1, 2, and/or 3 waste.	
	ii) Less than 8 million BTU/hr heat input with no more than 10% pathological (type 4) waste by weight combined with types 0, 1, 2, and/or 3 waste.	
	iii) Less than 4 million BTU/hr heat input firing type 4 waste. (Refer to 391-3-1-.03(10)(g)2.(ii) for descriptions of waste types)	
	3. Open burning in compliance with Georgia Rule 391-3-1-.02 (5).	x
	4. Stationary engines burning:	
	i) Natural gas, LPG, gasoline, dual fuel, or diesel fuel which are used exclusively as emergency generators;	4
	ii) Natural gas, LPG, and/or diesel fueled generators used for emergency, peaking, and/or standby power generation, where the combined peaking and standby power generation do not exceed 200 hours per year.	
	iii) Natural gas, LPG, and/or diesel fuel used for other purposes, provided that the output of each engine does not exceed 400 horsepower and that no individual engine operates for more than 2,000 hours per year.	2
	iv) Gasoline used for other purposes, provided that the output of each engine does not exceed 100 horsepower and that no individual engine operates for more than 500 hours per year.	
Trade Operations	1. Brazing, soldering, and welding equipment, and cutting torches related to manufacturing and construction activities whose emissions of hazardous air pollutants (HAPs) fall below 1,000 pounds per year.	30
Maintenance, Cleaning, and Housekeeping	1. Blast-cleaning equipment using a suspension of abrasive in water and any exhaust system (or collector) serving them exclusively.	
	2. Portable blast-cleaning equipment.	2
	3. Non-Perchloroethylene Dry-cleaning equipment with a capacity of 100 pounds per hour or less of clothes.	
	4. Cold cleaners having an air/vapor interface of not more than 10 square feet and that do not use a halogenated solvent.	6
	5. Non-routine clean out of tanks and equipment for the purposes of worker entry or in preparation for maintenance or decommissioning.	x
	6. Devices used exclusively for cleaning metal parts or surfaces by burning off residual amounts of paint, varnish, or other foreign material, provided that such devices are equipped with afterburners.	
	7. Cleaning operations: Alkaline phosphate cleaners and associated cleaners and burners.	

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INSIGNIFICANT ACTIVITIES CHECKLIST

Category	Description of Insignificant Activity/Unit	Quantity
Laboratories and Testing	1. Laboratory fume hoods and vents associated with bench-scale laboratory equipment used for physical or chemical analysis.	47
	2. Research and development facilities, quality control testing facilities and/or small pilot projects, where combined daily emissions from all operations are not individually major or are support facilities not making significant contributions to the product of a collocated major manufacturing facility.	14
Pollution Control	1. Sanitary waste water collection and treatment systems, except incineration equipment or equipment subject to any standard, limitation or other requirement under Section 111 or 112 (excluding 112(r)) of the Federal Act..	
	2. On site soil or groundwater decontamination units that are not subject to any standard, limitation or other requirement under Section 111 or 112 (excluding 112(r)) of the Federal Act.	
	3. Bioremediation operations units that are not subject to any standard, limitation or other requirement under Section 111 or 112 (excluding 112(r)) of the Federal Act.	
	4. Landfills that are not subject to any standard, limitation or other requirement under Section 111 or 112 (excluding 112(r)) of the Federal Act.	
Industrial Operations	1. Concrete block and brick plants, concrete products plants, and ready mix concrete plants producing less than 125,000 tons per year.	
	2. Any of the following processes or process equipment which are electrically heated or which fire natural gas, LPG or distillate fuel oil at a maximum total heat input rate of not more than 5 million BTU's per hour:	6
	i) Furnaces for heat treating glass or metals, the use of which do not involve molten materials or oil-coated parts.	
	ii) Porcelain enameling furnaces or porcelain enameling drying ovens.	
	iii) Kilns for firing ceramic ware.	
	iv) Crucible furnaces, pot furnaces, or induction melting and holding furnaces with a capacity of 1,000 pounds or less each, in which sweating or distilling is not conducted and in which fluxing is not conducted utilizing free chlorine, chloride or fluoride derivatives, or ammonium compounds.	
	v) Bakery ovens and confection cookers.	
	3. Carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, shot blasting, shot peening, or polishing; ceramics, glass, leather, metals, plastics, rubber, concrete, paper stock or wood, also including roll grinding and ground wood pulping stone sharpening, provided that:	9
	i) Activity is performed indoors; &	
	ii) No significant fugitive particulate emissions enter the environment; &	
	iii) No visible emissions enter the outdoor atmosphere.	
	4. Photographic process equipment by which an image is reproduced upon material sensitized to radiant energy (e.g., blueprint activity, photographic developing and microfiche).	
	5. Grain, food, or mineral extrusion processes	
	6. Equipment used exclusively for sintering of glass or metals, but not including equipment used for sintering metal-bearing ores, metal scale, clay, fly ash, or metal compounds.	19
	7. Equipment for the mining and screening of uncrushed native sand and gravel.	
	8. Ozonization process or process equipment.	
	9. Electrostatic powder coating booths with an appropriately designed and operated particulate control system.	
	10. Activities involving the application of hot melt adhesives where VOC emissions are less than 5 tons per year and HAP emissions are less than 1,000 pounds per year.	
	11. Equipment used exclusively for the mixing and blending water-based adhesives and coatings at ambient temperatures.	
	12. Equipment used for compression, molding and injection of plastics where VOC emissions are less than 5 tons per year and HAP emissions are less than 1,000 pounds per year.	
	13. Ultraviolet curing processes where VOC emissions are less than 5 tons per year and HAP emissions are less than 1,000 pounds per year.	163

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INSIGNIFICANT ACTIVITIES CHECKLIST

Category	Description of Insignificant Activity/Unit	Quantity
Storage Tanks and Equipment	1. All petroleum liquid storage tanks storing a liquid with a true vapor pressure of equal to or less than 0.50 psia as stored.	8
	2. All petroleum liquid storage tanks with a capacity of less than 40,000 gallons storing a liquid with a true vapor pressure of equal to or less than 2.0 psia as stored that are not subject to any standard, limitation or other requirement under Section 111 or 112 (excluding 112(r)) of the Federal Act.	
	3. All petroleum liquid storage tanks with a capacity of less than 10,000 gallons storing a petroleum liquid.	10
	4. All pressurized vessels designed to operate in excess of 30 psig storing petroleum fuels that are not subject to any standard, limitation or other requirement under Section 111 or 112 (excluding 112(r)) of the Federal Act.	5
	5. Gasoline storage and handling equipment at loading facilities handling less than 20,000 gallons per day or at vehicle dispensing facilities that are not subject to any standard, limitation or other requirement under Section 111 or 112 (excluding 112(r)) of the Federal Act.	
	6. Portable drums, barrels, and totes provided that the volume of each container does not exceed 550 gallons.	x
	7. All chemical storage tanks used to store a chemical with a true vapor pressure of less than or equal to 10 millimeters of mercury (0.19 psia).	10

INSIGNIFICANT ACTIVITIES BASED ON EMISSION LEVELS

Description of Emission Units / Activities	Quantity
CR02,CR02,CR03 CABLE REWINDERS	3
DRAW TOWER INDUCTION FURNACES	CI*
HA01 -12 HANDLE ATTACHMENT LATHES	12
DEHYDROXYLATION GAS STORAGE VESSEL IN TUBE FABRICATION.	1
FIBER OPTIC CABLE SHEATHING LINES	CI*
BUFFERED FIBER LINES	CI*
FIBER CORDAGE LINES	CI*
RISER CABLE LINES	CI*
TF01,02 TUBE FABRICATION GLASS MIX PREPARATION, CASTING AND AGING	1
TF03 TUBE FABRICATION DRYING CHAMBERS	2
SOL MIX BASE POT FOR TUBE FABRICATION.	1
MOLD WASHING FACILITY FOR TUBE FABRICATION	1
TFS WASTEWATER TREATMENT SYSTEM	1
GERMANIUM RECOVERY SYSTEM.	1
VAD WASTE WATER TREATMENT FACILITY.	1
VAD FIRE POLISH/ELONGATION PROCESS	1
VAD STRETCHING FURNACES	3
SUBMARINE LIGHTGUIDE SPLICING PROCESS	1
HYDROFLUORIC ACID BULK SUPPLY SYSTEM.	1
D.H. GAS DISTILLATION SYSTEM FOR TUBE FABRICATION.	1
CHEMICAL PURIFICATION BUILDING CHEMICAL TRANSFER HOOD	1
CHEMICAL PURIFICATION BUILDING SILICON TETRACHLORIDE BOOTLE FILLING HOOD	1
CHLORINE CABINET FOR CHEMICAL PURIFICATION.	1
CHLORINE CABINET FOR MCVD LATHE AREA.	1
CHLORINE CABINET FOR VAD PROCESS.	1
CHLORINE CABINET FOR TUBE FABRICATION.	1
FLUIDIZED BED SAND CLEANER FOR EXTRUDER TOOLS	1
BERRINGER OVENS FOR TOOL CLEANING	3
PLASTIC SILO AND CONVEYOR SYSTEM	1

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INSIGNIFICANT ACTIVITIES BASED ON EMISSION LEVELS

Description of Emission Units / Activities	Quantity
TFS POLYMER ACTIVATOR	1
VAD SiCl ₄ BULK STORAGE TANKS	2
VAD SiCl ₄ DIRECT SUPPLY UNITS.	3
VAD GeCl ₄ BUBBLERS.	2
WATER BLOCKING POWDER DELIVERY SYSTEM	1
OASICS PACKAGING LINE	1
MCVD SiCl ₄ BULK STORAGE TANK	1
MCVD SiCl ₄ DIRECT SUPPLY UNITS	2
MCVD Cl ₂ SUPPLY CYLINDERS	4
MCVD GeCl ₄ BULK SUPPLY BUBBLERS	4
MCVD Si F ₄ SUPPLY BUBBLERS	2
MCVD Cl ₂ BULK SUPPLY TANK	1
MAINTENANCE PAINTING BOOTH	1
PROCESS WATER NEUTRALIZATION SYSTEM	1
GLASS ROD WASH CABINET	1
FUGITIVE VOC AEROSOL PAINTS AND CLEANERS	1
FUGITIVE MAINTENANCE PAINTING	1
SAND BLAST GLOVE BOXES FOR PARTS CLEANING	10
HANDLE ATTACHMENT FACILITY FOR FIBER DRAW AREA	1
SiCl ₄ NEUTRALIZATION UNIT	1
MCVD LATHE HOOD EXHAUSTS	33
POST DRAW COLORING LINES(PD57-PD76) – UV CURABLE	20
SHEATHING LINES (SH01-SH15)	15
BUILDING CABLE LINES (PC01-PC04)	4
PREMISE CABLE CORDAGE LINES (PC06-PC21, PC26, PC27, PC28)	18
PREMISE CABLE BUFFERED FIBER LINES (PC11-PC25, PC29, PC31)	16
PREMISE CABLE RISER LINES (PC05, PC16, P C17, PC18, PC30)	5
FIBER SPLICING UNITS(SL01-SL04)	4
SUBMARINE LIGHTGUIDE COLORING (SL05-SL08)	4
CABLE REWINDERS (CR01-CR02)	2
VAD EXPANSION UNITS VA06, VA07, VA08, AND VA09	4

* CI = Confidential Information

Title V Draft Permit

OFS BrightWave Solutions, Inc.

Permit No.: 3357-135-0010-V-01-0

ATTACHMENT B (continued)**GENERIC EMISSION GROUPS**

Emission units/activities appearing in the following table are subject only to one or more of Georgia Rules 391-3-1-.02 (2) (b), (e) &/or (n). Potential emissions of particulate matter, from these sources based on TSP, are less than 25 tons per year per process line or unit in each group. Any emissions unit subject to a NESHAP, NSPS, or any specific Air Quality Permit Condition(s) are not included in this table.

Description of Emissions Units / Activities	Number of Units (if appropriate)	Applicable Rules		
		Opacity Rule (b)	PM from Mfg Process Rule (e)	Fugitive Dust Rule (n)
plasma etch/overclad machines	40	x	x	
plasma etch machines	5	x	x	
overclad machines	14	x	x	

The following table includes groups of fuel burning equipment subject only to Georgia Rules 391-3-1-.02 (2) (b) & (d). Any emissions unit subject to a NESHAP, NSPS, or any specific Air Quality Permit Condition(s) are not included in this table.

Description of Fuel Burning Equipment	Number of Units
Fuel burning equipment with a rated heat input capacity of less than 10 million BTU/hr burning only natural gas and/or LPG.	
Fuel burning equipment with a rated heat input capacity of less than 5 million BTU/hr, burning only distillate fuel oil, natural gas and/or LPG.	
Any fuel burning equipment with a rated heat input capacity of 1 million BTU/hr or less.	

ATTACHMENT C

LIST OF REFERENCES

1. The Georgia Rules for Air Quality Control Chapter 391-3-1. All Rules cited herein which begin with 391-3-1 are State Air Quality Rules.
2. Title 40 of the Code of Federal Regulations; specifically 40 CFR Parts 50, 51, 52, 60, 61, 63, 64, 68, 70, 72, 73, 75, 76 and 82. All rules cited with these parts are Federal Air Quality Rules.
3. ***Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch, Procedures for Testing and Monitoring Sources of Air Pollutants.***
4. ***Georgia Department of Natural Resources, Environmental Protection Division, Air Protection Branch, Procedures for Calculating Air Permit Fees.***
5. Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources. This information may be obtained from EPA's TTN web site at www.epa.gov/ttn/chief/ap42.html.
6. The latest properly functioning version of EPA's **TANKS** emission estimation software. The software may be obtained from EPA's TTN web site at www.epa.gov/ttn/chief/tanks.html.
7. The Clean Air Act (42 U.S.C. 7401 et seq).
8. White Paper for Streamlined Development of Part 70 Permit Applications, July 10, 1995 (White Paper #1).
9. White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program, March 5, 1996 (White Paper #2).

Facility Name: **OFS BrightWave Solutions**
City: Norcross
County: Gwinnett
AIRS #: 04-13-135-00010

Application #: TV-9420
Date Application Received: October 22, 1996
Date Application Deemed
Administratively Complete: February 25, 1997
Date of Draft Permit: September 15, 2003
Permit No: 3357-135-0010-V-01-0

Program	Review Engineers	Review Managers
SSPP	Edu Enin-Okut Susan Jenkins	Matthew Page
SSCP	Tammy Kruck	James Eason
ISMP	Ross Winne	Richard Taylor
Toxics	n/a	n/a

Introduction

This narrative is being provided to assist the reader in understanding the content of the attached draft Part 70 operating permit. Complex issues and unusual items are explained herein simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Georgia Air Quality Act, O.C.G.A § 12-9-1, et seq. and (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 is to consolidate and identify existing state and federal air requirements applicable to **OFS BrightWave Solutions, Inc.** and to provide practical methods for determining compliance with these requirements. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. It initially describes the facility receiving the permit, 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 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. Facility Identification**

1. Facility Name: OFS BrightWave Solutions, Inc.
2. Parent/Holding Company Name
OFS BrightWave, LLC
3. Previous and/or Other Name(s)
Lucent Technologies; and
Bell Labs (a subsidiary of American Telephone and Telegraph Company).
4. Facility Location
2000 Northeast Expressway
Norcross, Georgia 30071
Gwinnett County
5. Attainment or Non-attainment Area Location
This facility is located in the Atlanta ozone non-attainment area.
6. Class I Area Impacts
This facility is not located within 100 km of a Class I Area.

B. Site Determination

Praxair operates a hydrogen manufacturing facility (a minor source) on contiguous property. Although, Praxair sells the hydrogen directly to OFS, Praxair is owned and operated by a separate company and has a different major SIC grouping. Therefore, Praxair is not part of this Title V site.

C. Existing Permits**Table 1: List of Current Permits as Amended**

Permit Number and/or Purpose of Issuance	Date of Issuance and Date of Amendments (if any)	Comments	
		Yes	No
3357-067-12538	8/27/97, amended 6/19/98, 12/3/98, and 3/22/99	X	

Table 2: Comments on Specific Permits

Permit Number	Comments
3357-067-12538	The facility did not list this permit at all; this is the current permit
3357-067-10788	The facility listed this permit and its amendments; this permit was revoked by Permit 3357-067-12422 in May 1997. Permit 3357-067-12422 was revoked by current permit.

D. Process Description

1. SIC Codes(s)

3357

2. Description of Product(s)

This facility manufactures optical fiber, fiber optic cable, and terminal equipment.

3. Overall Facility Process Description

This facility converts raw silica into optical fiber and fiber optic cable through several processes. These processes include tube fabrication, tube washing, chemical and soot deposition, fiber drawing, fiber coloring, fiber ribbon assembly, and fiber optic cable formation. Most of the equipment used at this facility qualifies as “insignificant activities” due to the small amount of emissions released on an individual basis.

Tube fabrication. Glass tubes are fabricated by combining silica slurry with chemical additives and heating it in electric glass furnaces (TF04). The first furnace cycle produces VOC and methanol emissions that are abated by oxidizer TFC1 (or carbon adsorber TFC3 if oxidizer TFC1 is out of commission). Sintering, the second furnace cycle, produces emissions of chlorine, thionyl chloride, SO₂, and NO_x, which are routed to scrubber TFC2.

Tube washing. Glass tubes and rods are “washed” in order to remove any trace of impurities that would effect the quality of the optical fiber. Glass tubes are washed with deionized water, hydrogen fluoride, and detergent in tube wash facilities TW02 and TW03. Scrubbers TWC2 and TWC3 control hydrogen fluoride emissions. There are insignificant activities associated with this process.

Chemical deposition. Glass pre-forms are fabricated by two different chemical deposition processes. Special soot and chemicals are deposited inside the tubes in order to produce optical fibers. Soot is deposited in the vapor axial deposition (VAD) processes VA01, VA02, VA04 and VA05. Tank VAT1 holds silicon tetrachloride used in this process. Scrubber VAC1 controls chlorine, hydrochloric acid, and hydrogen fluoride emissions from VAD processes VA01 and VA02. Scrubber VAC3 is a back-up for scrubber VAC1. Ionizing wet scrubber VAC4 controls chlorine, hydrochloric acid, and hydrogen fluoride emissions from VAD processes VA04 and VA05. In the modified chemical vapor deposition (MCVD) process, chemicals are deposited on the inside of the tubes with lathes. In this process, chemicals such as silicon tetrachloride, dopants, and chlorides are added to the inside of the tubes, while a H₂/O₂ torch heats the outside of the tubes. Emissions of Cl, HCl, and HF are controlled by the WESP/scrubber combination LAC3 and LAC6. Scrubber LAC7 serves as back-up to WESP/scrubber LAC6. Bulk storage tanks CP01 and VAT2 hold the silicon tetrachloride used in the MCVD process. Scrubbers CPC1 and VAC4 control acid mist emissions from these tanks.

Fiber drawing. Washed tubes are heated in electrical furnaces and pulled into long, thin optical fibers in the draw towers. These draw towers emit *de minimis* amounts of VOC and PM. Small amounts of particulate may be emitted from the glass furnace. Once drawn, the fibers are coated with a prepolymer and UV oven cured. The coating contains very little solvent, but some VOC is emitted due to thermal breakdown during curing.

Fiber coloring. Ink applicators coat the optical fibers with a UV cured coating, then the coated fibers are UV oven cured.

Fiber ribbon assembly. Colored optical fibers are run parallel to each other, then bound together by a thin coating of polymer plastic to produce ribbons of fiber. The number of optical fibers per ribbon vary (usually 5 to 15). After the fibers have been coated, they are passed through a UV oven for curing, then labeled. Small amounts of VOC may be emitted due to UV curing process, and from the VOC in the labeling inks. Catalytic oxidizers (RC01-RC09 and RC11-RC29) control VOC emissions from the solvent makeup activities of this process.

Cable formation. Bundles of optical fiber are wrapped in an extruded thermo-plastic sheathing to produce cable for indoor use. The cable is then labeled. Small amounts of VOC are emitted from the thermal extrusion of the plastic, as well as the high-VOC inks used in labeling the cable. Cable is also made by combining fibers and fiber ribbons with steel wires (for strength) that are bundled and wrapped in a heat-extruded polystyrene cover to produce sheathing cable for outdoor use. VOC emissions occur from the extruding process.

Miscellaneous. OFS operates six natural gas-fired boilers (B001 through B005 and B007) with #2 fuel oil as backup, each with a heat capacity of about 50 MMBtu/hr. Boilers B001, B002, B003, B004, B005, and B007 are equipped with low-NO_x burners. For parts cleaning, there is a vapor degreaser VD01 (*Note:* OFS no longer uses halogenated solvents in this degreaser). OFS has also listed FV01 and FV02 as "fugitive" VOC emissions associated with wipedown and other cleaning operations.

There are numerous insignificant activities: soldering, cold cleaners, sintering, UV curing, storage tanks, and small furnaces, etc. In fact, most of the equipment listed in existing permit No. 3357-067-12538 in the facility description are now listed in Section 4.50 based on emissions levels. These units generally do not have emissions controls. These include: ribbon lines, sheathing, building cable, cordage, buffered fiber, riser lines, fiber splicing, submarine lightguide coloring, cable rewinders, plasma etching, apparatus assembly operations, overclad area, and emergency generators.

E. Regulatory Status

1. PSD/NSR

OFS is a minor source under PSD for particulate matter, sulfur dioxide, and carbon monoxide because potential emissions of these air pollutants are each less than 100 tons per year. *Note:* The facility is one of the 28 listed source categories – fossil-fuel boilers (or combination thereof) totaling more than 250 MMBtu/hr heat input.

The facility is major source in the ozone nonattainment area because potential VOC emissions exceed 50 tons per year. Actual VOC emissions at the facility are just below 50 tons per year. (*Note:* Per Georgia Rule 391-3-1-.03((8)(c)13, if a source is major for either VOC or NO_x in the Atlanta serious non-attainment area, then the facility is a major source for both pollutants under Nonattainment NSR. This state rule is more stringent than the federal rules that differentiate between these pollutants for Nonattainment NSR applicability for a serious ozone nonattainment area.)

The facility operates with a facility-wide NO_x emissions limit of 50 tons per year to avoid NO_x RACT requirements [Georgia Rule 391-3-1-.02(2)(yy)].

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	✓			✓
PM ₁₀	✓			✓
SO ₂	✓		✓	
VOC	✓	✓		
NO _x	✓		✓	
CO	✓			✓
TRS				
H ₂ S				
Individual HAP	✓	✓		
Total HAPs	✓	✓		

3. MACT Standards

The facility is a major source of individual and total hazardous air pollutants (i.e., chlorine, hydrochloric acid and methyl ethyl ketone (MEK)).

OFS is potentially applicable to proposed standard 40 CFR Part 63 Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Industrial/Commercial/Institutional Boilers and Process Heaters, as it relates to boilers B001, B002, B003, B004, B005 and B007 because the facility is a major source of hazardous air pollutants. The proposed revised MACT promulgation date is February 28, 2004. The proposed Part 2 submittal date is April 28, 2004.

OFS is potentially applicable to proposed standard 40 CFR Part 63 Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, as it relates to emergency generators EG03 and EG04 and cooling pump engine CPE1 because the facility is a major source of hazardous air pollutants and one or more of the units is rated above 500 brake horsepower (BHP). The proposed revised MACT promulgation date is February 28, 2004. The proposed Part 2 submittal date is April 28, 2004.

4. Program Applicability

Program Code	Applicable (y/n)
Program Code 6 - PSD	no
Program Code 8 – Part 61 NESHAP	no
Program Code 9 - NSPS	yes
Program Code M – Part 63 NESHAP	no
Program Code V – Title V	yes

Regulatory Analysis

II. Facility Wide Requirements

A. Emission and Operating Caps:

SIP Permit No. 3357-067-12538, Condition 6, limit facility-wide NO_x emissions to not equal or exceed 50 tons during any twelve consecutive months. This condition serves as a Georgia Rule 391-3-1-.02(2)(yy) avoidance emission limit. The facility has requested that this condition be reworded to only include “equipment subject to Rule (yy)”, referring to sources above 1 tpy. EPD is not inclined to update this permit condition as requested because (1) the facility can only exclude NO_x emissions from sources subject to Ga. Rules (jjj), (lll), (mmm) or (nnn) in the facility-wide emissions calculation; and (2) the potential to emit calculations must include the contribution of NO_x emissions from all applicable emission units regardless of the magnitude of the emission unit’s NO_x emissions.

EPD investigated whether any of the NO_x emitting equipment would be exempt from this permit condition (i.e., any piece of NO_x emitting equipment subject to Georgia Rules 391-3-1-.02(2)(lll), (mmm), or (nnn)). The boilers (emission unit ID Nos. B001, B002, B003, B004, B005, and B007) are not subject to Georgia Rule (lll) because each boiler was constructed prior to May 1, 1999. The internal combustion engines (i.e., generators, pumps, etc) are not subject to Georgia Rule (mmm) because the units are used exclusively for emergency power for less than 200 hours per year, each. OFS does not operate combustion turbines and thus is not potentially subject to Georgia Rule (nnn). With this in mind, existing Condition No. 6 incorporates all existing NO_x emitting equipment. Existing Condition No. 6 is transferred to the Title V permit.

SIP Permit No. 3357-067-12538, Condition No. 7, limits facility-wide sulfur dioxide (SO₂) emissions to less than 100 tons during any twelve consecutive months in order to avoid being a PSD major source for SO₂ emissions. This condition remains unchanged in the Title V permit.

B. Applicable Rules and Regulations

Georgia Rule 391-3-1-.02(2)(tt), “VOC Emissions From Major Sources”, applies to a large number of emission units at OFS. This particular discussion will provide the reader a facility-wide overview of the requirements of Georgia Rule (tt). Georgia Rule (tt) applies to OFS because (1) the potential VOC emissions, excluding VOC emissions subject to any other more specific VOC requirement contained in Georgia Rule 391-3-1-.02(2), exceeds 25 tons per year; and (2) the facility is located in Gwinnett County.

Name of Facility Operation	Georgia Rule (tt) Requirements
Boilers B001, B002, B003, B004, B005, and B007	No additional VOC control.
Stationary IC Engines 1, 2, 3, 4, EG03, and EG04	No additional VOC control.
Cooling Pump Engine CPE1	No additional VOC control.
Tube Fabrication (TF04)	No additional VOC control.
Tube Washing (TW02 and TW03)	No additional VOC control.
Chemical Deposition: Vapor Acid Deposition Process (VA01 and VA02)	No additional VOC control.

Name of Facility Operation	Georgia Rule (tt) Requirements
Chemical Deposition: Modified Chemical Vapor Deposition Process (CVD2)	No additional VOC control.
Fiber Coloring Equipment (FC01 and FC02)	Primers used shall contain no VOCs. Inks shall not contain VOC in excess of fifteen percent by weight.
Fiber Ribbon Assembly Lines (FRA1, FRA2 and FRA3)	FRA1 and FRA2: Matrix compounds used contain less than 15 percent VOC by weight. All Ribbon Assembly Lines: Ink jet printers used shall be equipped with catalytic oxidizers.
Facility-Wide	Primers used in production of terrestrial fiber optic cable shall contain no VOC. OFS noted that the terrestrial fiber line no longer uses primers and so this requirement is not carried over to the Title V permit. [From 3357-067-12538 Condition 4a] Inks used in production of terrestrial fiber optic cable shall not contain VOC in excess of 15 percent by weight. [From 3357-067-12538 Condition 4b] Direct all alcohol cleaning pads into containers to prevent the evaporation of any residual alcohol immediately after their use, keep such containers covered, closed, and/or sealed when pads are not being directed into them, and send such containers off-site for disposal. [From 3357-067-12538 Condition 4c] Do not utilize coatings that contain more than two percent by weight "processing volatiles". "Processing volatiles" are defined in ASTM Method D 5403. [3357-067-12538 Condition 12]

C. Compliance Status

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

D. Operational Flexibility

This facility has not requested any operational flexibility.

E. Permit Conditions

2.1.1 Establishes 50 tons per year NO_x cap for avoidance of Georgia Rule (yy).

2.1.2 Establishes 100 tons per year SO₂ cap for avoidance of PSD for sulfur dioxide.

2.3.1 Establishes the NSR/NAA avoidance limit of 25 tons over five consecutive calendar years for both NO_x and VOC emissions.

2.3.2-2.3.3 Specify Georgia Rule (tt) requirements.

III. Regulated Equipment Requirements

A. Brief Process Description

This facility converts glass stock and silica into optical fiber. The glass stock is purified, then drawn through a tower furnace to form the optical fiber, which is stored on spools. Optical fiber is then colored and bundled in extruded plastic to form indoor and outdoor cable. Boilers are used to provide process heat. This facility uses several scrubbers, a carbon adsorber and thermal oxidizer to control Cl, HCl, thionyl chloride, HF and VOC.

B. Equipment List for the Process

Emission Unit Groups		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
BG01	Steam boilers	391-3-1-.02(2)(b) 391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(tt) NAA/NSR Avoidance for NO _x PSD Avoidance for SO ₂ Avoidance of 391-3-1-.02(2)(yy)	3.2.1, 3.4.1, 3.4.2, 4.2.1, 4.2.2, 5.2.2 5.2.3, 5.2.5, 5.3.1, 6.1.7b, 6.2.1, 6.2.5, 6.2.6, 6.2.15, 6.2.16, 6.2.18, 6.2.21, 6.2.24	B01C B02C B03C	Low NO _x burners.
BG02	Hot water generators; steam boilers	391-3-1-.02(2)(d) 391-3-1-.02(2)(g) 391-3-1-.02(2)(tt) 40 CFR 60 Subpart Dc NAA/NSR Avoidance for NO _x PSD Avoidance for SO ₂ Avoidance of 391-3-1-.02(2)(yy)	3.2.2, 3.3.1, 3.3.2, 3.3.3, 3.4.3, 3.4.4, 5.2.2, 5.2.3, 5.2.6, 5.3.1, 6.1.7b, 6.2.2, 6.2.7, 6.2.8, 6.2.14, 6.2.15, 6.2.16, 6.2.18, 6.2.21	B04C B05C B07C	Low NO _x burners.
CPE1	Cooling pump engine	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(tt) NAA/NSR Avoidance for NO _x PSD Avoidance for SO ₂ Avoidance of 391-3-1-.02(2)(yy)	3.2.3, 3.4.5, 3.4.6, 5.2.2, 5.3.1, 6.1.7b, 6.2.9a, 6.2.10, 6.2.18, 6.2.19, 6.2.20, 6.2.21	None.	None.
CVD1	MCVD deposition equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) Georgia Air Toxics Guideline	3.2.10, 3.2.11, 3.2.12, 3.4.13, 3.4.17, 4.2.11, 5.2.2a-d, 5.3.1, 6.1.7c	LAC3	Ionizing wet scrubber (WESP)
CVD2	MCVD deposition equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt) Georgia Air Toxics Guideline	3.2.9, 3.4.14, 3.4.17, 4.2.7, 4.2.9, 5.2.2, 5.3.1, 6.1.7c	LAC6 LAC7	Ionizing wet scrubber Ionizing wet scrubber
EM01	Emergency generators	391-3-1-.02(2)(b) 391-3-1-.02(2)(g) 391-3-1-.02(2)(tt) NAA/NSR Avoidance for NO _x PSD Avoidance for SO ₂ Avoidance of 391-3-1-.02(2)(yy)	3.2.4, 3.2.5, 3.4.5, 3.4.6, 5.2.2, 5.2.4, 5.3.1, 6.1.7b, 6.2.9b, 6.2.11, 6.2.17, 6.2.18, 6.2.19, 6.2.21	None.	None.
FC01	Fiber coloring equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.8, 3.4.16, 3.4.17, 6.1.7b, 6.2.3b	None.	None.
FC02	Fiber coloring equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.8, 3.4.16, 3.4.17, 6.1.7b, 6.2.3b	None.	None.
FDT1	Fiber draw towers	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.7, 3.4.15, 3.4.17, 6.1.7b, 6.2.3a	None.	None.
FRA1	Fiber ribbon assembly lines	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.9, 3.4.10, 3.4.16, 3.4.17, 4.2.13, 5.2.1, 5.3.1, 6.1.7b-c, 6.2.3c	RC01- RC09	Catalytic oxidizers
FRA2	Fiber ribbon assembly lines	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.9, 3.4.10, 3.4.16, 3.4.17, 4.2.13, 5.2.1, 5.3.1, 6.1.7b-c, 6.2.3c	RC11- RC29	Catalytic oxidizers

Emission Unit Groups		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
FRA3	Fiber ribbon assembly lines	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.10, 3.4.16, 3.4.17, 4.2.14, 5.2.1, 5.3.1, 6.1.7c	RC30- RC39	Catalytic oxidizers
TF04	Glass tube furnace	391-3-1-.02(2)(e) 391-3-1-.02(2)(b)	3.2.6, 3.2.7, 3.4.11, 3.4.17, 4.2.3, 4.2.4, 5.2.1, 5.2.2, 5.3.1, 6.1.7c, 6.2.12, 6.2.13	TFC1 TFC2 TFC3	Thermal oxidizer Chlorine scrubber Carbon adsorber
TW02	Tube wash facility (RIT 1)	391-3-1-.02(2)(b) 391-3-1-.02(2)(e)	3.4.12, 3.4.17, 5.2.2, 5.3.1, 6.1.7c	TWC2	Scrubber
TW03	Tube wash facility (RIT 2)	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) Georgia Air Toxics Guideline	3.2.8, 3.4.12, 3.4.16, 4.2.5, 4.2.6, 5.2.2, 5.3.1, 6.1.7c	TWC3	Scrubber
VAD1	VAD deposition equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt)	3.4.15, 3.4.17, 5.2.2a-d, 4.2.10, 4.2.12, 5.3.1, 6.1.7c	VAC1 VAC3	Ionizing wet scrubber Scrubber
VAD2	VAD deposition equipment	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 391-3-1-.02(2)(tt) Georgia Air Toxics Guideline Avoidance of Section 112(g)	3.2.11, 3.2.12, 3.4.15, 3.4.17, 4.2.8, 4.2.9, 5.2.2a-d, 4.2.12, 5.3.1, 6.1.7c	VAC4	Ionizing wet scrubber

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

Emission Unit Group Listing for OFS Brightwave Solutions			
Emission Unit Group	Emission Unit Group Name	Applicable Emission Unit ID Numbers	Comments
BG01	Boiler Group 1	B001, B002, B003	
BG02	Boiler Group 2	B004, B005, B007	Subject to 40 CFR 60 Subpart Dc.
CVD1	MCVD Deposition Equipment Group 1	L073 – L138	Chemical deposition process for production of glass rods.
CVD2	MCVD Deposition Equipment Group 2	L139 – L198	In Bldg 50. Chemical deposition process for production of glass rods.
EM01	Emergency Generator Group 1	EG03, EG04	
FC01	Fiber Coloring Group 1	Post draw coloring lines (PD01 - PD56)	UV curable materials used.
FC02	Fiber Coloring Group 2	Post draw coloring lines (PD57 - PD76)	
FDT1	Fiber Draw Tower Group 1	UT13, UT14, UT15, UT16, UT17, UT18, UT19, UT20, UT21, UT22, UT23, UT24, UT25, UT26, UT27, UT28, UT29, UT30, UT31, UT32, UT33, UT34, UT35, UT36	
FRA1	Fiber Ribbon Assembly Line Group 1	RL1, RL2, RL3, RL4, RL5, RL6, RL7, RL8, RL9	Includes ink jet printers and catalytic oxidizers are considered an inherent part of the ink jet printer.
FRA2	Fiber Ribbon Assembly Line Group 2	RL11, RL12, RL13, RL14, RL15, RL16, 2L17, RL18, RL19, RL20, RL21, RL22, RL23, RL24, RL25, RL26, RL27, RL28, RL29	Includes ink jet printers and catalytic oxidizers are considered an inherent part of the ink jet printer.
FRA3	Fiber Ribbon Assembly Line Group 3	RL30, RL31, RL32, RL33, RL34, RL35, RL36, RL37, RL38, RL39	Includes ink jet printers and catalytic oxidizers are considered an inherent part of the ink jet printer.
TF04	Glass Tube Furnace Process	None.	Furnaces used for purifying glass tube body of contaminants such as hydrogen and metal compounds.
TW02	Tube wash facility (RIT 1)	None.	Equipment for cleaning glass tubes and rods.
TW03	Tube wash facility (RIT 2)	None.	Equipment for cleaning glass tubes and rods.
VAD1	VAD Deposition Equipment Group 1	VA01, VA02	Produce glass rods.
VAD2	VAD Deposition Equipment Group 2	VA04, VA05	Produce glass rods.

Emission Unit Listing for OFS Brightwave Solutions			
Emission Unit ID No.	Emission Unit Description	Applicable Emission Unit Groups	Comments
B001	Steam boiler	BG01	51.5 MMBtu/hr boiler. Installed in October 1971. Has a low NO _x burner (B01C).
B002	Steam boiler	BG01	51.5 MMBtu/hr boiler. Installed in October 1971. Has a low NO _x burner (B02C).

Emission Unit Listing for OFS Brightwave Solutions			
Emission Unit ID No.	Emission Unit Description	Applicable Emission Unit Groups	Comments
B003	Steam boiler	BG01	51.5 MMBtu/hr boiler. Installed in October 1971. Has a low NO _x burner (B03C).
B004	Steam boiler	BG02	Boiler has a 30 MMBtu/hr natural gas burner and a 48 MMBtu/hr fuel oil burner. Installed in 1998. Has a low NO _x burner (B04C).
B005	Hot water generator	BG02	48 MMBtu/hr boiler. Installed in 1998. Has a low NO _x burner (B05C).
B007	Hot water generator	BG02	10 - 48 MMBtu/hr boiler, inclusive. Installed in 1998. Has a low NO _x burner (B07C).
CPE1	Cooling pump engine		
EG03	Emergency generator	EM01	Has an output of 475 kW. Installed before April 1, 2000. Fires diesel fuel.
EG04	Emergency generator	EM01	Has an output of 594 kW. Installed before April 1, 2000. Fires diesel fuel.
L73-L138	MCVD lathes	CVD1	.
L139-198	MCVD lathes	CVD2	(MCVD Lathe Area II).
PD01-PD56	Post draw coloring lines	FC01	
PD57-PD76	Post draw coloring lines	FC02	
RL01-RL09	Fiber draw ribbon lines	FRA1	
RL11-RL29	Fiber draw ribbon lines	FRA2	
RL30-RL39	Fiber draw ribbon lines	FRA3	
UT13-UT36	Ultra tall fiber draw towers	FDT1	
VA01	VAD deposition equipment	VAD1	Equipment for fabrication of glass soot boules for preform cores or jacket.
VA02	VAD consolidation furnaces	VAD1	Furnace used for fusing of the glass soot on core bodies and jacket bodies.

Air Pollution Control Device Listing for OFS Brightwave Solutions				
APCD ID No.	APCD Description	Applicable Emission Unit Groups	Applicable Emission Unit ID Number	Comments
B01C	Low NO _x burner	BG01	B001	
B02C	Low NO _x burner	BG01	B002	
B03C	Low NO _x burner	BG01	B003	
B04C	Low NO _x burner	BG02	B004	
B05C	Low NO _x burner	BG02	B005	
B07C	Low NO _x burner	BG02	B007	
CPC1	Chemical purification building scrubber	NA		Controls HCl emissions from MCVD SiCl ₄ bulk storage tank venting.
LAC3	MCVD WESP scrubber	CVD1	L73 - L138	Controls acid mist emissions.
LAC6	MCVD Area II WESP/Scrubber	CVD2	L139 - L198	Controls HCl, HF, and Cl ₂ emissions.
LAC7	MCVD Area II scrubber	CVD2	L139 - L198	Back-up to LAC6.
RC01-RC09	Catalytic oxidizers	FRA1	RL01-RL09	Oxidizers are considered an inherent part of ribbon line.
RC11-RC29	Catalytic oxidizers	FRA2	RL11-RL29	Oxidizers are considered an inherent part of ribbon line.
RC30-RC39	Catalytic oxidizers	FRA3	RL30-RL39	Oxidizers are considered an inherent part of ribbon line.
TFC1	Two-stage thermal oxidizer	None.	TF04	Controls process odors.
TFC2	Chlorine scrubber	None.	TF04	Controls Cl ₂ emissions.
TFC3	Carbon adsorber	None.	TF04	Controls process odors (back-up to TF01).
TWC2	Wet scrubber	None.	TW02	Controls acid mist emissions.
TWC3	Wet scrubber	None.	TW03	Control acid mist emissions.
VAC1	Ionizing wet scrubber	VAD1	VA01, VA02	Controls HCl, HF, and Cl ₂ emissions.
VAC3	VAD bulk supply scrubber	NA		Control HCl emissions from VAD SiCl ₄ bulk storage tank venting. Back-up to VAC1.
VAC4	Ionizing wet scrubber	VAD2	VA04, VA05	Controls HCl, HF, and Cl ₂ emissions.

C. Equipment & Rule Applicability

Review of the initial Title V application for OFS includes review of outstanding SIP Application Nos. 12421, 12587, 12870, 12934, 13112, and 13841. The following table specifies actions taken in the Title V permit as a result of these SIP Applications.

SIP Application No.	Purpose/Request by Applicant	New Requirement
12421 7/27/00	<p>Retrofit boiler B001 with a low-NO_x burner.</p> <p>Construct and operate postdraw coloring lines (PD57-PD76). An inherent part of these lines are that the inks are UV curable.</p> <p>Construct and operate additional ribbon lines (RL30-RL39). An inherent part of these lines are that the matrix compounds are UV curable.</p>	<p>Permit Condition 6.2.18 requires applicant to show through documentation that this physical change can be classified as a Pollution Control Project (PCP). Classification of this project as a PCP allows this physical change to not be classified as a modification.</p> <p>No new permitting requirements as potential VOC emissions from these lines on a combined basis are less than 1 tpy. These lines are placed in Attachment B of the Title V permit.</p> <p>The ribbon lines include ink jet printers to apply a label and these printers must include a catalytic oxidizer as an inherent part of the printer.</p>
12587 9/22/00	Extend testing deadline for LAC3 scrubber.	No new testing requirements included.
12870 and 13841 2/15/01	Expand VAD Process Construct and operate VA04-VA09 and bulk supply VAT2	<p>The Permittee shall operate scrubber VAC4 at all times that units VA04 and VA05 are in operation.</p> <p>HCl emissions from VA04 and VA05, on a combined basis, shall not exceed 1.81 lb/hr for purposes of Section 112(g) avoidance and the Georgia Air Toxics Guideline.</p>
12934 3/15/01	<p>Expand the fiber draw operation.</p> <p>Construct and operate catalytic oxidizers on several ink jet applicators on the ribbon lines.</p>	<p>Project has been cancelled.</p> <p>These ink jet printers must include a catalytic oxidizer as an inherent part of the printer. This is required for Georgia Rule (tt) purposes.</p>
13112 5/1/01	<p>Notification that tube wash facility construction TW03 will now be completed and scrubber TWC3 capacity will be expanded to that which was described in the original permit application number 10085 (July 9, 1997)</p> <p>Upgrade the PLC-based burner management system for boilers B001.</p> <p>Upgrade the burner for B002, B004, B005, and B006.</p> <p>Installed a low-NO_x burner in boiler B002.</p>	<p>Testing requirements included.</p> <p>The PLC (programmable logic controller) is used to automate burner management system (BMS) for the boilers which entails startup, monitoring of fuel used (or a combination of fuels), continuous safety monitoring, and can reduce maintenance costs. No new requirements imposed.</p> <p>Upgrade to burner (BMS) improves performance/efficiency of boiler. No new requirements imposed.</p> <p>Permit Condition 6.2.18 requires applicant to show through documentation that this physical change can be classified as a Pollution Control Project (PCP). Classification of this project as a PCP allows this physical change to not be classified as a modification.</p>

SIP Application No.	Purpose/Request by Applicant	New Requirement
13112 5/1/01	Construct and operate a new VAD development lab. Construct and operate two 40 kw electric cleaning ovens to remove the tint that develops on the surface of the UV-lamp lenses used in the curing of the fiber ribbon matrix.	No new requirements imposed. Activity placed in Attachment B of Title V permit. No new requirements imposed.

Boilers. OFS operates six boilers and specific information necessary for a regulatory assessment is illustrated in the following table:

Emission Unit ID No.	Unit Description	Fuels	Air Pollution Control Device(s)	NO _x Emission Factor
B001	Babcock and Wilcox Boiler 51.5 MMBtu/hr Installed in 1971	Natural Gas No. 2 Fuel Oil	Low NO _x Burner	<i>Uncontrolled Based on AP-42</i> <u>Natural Gas</u> : 0.098 lb/MMBtu or 80.7 ppmvd at 3% oxygen <u>Fuel Oil</u> : 0.146 lb/MMBtu or 114 ppmvd at 3% oxygen <i>Controlled</i> <u>Natural Gas</u> : 0.0364 lb/MMBtu or 30 ppmvd at 3% oxygen <u>Fuel Oil</u> : 0.135 lb/MMBtu or 105 ppmvd at 3% oxygen
B002	Babcock and Wilcox Boiler 51.5 MMBtu/hr Installed in 1971	Natural Gas No. 2 Fuel Oil	Low NO _x Burner	<i>Controlled</i> <u>Natural Gas</u> : 0.0364 lb/MMBtu <u>Fuel Oil</u> : 0.135 lb/MMBtu
B003	Babcock and Wilcox Boiler 51.5 MMBtu/hr Installed in 1971	Natural Gas No. 2 Fuel Oil	Low-NO _x Burner	<i>Uncontrolled Based on AP-42</i> <u>Natural Gas</u> : 0.098 lb/MMBtu <u>Fuel Oil</u> : 0.146 lb/MMBtu
B004	Nebraska Boiler Company 48 MMBtu/hr Installed in 1998	Natural Gas No. 2 Fuel Oil	Low NO _x Burner	<i>Division Approved</i> <u>Natural Gas</u> : 73 lb/MMcf <u>Fuel Oil</u> : 20 lb/1000 gallons
B005	Nebraska Boiler Company 48 MMBtu/hr Installed in 1998	Natural Gas No. 2 Fuel Oil	Low NO _x Burner	<i>Division Approved</i> <u>Natural Gas</u> : 73 lb/MMcf <u>Fuel Oil</u> : 20 lb/1000 gallons
B007	Nebraska Boiler Company 48 MMBtu/hr Installed in 1998	Natural Gas No. 2 Fuel Oil	Low NO _x Burner	<i>Division Approved</i> <u>Natural Gas</u> : 73 lb/MMcf <u>Fuel Oil</u> : 20 lb/1000 gallons

Note (1): The facility is permitted to install boiler B006. However, the applicant has expressed that it will not be installing this unit. Thus, requirements for this boiler are not included in this permit.

Note (2): It should be noted that the boilers in Equipment Group BG01 did not include low NO_x burners as part of their original construction. OFS has retrofitted boilers B001, B002, and B003 with low NO_x burners since submittal of their updated Title V permit application in 1999. OFS submitted **SIP Application No. 12421 (dated July 27, 2000)** for authorization to retrofit boiler B001 with a low NO_x burner and **SIP Application No. 13112 (dated May 1, 2001)** for authorization to install a low NO_x burner in boiler B002. OFS installed a low NO_x burner in boiler B003 at an unknown time after 1992.

These installations would constitute a physical change resulting in a net emissions increase over 25 tons over five calendar years without the imposition of an allowable NO_x emission rate (in tons per year) for each boiler. Another alternative is to classify the physical changes as a Pollution Control Project (PCP) because classification as a PCP does not trigger the modification definition in NSR. Condition 6.2.18 requires the applicant to file PCP's for the combustion modifications for boilers B001, B002, and B003.

EPD believes that the combustion modifications should easily meet the requirements of a PCP. Thus, the physical changes to these boilers would not be classified as modifications which need permitting.

Note (3): OFS notified EPD of upgrade of the boilers PLC-based burner management systems for boilers B002, B004 and B005 in **SIP Application No. 13112 (received as letter dated May 1, 2001)**. These projects resulted in no increase in boiler capacity and OFS did not expect an increase in NO_x emissions (on a lb/hr) basis from these upgrades.

Note (4): VOC emissions from the boilers are subject to Georgia Rule 391-3-1-.02(2)(tt) and, in this case, VOC RACT is no additional control.

The allowable particulate matter emissions from boilers in Equipment Group BG01 (B001, B002, and B003) are limited in accordance with Georgia Rule 391-3-1-.02(2)(d)1(ii) as each boiler was installed prior to January 1, 1972 and are not considered to be modified for PM emissions. The allowable opacity limit for boilers B001, B002, and B003 is forty (40) percent in accordance with Georgia Rule 391-3-1-.02(2)(b) since each boiler was installed prior to January 1, 1972. The allowable particulate matter emission rate from boilers B004, B005 and B007 is limited in accordance with Georgia Rule 391-3-1-.02(2)(d)2(ii) as each boiler was installed after January 1, 1972. The allowable opacity limit for boilers B004, B005 and B007 is twenty (20) percent except for one six minute period per hour of not more than twenty-seven (27) percent opacity in accordance with Georgia Rule 391-3-1-.02(2)(d)3 and 40 CFR 61 Subpart Dc.

As illustrated in the table above, the boilers can fire either natural gas or No. 2 fuel oil. The allowable natural gas and fuel oil sulfur content limit for fuel burned in boilers B001, B002, and B003 is 2.5 weight percent in accordance with Georgia Rule 391-3-1-.02(2)(g)2. The allowable fuel oil sulfur content limit is set at 0.5 weight percent in accordance with Permit No. 3357-067-12538, Condition 11. The facility voluntarily chose this more stringent sulfur content limit in order to maintain potential SO₂ emissions below 250 tons per year. The requirements of Permit No. 3357-067-12538, Condition No. 11, subsume the requirements of Georgia Rule (g)2 for fuel oil. The requirements of Georgia Rule (g)2 apply for natural gas.

The allowable natural gas and fuel oil sulfur content limit for fuel burned in boilers in Equipment Group BG02 (B004, B005 and B007) is 2.5 weight percent in accordance with Georgia Rule 391-3-1-.02(2)(g)2. The allowable fuel oil sulfur content limit is 0.5 weight percent in accordance with NSPS Dc. [Note: Boilers B004, B005 and B007 are subject to NSPS Dc because they have a maximum heat input capacity greater than 10 MMBtu/hr and less than 250 MMBtu/hr and were constructed after 1989.] The requirements of NSPS Dc subsume, the requirements of Georgia Rule (g)2 for fuel oil combustion. The requirements of Georgia Rule(g)2 apply for natural gas. NSPS Dc does not impose any emission standards on Equipment Group BG02.

SIP Permit No. 3357-067-12538 (amended June 19, 1998), Condition 58, limits NO_x emissions, on a combined basis, from boilers in Equipment Group BG02 to not equal or exceed 18.8 tons during any twelve consecutive months for purposes of NSR/NAA avoidance and this emissions limit is carried over to the Title V permit. The Division approved NO_x emission factors for these boilers is 73 lb/MMcf (natural gas) and 20 lb/1000 gal (fuel oil).

Stationary Internal Combustion Engines. According to Section 4.10 of the Title V permit application, OFS operates four (4) emergency generators whose output does not exceed 400 hp and whose operational time does not exceed 2,000 hour per year. This Title V permit narrative investigates the applicability of Georgia Rule 391-3-1-.02(2)(mmm) for NO_x emissions. Applicable equipment specifications for these engines is illustrated in the following table:

Emission Unit ID No.	Unit Description	Rating (kW)	Installation Date	Max. Hours of Operation	Fuel Type	Location in Permit
EG01	Emergency generator in Bldg. 40	500 kW	1998	N/A	Diesel	Attachment B
EG02	Emergency generator in Bldg. 46	250 kW	1998	N/A	Diesel	Attachment B
EG03	Emergency generator in Bldg. 36 (UTD)	475 kW	1998	125	Diesel	Significant Emission Unit
EG04	Emergency generator in Bldg. 55 (Utility Building)	594 kW	1998	125	Diesel	Significant Emission Unit
CPE1	Cooling Pump Engine	Unknown	1999	100	Natural Gas	Significant Emission Unit

SIP 3357-067-12538, Condition 13, requires the operating hours of emergency generators EG03 and EG04 not to exceed 125 hours per year, each. A new condition requires the operating hours of cooling pump engine CPE1 not to exceed 100 hours per year. Both requirements serve to assist the facility in avoiding Nonattainment NSR due to NO_x emissions.

Based on information in this table the emergency generators are not subject to Georgia Rule (mmm) because they are used exclusively for emergency generation for less than 200 hours per year, each. Cooling pump engine CPE1 is exempt from Georgia Rule (mmm) because it is not used to generate electricity.

The allowable fuel sulfur content limit is 2.5 weight percent in accordance with Georgia Rule 391-3-1-.02(2)(g). The allowable visible emissions limit from each stationary engine is forty (40) percent in accordance with Georgia Rule 391-3-1-.02(2)(b). **Tube Fabrication.** Tube fabrication includes glass tube furnaces (Emission Unit ID No. TF04). Furnace TF04 is electrically heated and is used for purifying the glass tube body of contaminants such as hydrogen and metal compounds. The tube fabrication facility has the potential to emit an odorous compound (trimethylamine – TEA), thus OFS has installed a series combination of thermal oxidizer and carbon adsorber to abate TEA. The oxidizer/carbon adsorber units are not required by any applicable rule. Organic compounds are driven-off during the first furnace cycle and are destroyed by a thermal oxidizer (TFC1). A carbon bed adsorber (TFC3) provides a back-up for the oxidizer during oxidizer shut down. The carbon bed treats the gaseous phase organics while the condensibles are collected and shipped off-site for disposal. Sintering, the second furnace cycle, produces emissions of chlorine, thionyl chloride, sulfur dioxide, and nitrogen oxides. Emissions from the second furnace cycle are routed to a wet scrubber (TFC2).

Emission estimates from the tube fabrication facility are hard to determine because of the new technology involved. NO_x emissions are also generated at the tube fabrication facility and this NO_x generation mechanism is separate from the reaction in the combustion chamber of the thermal oxidizer. The NO_x generated from the chemical reaction in the combustion chamber of the oxidizer must be included in the

NO_x emissions tracked for NSR netting purposes, even if the device is not required by a rule. The requirement is carried over to the Title V permit.

SIP Permit 3357-067-12538, Condition 10, requires that either the oxidizer TFC1 or adsorber TFC3 be in operation whenever the tube manufacturing process TF04 is in use, in part, for odor control.

SIP Permit No. 3357-067-12538 did not specify a minimum combustion zone temperature for TFC1. For purposes of the Title V permit, the minimum combustion zone temperature will be set at 1300 degrees Fahrenheit, or the value determined during the most recent performance test, whenever furnace TF04 is in operation.

Tube Washing. The tube washing facility removes surface contaminants from optical glass tubes by flooding with hydrofluoride (HF) acid and detergent. The tube wash facility is comprised of emission unit ID Nos. TW02 and TW03. Each tube wash facility exhausts to its own dedicated wet scrubber, either TWC2 and TWC3, for control of hydrogen fluoride emissions. There are Title V insignificant activities associated with this process.

The allowable particulate matter emissions rate from each tube wash facility is specified by Georgia Rule 391-3-1-.02(2)(e). As noted, a tube wash facility includes emission units which are classified as significant and insignificant. Negligible controlled PM emissions (i.e., acid mist emissions) are expected from the significant emission units and so the Title V permit will limit PM emissions, in accordance with Georgia Rule (e) from each significant emission unit (i.e., TW02 and TW03). The allowable opacity from each tube wash facility is specified by Georgia Rule 391-3-1-.02(2)(b) which specifies a visible emissions limit of forty (40) percent.

Existing Condition No. 9 limits hydrofluoride acid emissions from washing facility TW03 to 0.147 lb/hr at all times that washing facility TW03 is in operation. The legal authority for this emission limit is the Georgia Air Toxics Guideline.

Vapor Axial Deposition Process. The VAD Process is composed of two significant emission units which are identified as VA01 and VA02 (assigned to Equipment Group VAD1). Ionizing wet scrubber VAC1 controls chlorine, hydrochloric acid, and hydrogen fluoride emissions generated by Equipment Group VAD1. The VAD Process also includes storage tank VAT1 which holds silicon tetrachloride used in this process. Emission units VA01 and VA02 comprise one Georgia Rule 391-3-1-.02(2)(e) process group which specifies the allowable particulate matter emission rate. Visible emissions from each emission unit in this process group are limited to forty (40) percent in accordance with Georgia Rule 391-3-1-.02(2)(b).

OFS submitted **SIP Application No. 12870 (dated February 15, 2001)** for authorization to expand the VAD Process. The expansion would include the construction and operation of glass cylinder production units VA04, VA05, VA06, VA07, and VA08, cutting/grinding operation VA09, and a silicon tetrachloride bulk supply system (VAT2A and VAT2B). Heat energy is supplied through an electrical heated furnace. The Title V significant emission units are VA04 and VA05. Production units VA06, VA07, VA08 and VA09 can be classified as Title V insignificant activities.

The VAD expansion will generate emissions of chlorine, hydrochloric acid, hydrofluoric acid, and particulate matter; however, the VAD expansion will not generate emissions of VOC or NO_x. VAD units VA04 and VA05 and bulk supply VAT2 are to exhaust through a new scrubber VAC4. Ionizing wet scrubber VAC4 is used to abate emissions of chlorine, hydrochloric acid, hydrofluoric acid, and particulate matter.

New ionizing wet scrubber must abate emissions of chlorine, hydrochloric acid, and hydrofluoric acid for compliance with the Georgia Air Toxics Assessment and for the expansion to not trigger Section 112(g) of the CAAA. OFS completed an air toxics assessment in Section 5.0 of the application and the assessment shows compliance with the air toxics guideline. Potential controlled emissions are illustrated in the following table:

Air Pollutant	Potential to Emit (tpy)	Short Term Emission Rate (lb/hr)*
Chlorine	0.50	0.11
Hydrochloric Acid	7.94	1.81
Hydrofluoric Acid	0.03	0.01
Particulate Matter	4.92	1.12

*Based on 8,760 hours per year

The outlet chlorine and hydrofluoric acid mass emission rate from scrubber VAC4 could be higher than the values presented above and still remain in compliance with the Georgia Air Toxics Guideline. Thus, the Title V permit will not specify a chlorine or hydrofluoric acid emission limit from VAC4. The Title V permit will require that units VA04 and VA05 only operate when scrubber VAC4 is operating.

The outlet hydrochloric acid (HCl) mass emission rate for VA04 and VA05 will be limited to 1.81 lb/hr for purposes of Section 112(g) avoidance and for compliance with the Georgia Air Toxics Guideline. (Note: The Title V permit will not limit HCl emissions to less than 10 tons per year because of "Confidential Business Information" (CBI) used to compute emissions of HCl.)

Future emission units VA04 and VA05 comprise one Georgia Rule 391-3-1-.02(2)(e) process group which specifies the allowable particulate matter emission rate. Visible emissions from each emission unit in this process group are limited to forty (40) percent in accordance with Georgia Rule 391-3-1-.02(2)(b).

Modified Chemical Vapor Deposition Process. The Modified Chemical Vapor Deposition Process (MCVD) can be used to fabricate glass pre-forms by chemical deposition. The MCVD Process is composed of MCVD lathes L001-L138 (Equipment Group CVD1) and yet to be constructed lathes L139-L198 (Equipment Group CVD2). (Note: As of 2000, OFS has taken lathes L001 through L072 out of service.) The MCVD Process generates emissions of chlorine, hydrochloric acid, and hydrofluoric acid and emissions of these air pollutants are abated by a dedicated WESP/scrubber combination assigned LAC3 (for lathes L73-138) and yet to be constructed LAC6 (for lathes L139-L198). The MCVD Process also includes storage tank CP01 that hold the silicon tetrachloride used in this process. Scrubber CPC1 control emissions from storage tank CP01. Note: Equipment Group CVD2 and scrubbers LAC6, and LAC7 have not yet been constructed. Scrubber LAC7 is a backup control device to scrubber LAC6.

Lathes in Equipment Group CVD1 (L072-L138) comprise one Georgia Rule 391-3-1-.02(2)(e) process group which specifies the allowable particulate matter emission rate. Visible emissions from each emission unit in this process group are limited to forty (40) percent in accordance with Georgia Rule 391-3-1-.02(2)(b).

Lathes in Equipment Group CVD2 (L139-L198) comprise one Georgia Rule 391-3-1-.02(2)(e) process group which specifies the allowable particulate matter emission rate. When constructed, visible emissions from each emission unit in this process group will be limited to forty (40) percent in accordance with Georgia Rule 391-3-1-.02(2)(b).

Existing Condition No. 8a limits chlorine emissions from LAC6 and LAC7 to 0.12 lb/hr in accordance with the Georgia Air Toxics Guideline. Existing Condition No. 8b limits hydrochloric acid emissions

from LAC6 and LAC7 to 0.0797 lb/hr in accordance with the Georgia Air Toxics Guideline. Existing Condition No. 8c limits hydrofluoric acid emissions from LAC6 and LAC7 to 0.0023 lb/hr in accordance with the Georgia Air Toxics Guideline. Existing Condition No. 71 limits chlorine emissions from WESP/scrubber combination LAC3 to 15.36 lb/day in accordance with the Georgia Air Toxics Guideline. These conditions are carried over to the Title V permit.

Condition No. 72 of SIP Permit No. 3357-067-12538 requires performance testing of chlorine emissions from MCVD area lathes L001-L138 within 180 days after initial startup. Ionizing wet scrubber LAC3 was initially connected to two of the 138 lathes on April 10, 2000. As of September 22, 2000, less than 20 lathes are connected due to problems encountered in controlling the pressure throughout the lath area. Due to the time required to design and install the correction to the pressure control problems, completion of the connection of all MCVD lathes to LAC3 was not expected until May of 2001. The applicant requested an extension date for the testing as noted in **SIP Application No. 12587 (Received as Letter Dated September 22, 2000)**. EPD did not respond in time to this application. The applicant conducted the required testing on March 28, 2001 and the average chlorine emission rate was determined to be 0.0038 lb/hr (0.6% of the allowable). The requirements of existing SIP Condition No. 72 have been met. No new permit conditions are required based on this application number.

Fiber Drawing Operation. OFS did not include this operation in Section 5 of the Title V permit application. OFS included this operation as an insignificant activity. Existing Condition 12 limits the “process volatiles” content of coatings used in this operation to no more than two (2) percent by weight in accordance with Georgia Rule 391-3-1-.02(2)(tt). EPD is including the fiber drawing operation in Section 3 of the Title V permit since the operation is subject to a VOC RACT requirement that specifies a maximum “processing volatiles” content.

Fiber Coloring Lines. Fiber coloring lines (or a.k.a. post draw coloring lines) consists of existing Equipment Group FC01 and yet to be constructed Equipment Group FC02. Equipment Group FC01 consists of lines PD01 through PD56. The allowable particulate matter emission rate is specified by Georgia Rule 391-3-1-.02(2)(e). The allowable visible emissions limit is specified by Georgia Rule 391-3-1-.02(2)(b) which limits opacity to forty (40) percent. The fiber coloring lines are sources of negligible particulate matter and visible emissions. Equipment Group FC01 is also subject to Georgia Rule 391-3-1-.02(2)(tt) for VOC emissions. The Georgia Rule (tt) [a.k.a. VOC RACT] requirements are specified in SIP Permit No. 3357-067-12538 in Condition No. 4a and 4b. The VOC RACT requirements for Equipment Group FC01 are (1) primers shall contain no VOCs; and (2) inks shall not contain VOC in excess of fifteen (15) percent. OFS complies with the VOC RACT requirements by using UV curable inks/coloring. The coloring lines defined by Equipment Group FC02, PD57 through PD76, will also be subject to the same VOC RACT requirements as those in Equipment Group FC01 when constructed.

OFS requested authorization to construct and operate new fiber coloring lines PD57-PD76 in **SIP Application No. 12421 (Dated July 27, 2000)**. The yet to be constructed fiber coloring lines will use UV curable inks as an inherent part of their design and operation. VOC emissions from the use of UV curable inks are negligible and so VOC RACT shall consist of no additional control. The potential VOC emissions from PD57-PD76 is less than 1 tpy and so these have been included in Attachment B of the Title V permit. Note: OFS has demonstrated in Application No. 12421 that potential emission increases in MEK and methanol will comply with the Georgia Air Toxics Guideline.

Fiber Ribbon Assembly. Fiber ribbon assembly consists of existing ribbon lines RL01-RL29 and yet to be constructed lines RL30-RL39. Equipment Group FRA1 consists of lines RL01-RL09. Equipment Group FRA2 consists of lines RL11-RL29. The allowable particulate matter emission rate is specified by Georgia Rule 391-3-1-.02(2)(e) for each group FRA1 and FRA2. The allowable visible emissions limit for each group is specified by Georgia Rule 391-3-1-.02(2)(b) which limits opacity to forty (40) percent.

The fiber ribbon assembly lines are sources of negligible particulate matter and visible emissions. Equipment Groups FRA1 and FRA2 are also subject to Georgia Rule 391-3-1-.02(2)(tt) for VOC emissions. Upon research, EPD has determined that the Georgia Rule (tt) [a.k.a. VOC RACT] requirements are specified in SIP Permit No. 3357-067-12538 in Condition Nos. 4a and 4b. The VOC RACT requirements for Equipment Groups FRA1 and FRA2 are (1) primers shall contain no VOCs; and (2) inks (in this case matrix compound) shall not contain VOC in excess of fifteen (15) percent. OFS complies with the VOC RACT requirements by using UV curable matrix compounds.

OFS requested authorization to construct and operate new ribbon assembly lines RL30-RL39 in **SIP Application No. 12421 (Dated July 27, 2000)**. The yet to be constructed ribbon assembly lines will use UV curable matrix compounds as an inherent part of their design and operation. VOC emissions from the use of UV curable matrix compounds are negligible and so VOC RACT shall consist of no additional control. Note: OFS has demonstrated in Application No. 12421 that potential emission increases in MEK and methanol will comply with the Georgia Air Toxics Guideline.

In June, 2002 OFS noted that the ribbon assembly lines also include ink jet printers to print labels on the ribbons. (The ink jet printers are an inherent part of the ribbon assembly lines in Equipment Groups FRA1 and FRA2 and yet to be constructed FRA3). The ink jet printers have the potential to emit uncontrolled VOCs (as MEK) in amounts of approximately 17 tons per year. Controlled VOCs (as MEK) were computed to be approximately 1.73 tons per year. OFS also indicated that the ink jet printers can easily be equipped with a cartridge that acts like a catalytic oxidizer to controll organic emissions. With this in mind, EPD has determined that as long as the ink jet printers are equipped with the small oxidizers, no additional control is needed for compliance with Georgia Rule (tt). The Title V permit will impose a new VOC RACT requirement (work practice standard) in the Title V permit that states that each ink jet printer must be equipped with the small oxidizer (i.e., the small oxidizers will be considered an inherent part of the ink jet printers).

Miscellaneous Solvent Metal Cleaning. The facility operates six (6) small cold cleaner degreasers. The cold cleaners are not subject to Georgia Rule (ff) because they do not have the potential to emit, on a combined basis, VOC emissions in excess of 15 lb/day. Thus, these units are characterized as insignificant activities. The facility did operate one vapor degreaser (VD01); however, the degreaser has been permanently shutdown.

D. Compliance Status

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

E. Operational Flexibility

The facility has not requested any operational flexibility in the Title V application.

F. Permit Conditions

Equipment Emission Caps and Operating Limits

Condition 3.2.1 specifies the fuel oil sulfur content limit for boilers in Equipment Group BG01. This condition is taken from SIP Condition 11.

Condition 3.2.2 specifies the NO_x emissions cap for boiler Equipment Group BG02 for NAA/NSR Avoidance purposes. This condition is taken from SIP Condition 58.

Condition 3.2.3 limits the rolling annual hours of operation of cooling pump engine CPE1 for NAA/NSR Avoidance purposes. This condition is new.

Condition 3.2.4 limits the rolling annual hours of operation of the diesel generators in Equipment Group EM01 for NAA/NSR Avoidance purposes. This condition is taken from SIP Condition 13.

Condition 3.2.5 specifies the work practice requirement that the tube fabrication furnace exhaust be routed to applicable air pollution control equipment. This condition is taken from SIP Condition 10.

Condition 3.2.6 specifies a second work practice requirement for the thermal oxidizer servicing the tube fabrication furnace. This condition is new.

Condition 3.2.7 specifies the HF acid emission limit from tube washing facility TWC3 for purposes of compliance with the Georgia Air Toxics Guideline. This condition is taken from SIP Condition 9.

Condition 3.2.8 specifies the chlorine emission limit from Equipment Group CVD1 for purposes of compliance with the Georgia Air Toxics Guideline. This condition is taken from SIP Condition 71.

Condition 3.2.9 specifies the chlorine, and HCl and HF acid emissions limits from Equipment Group CVD2 for purposes of compliance with the Georgia Air Toxics Guideline. This condition is taken from SIP Condition 8.

Condition 3.2.10 specifies a work practice standard for new VAD process defined as Equipment Group VAD2 for purposes of compliance with the Georgia Air Toxics Guideline. This condition is new and is based on SIP Application Nos. 12870 and 13841.

Condition 3.2.11 specifies a HCl acid emission limit for Equipment Group VAD2 for purposes of avoidance of Section 112(g) of the Clean Air Act. This condition is new and is based on SIP Application Nos. 12870 and 13841.

Equipment Federal Rule Standards

Condition 3.3.1 states that 40 CFR Subparts A and Dc apply to boilers in Equipment Group BG02. This condition is taken from SIP Condition 68.

Condition 3.3.2 specifies the visible emissions limit for each boiler in Equipment Group BG02 based on NSPS Dc. This condition is taken from SIP Condition 60.

Condition 3.3.3 specifies the fuel oil sulfur content limit for fuel oil burned in each boiler in Equipment Group BG02 based on NSPS Dc. This condition is taken from SIP Condition 59.

Equipment SIP Rule Standards

Condition 3.4.1 specifies the allowable PM emission rate from boilers in Equipment Group BG01 in accordance with Georgia Rule (d)1. This condition is taken from SIP Condition 3.

Condition 3.4.2 specifies the allowable visible emissions limit for each boiler in Equipment Group BG01 in accordance with Georgia Rule (b). This condition is taken from SIP Condition 3.

Condition 3.4.3 specifies the allowable PM emission rate from boilers in Equipment Group BG02 in accordance with Georgia Rule (d)2. This condition is taken from SIP Condition 60.

Condition 3.4.4 specifies the sulfur content of natural gas burned in Equipment Groups BG01 and BG02 in accordance with Georgia Rule (g). This condition is new.

Condition 3.4.5 specifies the sulfur content of fuels burned in Equipment Group EM01 and in engine CPE1 in accordance with Georgia Rule (g). This condition is new.

Condition 3.4.6 specifies the visible emissions limit for engines in Equipment Group EM01 and in engine CPE1 in accordance with Georgia Rule (b). This condition is new.

Condition 3.4.7 specifies the VOC RACT requirement for the fiber draw tower operation (Equipment Group FDT1). This condition is taken from SIP Condition 12.

Condition 3.4.8 specifies the VOC RACT requirement for inks used in fiber coloring lines in Equipment Groups FC01. This condition is taken from SIP Condition 4.

Condition 3.4.9 specifies the VOC RACT requirement for matrix compounds used in fiber ribbon assembly lines in Equipment Groups FRA1 and FRA2. This condition is new.

Condition 3.4.10 specifies a VOC RACT work practice standard for the fiber ribbon assembly lines in Equipment Groups FRA1, FRA2, and FRA3. This condition is new.

Condition Nos. 3.4.11 through 3.4.16 specify the allowable particulate matter emission rate from the various Georgia Rule (e) Process Groups at the facility. This condition is new.

Condition 3.4.17 specifies the allowable visible emissions limit from the various Georgia Rule (e) Process Groups at the facility. This condition is new.

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

A. General Testing Requirements

This permit specifies that a performance test may be required at anytime upon request by the Division to determine compliance with emissions limits contained in Section 2.0 and 3.0. A general condition to require notification of any test and for the submission of a test plan is included.

B. Specific Testing Requirements

OFS is subject to a number of testing requirements and the following table specifies the status of these requirements.

SIP Permit Condition No.	Purpose of Condition	Status of Requirement
15 and 16 Note (1)	Regarding Tube Fabrication TF04: Submit a test plan and conduct testing for the determination of the volatile organic compound capture efficiency; the volatile organic compound destruction efficiency; and the inlet and outlet hourly mass emissions rate of oxides of nitrogen from the thermal oxidizer TFC1. TF04 is "temporarily" shutdown.	To quantify uncontrolled and controlled emissions of the predominant organic and inorganic species (i.e., NO _x). OFS needs to be able to accurately predict actual NO _x emissions from this reaction for purposes of accurately predicting NO _x emissions from this reaction and for netting out of NSR in the future. Also to reduce emissions, and thus odor, from TEA. This is carried over to Title V permit as testing has not yet taken place. Incorporated as Condition 4.2.3.
17 and 18 Note (2)	Performance Test on scrubbers LAC6 and LAC7 to verify compliance with short term chlorine, hydrochloric acid and hydrofluoric acid emission limits; and to determine the appropriate pH range and flowrate of the scrubbing liquids, the pressure loss of the gas stream through the device; and the voltage potential for the ionizing wet scrubber.	These emission units have not yet been constructed Testing requirement has been carried over. Incorporated as Conditions 4.2.7 and 4.2.9.
19 Note (3)	Performance Test on scrubber TWC3 to verify compliance with short term hydrofluoric acid emission limit; and to determine the appropriate pH range and flowrate of the scrubbing liquid and the pressure loss of the gas stream through the device.	Testing completed in 2000 on partial facility capacity of tube wash facility TW03 as that was the extent of the construction. After May 2001, OFS intended to complete construction on TW03 and TWC3. Requirements included in Title V permit regarding retesting TWC3 when TW03 completely installed. Testing requirements incorporated as Conditions 4.2.5 and 4.2.6.
61	Conduct visible emissions performance tests on boilers B004, B005, B006, and B007.	Testing completed.
72	Conduct performance test on LAC3 to determine the chlorine emission rate.	Testing completed.

Note (1): The newest scrubbing unit, LAC6, will be tested after installation and startup of Equipment Group CVD2 to ensure their compliance with their respective limits for chlorine, hydrochloric acid, and

hydrofluoric acid (required in Condition No. 4.2.7). Parametric operating ranges will be established for the scrubbant flow rate and pH, as well as the pressure drop range across the scrubbers to indicate compliance is maintained for the halogen limits. The WESP operational parameters (secondary voltage) as well as the pressure drop and scrubbant flow rate provide an indication into control of particulate matter emissions on these sources.

Note (2): This SIP Permit requires an initial performance test on the TFC1 incinerator for VOC capture efficiency and VOC emissions for the TF04 emission unit in SIP Condition 4.2.3. Plant operating conditions shall be at or above normal production levels, with associated monitoring of both combustion zone temperatures during the testing to establish minimum temperatures for monitoring. The plant intends to operate the incinerator at a level high enough to control odor as well as VOC. This operating temperature established should be more than adequate for the VOC control to be used in calculations, as the odor threshold for the amine in question is very low and will require a higher operating temperature.

Note (3): The applicant conducted performance testing, as required by Condition No. 19 of SIP Permit No. 3357-067-12538, on February 16, 2000. (*Note:* The applicant conducted this testing on the basis of partial tube wash installation.) The tested HF emission rate was less than 0.01 lb/hr (where 0.01 lb/hr is the detection level for Method 26A, 40 CFR 60, Appendix A). OFS notified EPD in **SIP Application No. 13112 (received as letter dated May 1, 2001)** of the need to expand the capacity of scrubber TWC3. As of May 1, 2001, the TWC3 scrubber was only handling a portion of the flow for which it was originally permitted. This was due to the fact that only a portion of the originally permitted tube wash facility, TW03, and scrubber, TWC3, was installed due to capital budget restraints. The May 2001 notice to EPD was simply to inform EPD that OFS was to complete the construction of the originally permitted facility (TW03) and to expand scrubber TWC3 capacity to that which was described in the original permit application. As no increase in hydrofluoric acid emissions is expected, no SIP permit modification is necessary. Existing SIP Condition No.19 still holds and the requirements of this condition will be carried over to the initial Title V permit.

New Testing Requirements: OFS is required to conduct performance tests on new scrubber VAC4 for emissions of hydrochloric acid emissions in order to verify compliance with the new emission limits on the scrubber. The facility is also required to conduct performance tests on catalytic oxidizers RC01 through RC29. Performance testing for catalytic oxidizers RC30 through RC39 will not be required until the startup of ribbon lines defined by Equipment Group FRA3 (RL30 through RL39).

In order to verify (or, if needed, establish) emission factors to be used for the calculation of NO_x emissions from boiler B001, B002 and B003 while firing natural gas or fuel oil, OFS is required to perform the performance tests in Condition Nos. 4.2.1 and 4.2.2.

V. Monitoring Requirements (with Associated Record Keeping and Reporting)**A. General Monitoring Requirements**

This permit specifies that all monitoring systems be operated continuously except during breakdowns, repairs, and quality assurance activities. Any repairs or maintenance should be completed in an expeditious manner so downtime is minimized. All data should also be recorded during any calibration activity to help verify that the calibration was performed and completed properly.

The Permit requires the submittal of a semiannual report that will provide the Division a periodic update to help indicate the compliance status of the facility. The contents of the report are specified by the Division's **Procedures for Testing and Monitoring of Air Pollutants** and paragraphs a through f of Condition 6.1.4 restates these. The report must be signed by a responsible company official to certify the report's accuracy and completeness. The Permit also specifies that all information and files are to be kept for at least five years from the date of generation.

B. Specific Monitoring Requirements

Boilers in Equipment Group BG01 (B001, B002 and B003) are subject to Georgia Rules 391-3-1-.02(2)(d)1(ii), (b), (g)2 for particulate matter, visible emissions and fuel sulfur content; Georgia Rule 391-3-1-.03(2)(c) for fuel oil sulfur content; and Georgia Rule (yy) Avoidance for NO_x emissions. In this case Georgia Rule 391-3-1-.03(2)(c) limits the fuel oil sulfur content to 0.5 weight percent which is more stringent than the Georgia Rule (g)2 requirement of 2.5 weight percent. Each of these boilers is permitted to burn natural gas and No. 2 fuel oil. Natural gas and No. 2 fuel oil (i.e., distillate) are low ash, clean burning fuels and EPD has determined that, for units permitted to burn only natural gas and distillate fuel oil, no monitoring is required beyond verifying that fuel oil received is distillate oil. The basis for requiring no additional monitoring can be found in the preamble to Subpart Dc.

In the preamble to Subpart Dc, EPA stated that commenters believed opacity monitoring at small oil-fired units was unnecessary. The commenters stated that oil-fired units normally have low opacity and "would exceed the 20 percent opacity standard only under poor operation and maintenance conditions." The poor operation and maintenance that result in high opacity would also lead to higher fuel cost and would, therefore, be infrequent. EPA also says, "Because distillate oil is a very clean burning fuel with a relatively low ash content, steam generating units firing distillate oil typically require very little maintenance to ensure proper operation." The preamble concludes, "Because violations of the opacity standards are not expected to occur at distillate oil-fired units, these units are being exempted from the opacity monitoring requirements of the final standards." Georgia EPD also performed an analysis of potential particulate matter emissions from the combustion of distillate oil using AP-42 emissions factors. The allowable particulate matter emission rate under Georgia Rule (d) for 51.5 MMBtu/hr boilers is 0.503 lb/MMBtu. The emission factor for No. 2 fuel oil is 2 pounds per thousand gallons and the heating value of the oil is 144,000 Btu per gallon. The expected particulate matter emissions would be 2.8% of the allowable for the 51.5 MMBtu/hr boilers.

Based on the case presented in the Subpart Dc preamble and the PM emission factor analysis, Georgia EPD does not believe that opacity monitoring or surrogate monitoring for particulate matter is necessary for any small steam generating unit burning only natural gas and distillate fuel oil.

Natural gas typically contains much less than 2.5 weight percent sulfur and therefore the likelihood of violating Georgia Rule (g) is minimal. No additional monitoring is prescribed. The permit contains requirements to monitor natural gas and fuel oil usage and to verify that each shipment of fuel oil is

distillate oil, containing less than or equal to 0.5% sulfur to verify compliance with Georgia Rule 391-3-1-.03(2)(c).

NO_x emissions from boilers in boiler Equipment Group BG01 contribute toward the facility-wide NO_x emissions. Facility-wide NO_x emissions must be less than 50 tons during any twelve consecutive months. The magnitude of the NO_x emissions from these boilers is a function of the short term NO_x emission rate (a.k.a. NO_x emission factor) and the fuel usage. The Title V permit specifies a default NO_x emission factor for each boiler and fuel type as well as initial testing to verify the magnitude of the NO_x emission factor. Periodic monitoring is imposed to ensure that OFS utilizes the most appropriate NO_x emission factor when computing NO_x emissions. Periodic monitoring consists of using a hand held portable NO_x analyzer to measure the NO_x and oxygen concentration at an assigned frequency.

Boilers in Equipment Group BG02 (B004, B005 and B007) are subject to Georgia Rules 391-3-1-.02(2)(d)2(ii), (d)3, (g)2 for particulate matter, visible emissions and fuel sulfur content; and Georgia Rule 391-3-1-.03(2)(c) NSR/NAA avoidance for NO_x emissions; and 40 CFR Part 60 Subpart Dc for fuel oil sulfur content. In this case NSPS Dc limits the fuel oil sulfur content to 0.5 weight percent which is more stringent than the Georgia Rule (g)2 requirement of 2.5 weight percent. Each of these boilers is permitted to burn natural gas and No. 2 fuel oil. Natural gas and No. 2 fuel oil (i.e., distillate) are low ash, clean burning fuels and EPD has determined that, for units permitted to burn only natural gas and distillate fuel oil, no monitoring is required beyond verifying that fuel oil received is distillate oil. The basis for requiring no additional monitoring can be found in the preamble to Subpart Dc as stated a moment ago.

Georgia EPD also performed an analysis of potential particulate matter emissions from the combustion of distillate oil using AP-42 emissions factors. The allowable particulate matter emission rate under Georgia Rule (d) for a 48 MMBtu/hr boiler is 0.228 lb/MMBtu. The emission factor for No. 2 fuel oil is 2 pounds per thousand gallons and the heating value of the oil is 144,000 Btu per gallon. The expected particulate matter emissions would be 0.014 lb/MMBtu (6.1% of the allowable) for the 48 MMBtu/hr boilers.

Based on the case presented in the Subpart Dc preamble and the PM emission factor analysis, Georgia EPD does not believe that opacity monitoring or surrogate monitoring for particulate matter is necessary for any small steam generating unit burning only natural gas and distillate fuel oil.

Natural gas typically contains much less than 2.5 weight percent sulfur and therefore the likelihood of violating Georgia Rule (g) is minimal. No additional monitoring is prescribed. The permit contains requirements to monitor fuel oil usage and to verify that each shipment of fuel oil is distillate oil, containing less than or equal to 0.5% sulfur to verify compliance with Georgia Rule 391-3-1-.03(2)(c).

The NSR/NAA NO_x Avoidance emission limit is 18.8 tons per year (beginning in 1998) for this Equipment Group. Similar to the boilers in Equipment Group BG01, if any of these boilers are operated using natural gas or fuel oil for more than the time specified in Condition 5.2.5 during a calendar month, NO_x measurements must be conducted using the procedures of Gas Research Institute Method GRI-96/0008, EPA/EMC Conditional Test Method (CTM-30), *Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers and Process Heaters Using Portable Analyzers* in order to verify that the worst-case NO_x emission factor is used in computing NO_x emissions.

Stationary Internal Combustion Engines in Equipment Group EM01 (EG03 and EG04) and CPE1 are subject to Georgia Rules 391-3-1-.02(2)(g) and (b) for fuel sulfur content and visible emissions; and Georgia Rule 391-3-1-.03(2)(c) – NSR/NAA Avoidance for NO_x emissions – operational limit. Cooling pump engine CPE is fired with natural gas. Natural gas is a low-ash, low sulfur, clean burning fuel. The likelihood of the natural gas exceeding 2.5 weight percent sulfur content is minimal; thus, no additional

monitoring of the natural gas sulfur content is prescribed. In addition, the likelihood of the visible emissions from engine CPE exceeding forty (40) percent is minimal from natural gas combustion; thus, no additional monitoring is prescribed.

Emergency generators EG03 and EG04 are fired with diesel fuel. Ordinarily, diesel engines are significant contributors of NO_x, SO₂, fine particulate matter (PM_{2.5}), PM_{2.5} precursors, PM₁₀, toxic air pollutants and greenhouse gases. Due to the nature of these generators, visible emissions are minimal. Therefore, no monitoring is required to assure compliance with Georgia Rule (b). Compliance with the sulfur content limit of 2.5 weight percent will be ensured due to the retention of fuel oil certifications and shipping receipts for fuels used in these engines.

Each engine is subject to an operational limit and verification of compliance with these limits is achieved through the installation and operation of a timer on each engine.

Tube Fabrication Furnace TF04 is subject to Georgia Rules 391-3-1-.02(2)(e) and (b) for particulate matter and visible emissions. Furnace TF04 exhausts to a thermal oxidizer (TFC1), chlorine scrubber (TFC2), and a carbon bed adsorber (TFC3), which is used as a backup when the thermal oxidizer is out of commission.

There are no existing monitoring requirements for the thermal oxidizer (TFC1) and the backup carbon bed adsorber (TFC3) required by an air quality permit. In order to define proper operation of the oxidizer and the carbon bed adsorber, Condition Nos. 3.2.6 and 5.2.1 are included. An excursion for TFC1 is defined as any three-hour rolling period during operation of furnace TF04 that the average combustion zone temperature of thermal oxidizer TFC1 is 50 degrees Fahrenheit below the average combustion zone temperature derived in Condition 4.2.3.a or is below 1300 degrees Fahrenheit, whichever is greater. For TFC3, an excursion is defined as a three-hour rolling average concentration of volatile organic compounds at the outlet of the bed that is greater than the pollutant concentration determined in Condition 4.2.3.b when TFC1 is not operational.

The chlorine scrubber TFC2 is used to control chlorine and sulfur dioxide emissions from the process. Existing monitoring requirements for the chlorine scrubber (TFC2) consist of the installing and operating devices to visually indicate the scrubbing liquid flow rate, the pressure loss of the gas stream through the scrubber, and the pH of the scrubbant. The frequency of recording each of these parameters is at least once every 24 hours of operation. This type and frequency of monitoring is sufficient to provide for a reasonable assurance of compliance with NAA/NSR Avoidance for VOC emissions and for the Georgia Air Toxic Guideline. The Title V permit defines three different excursions related to this scrubber. An excursion for wet scrubber TFC2 is defined as any two consecutive readings (taken when furnace TF04 is operating) where (1) the gas stream pressure drop is outside the range of 1.0 to 8.0 inches water column; (2) the average scrubbant flow rate is less than 40 gallons per minute; and (3) the scrubbant pH is less than 10.0. Because particulate matter emissions from TF04 are inherently low, no periodic monitoring is necessary for Georgia Rules (e) and (b).

Tube Wash Facilities TW02 and TW03 are subject to Georgia Rules 391-3-1-.02(2)(e) and (b) for particulate matter and visible emissions; and Georgia Rule 391-3-1-.03(2)(c) – Georgia Air Toxics Guideline for hydrofluoric acid emissions. Each tube washing operation vents to a dedicated wet scrubber for abatement of emissions. Existing monitoring requirements for scrubbers TWC2 and TWC3 consist of installing and operating devices to visually indicate the scrubbing liquid flow rate, the pressure loss of the gas stream through the scrubber, and the pH of the scrubbant. The frequency of recording each of these parameters is at least once every 24 hours of operation. This type and frequency of monitoring is sufficient to provide for a reasonable assurance of compliance with Georgia Rules (e) and (b) and the Georgia Air Toxics Guideline. The Title V permit defines three different excursions related to these

scrubbers. An excursion is defined as any two consecutive readings (taken when applicable process equipment is operating) where (1) the gas stream pressure drop is outside the range of 0.5 to 3 inches water column (for both TWC2 and TWC3); (2) the average scrubbant flow rate is less than 40 gallons per minute (for both TWC2 and TWC3); and (3) the scrubbant pH is less than 10.0 (for both TWC2 and TWC3).

Vapor Deposition Processes: Equipment Groups VAD1 (VA01 and VA02) and VAD2 (VA04 and VA05) are subject to Georgia Rules 391-3-1-.02(2)(e) and (b) for particulate matter and visible emissions. Ionizing scrubber VAC1 abates emissions (including chlorine, hydrochloric acid, hydrofluoric acid and VOC (from carbon tetrachloride) emissions) from VA01 and VA02. Ionizing scrubber VAC4 abates emissions (including chlorine, hydrochloric acid, hydrofluoric acid and VOC (from carbon tetrachloride) emissions) from VA04 and VA05. Note VA04, VA05, and VAC4 are not yet constructed and the request to construct and operate these devices is authorized through issuance of this Title V permit [See Application No. 12870 dated 2/15/01]. Scrubber VAC4 is also subject to Georgia Toxics Guideline limits.

Existing monitoring requirements for ionizing scrubber VAC1 consists of the installation and operation of devices to visually indicate the scrubbant liquid flow rate, the pressure loss of the gas stream, the pH of the scrubbant, and the voltage potential. The frequency of recording these parameters is at least once per day. This type and frequency of monitoring is sufficient to provide for a reasonable assurance of compliance with Georgia Rules (e) and (b). The Title V permit defines four different excursions related to this ionizing scrubbers. An excursion is defined as any two consecutive readings (taken when applicable process equipment is operating) where (1) the gas stream pressure drop is outside the range of 4 to 9 inches water column; (2) the average scrubbant flow rate is less than 6 gallons per minute; (3) the scrubbant pH is less than 10.0; and (4) the average secondary voltage (DC) is outside the range proposed by the applicant.

Periodic monitoring for new ionizing scrubber VAC4 is set equivalent to that proposed for existing ionizing scrubber VAC1. This type and frequency of monitoring is sufficient to provide for a reasonable assurance of compliance with Georgia Rules (e) and (b). The Title V permit defines four different excursions related to this ionizing scrubber. An excursion is defined as any two consecutive readings (taken when applicable process equipment is operating) where (1) the gas stream pressure drop is outside the range of established by testing; (2) the average scrubbant flow rate is less than the range/value established by testing; (3) the scrubbant pH is less than the value established by testing; and (4) the average secondary voltage (DC) is outside the range established by testing.

Scrubbers CPC1, VAC1 and VAC3 control hydrochloric acid emissions from SiCl_4 bulk storage tanks associated with this process, CP01, VAT1 and VAT2. Except for the monitoring of voltage potential, which is not applicable to these scrubbers, periodic monitoring for these scrubbers CPC1 and VAC3 are similar to that of ionizing scrubber VAC1. The frequency of recording these parameters is at least once per day. An excursion for scrubber CPC1 is defined as any two consecutive readings (taken when applicable process equipment is operating) where (1) the gas stream pressure drop is outside 1 to 5 inches water column; (2) the average scrubbant flow rate is outside the range of 5 to 10 gallons per; and (3) the scrubbant pH is less than 10.0. For scrubber VAC3, an excursion is defined as any two consecutive readings (taken when applicable process equipment is operating) where (1) the gas stream pressure drop is outside the range established by testing; (2) the average scrubbant flow rate is less than the range/value established by testing; and (3) the scrubbant pH is less than the value established by testing. (Note: Potential hydrochloric acid emissions from SiCl_4 bulk storage tanks CP01, VAT1 and VAT2 are less than 1000 pounds per year combined. Thus, emissions from these tanks are characterized as an insignificant activity. However, in order to promote good air quality practice and ensure as little hydrochloric acid as possible is emitted into the atmosphere, the facility will be required to maintain and monitor scrubbers (CPC1, VAC1 and VAC3) to control these emissions.)

Modified Chemical Vapor Deposition Processes: Equipment Groups CVD1 (lathes L073-L138) and CVD2 (lathes L139-L198) are subject to Georgia Rules 391-3-1-.02(2)(e) and (b) for particulate matter and visible emissions; and Georgia Rule 391-3-1-.03(2)(c)-Georgia Air Toxics Guideline for chlorine, hydrochloric acid, and hydrofluoric acid emissions. A WESP/scrubber combined LAC3 (for lathes L073-L138) and scrubber LAC6 (for lathes L139-L198) abate emissions. Scrubber LAC7 serves as a back-up to scrubber LAC6.

Monitoring of the scrubbant liquid flow rate, pressure drop across the scrubber in inches of water; the scrubbant pH; and, the secondary voltage (DC) for the WESP is required to provide for a reasonable assurance of compliance with Georgia Rules (b), (e) and the Georgia Air Toxic Guideline. Flow rate, pressure drop and pH are recorded once per operating day. The secondary voltage is recorded hourly during operation of the unit.

Existing monitoring requirements for ionizing scrubber LAC3 consists of the installation and operation of devices to visually indicate the scrubbant liquid flow rate, the pressure loss of the gas stream, the pH of the scrubbant, and the voltage potential. The frequency of recording these parameters is at least once per operating day. This type and frequency of monitoring is sufficient to provide for a reasonable assurance of compliance with Georgia Rules (e) and (b) and the Georgia Air Toxic Guideline. The Title V permit defines four different excursions related to this ionizing scrubber. An excursion is defined as any two consecutive readings (taken when applicable process equipment is operating) where (1) the gas stream pressure drop is outside the range proposed by the applicant; (2) the average scrubbant flow rate is less than the value proposed by the applicant; (3) the scrubbant pH is less than the value proposed by the applicant; and (4) the average secondary voltage (DC) is outside the range proposed by the applicant.

Periodic monitoring for new ionizing scrubber LAC6 (and backup LAC7) is set equivalent to that proposed for existing ionizing scrubber LAC3. This type and frequency of monitoring is sufficient to provide for a reasonable assurance of compliance with Georgia Rules (b), (e) and the Georgia Toxic Guideline limits. The Title V permit defines four different excursions related to this ionizing scrubber. An excursion is defined as any two consecutive readings (taken when applicable process equipment is operating) where (1) the gas stream pressure drop is outside the range established by testing; (2) the average scrubbant flow rate is less than the range/value established by testing; (3) the scrubbant pH is less than the value established by testing; and (4) the average secondary voltage (DC) is outside the range established by testing.

The **Fiber Drawing Process: Equipment Group FDT1** consists of ultra-tall draw towers. A vapor degreaser (VD01) is used for cleaning associated with this process. The draw towers are subject to Georgia Rules 391-3-1-.02(2)(b), (e) and (tt) for visible emissions, particulate matter and VOC emissions. The likelihood of a violation of the particulate matter and opacity limits of Georgia Rules (b) and (e) from this process is minimal because optical fiber draw tower production's use of UV-curable products significantly reduces solvent emissions. The facility keeps records to demonstrate compliance with Georgia Rule (tt). Consequently, no specific monitoring to demonstrate compliance with this emission standard is included in this permit with respect to these units.

Fiber Coloring/Fiber Ribbon Assembly/Cable Formation: Equipment Groups FC01, FC02, FRA1, FRA2 and FRA3 are subject to Georgia Rules 391-3-1-.02(2)(b), (e), and (tt) for visible emissions, particulate matter, and VOC emissions. Each of these groups inherently emit negligible amounts of particulate matter and thus no additional periodic monitoring is prescribed to assure compliance with Georgia Rules (e) and (b). In order to ensure the proper operation of the catalytic oxidizers associated with Equipment Groups FRA1, FRA2 and FRA3, Condition 5.2.1 requires the monitoring of oxidizers RC01 through RC39 inlet and outlet temperatures. The minimum average inlet and outlet temperatures for

proper operation of the oxidizers will be determined by testing specified by Condition Nos. 4.2.13 and 4.2.14.

Facility-wide requirements exist under Georgia Rule 391-3-1-.02(2)(yy) Avoidance, under Georgia Rule 391-3-1-.03(2)(c) – PSD Avoidance for sulfur dioxide emissions, and under 391-3-1-.03(8)13(ii) Avoidance for NO_x and VOC emissions. Monitoring and verification of compliance with these requirements is discussed in the next narrative section. Condition 5.2.7 requires monthly inspections to ensure compliance with Condition No. 2.3.3 (work practice requirements concerning the use and storage of alcohol cleaning pads). Condition 5.3.1 requires the facility to maintain records of the specific monitoring requirements (as described above) for inclusion in the semiannual compliance report as specified by Condition 6.1.4.

VI. Other Record Keeping and Reporting Requirements

A. General Record Keeping and Reporting Requirements

The Permit contains general requirements for the maintenance of all records for a period of five years following the date of entry and requires the prompt reporting of all related information to deviations from applicable requirements. Condition 6.1.7 outlines what constitutes an excess emission, exceedance or excursion to be reported in accordance with the requirements of Condition 6.1.4.

B. Specific Record Keeping and Reporting Requirements

1. Plant wide

Records of natural gas and fuel oil use in facility-wide equipment (fuel burning equipment without specific conditions concerning its fuel usage) shall be kept in order to calculate NO_x emissions as part of ensuring compliance with Nonattainment NSR Avoidance, Georgia Rule (yy) Avoidance, and PSD Avoidance requirements. An exceedance for the Georgia Rule (yy) Avoidance limit is defined as any facility-wide twelve consecutive month total NO_x emissions that equals or exceeds 50 tons. An exceedance for the PSD Avoidance limit is defined as any facility-wide twelve consecutive month total sulfur dioxide emissions that equals or exceeds 100 tons. An exceedance for the NAA/NSR Avoidance limits is defined as any facility-wide net emissions increase in NO_x or VOC emissions that equals or exceeds 25 tons during any five consecutive calendar years.

2. Individual Equipment

OFS shall notify EPD 15 days after the initial start-up of any permitted equipment not yet constructed.

3. Equipment Groups

All natural gas and fuel oil burned in the boilers shall be recorded. According to the EPA Guidance Memo dated August 14, 1996 concerning monitoring NSPS Subpart Dc units, the facility may use a single meter to monitor the natural gas or fuel oil used for several boilers. However, the facility must use a method approved by the Division to determine how much natural gas or fuel oil burned by each boiler (e.g., dividing each boiler's design heat input by the total of the design heat input capacities of all boilers fed by the single meter, and using this value to prorate the natural gas or fuel oil usage of each boiler). These requirements are detailed in Conditions 6.2.1 and 6.2.2 for boilers in Emission Unit Groups BG01 and BG02.

Appropriate AP-42 or other Division approved emission factors shall be used to calculate NO_x and SO₂ emissions as required by Conditions 6.2.4 through 6.2.9 and 6.2.10 through 6.2.12, respectively. Monthly NO_x and SO₂ emissions shall be calculated for all boilers in Equipment Groups BG01 and BG02. These calculations shall be used to calculate twelve-month rolling total NO_x and SO₂ emissions for each of these boilers. The monthly emissions calculations for fuel-burning equipment shall be used to calculate the twelve-month rolling total NO_x and SO₂ emissions for the entire facility and for Equipment Group BG02 separately. These calculations are required in order to avoid the requirements of Georgia Rule (yy) and Nonattainment NSR.

The process volatile content of all coatings used for terrestrial cable (Equipment Groups FC01, FRA1, FRA2 and FRA3) and draw tower operations (Equipment Group FDT1) shall be recorded

per Condition 6.2.3. The records shall be kept to ensure compliance with VOC RACT requirements (Georgia Rule (tt)).

Monthly operating hours for the stationary IC engines in Equipment Group EM01 and cooling pump engine CPE1 shall be recorded per Condition 6.2.13. These records shall be kept in order to ensure compliance with Nonattainment NSR Avoidance requirements.

Each semiannual period, the facility is required to submit a report detailing its compliance status with the requirements of PSD/NSR Avoidance. This report includes: NO_x and SO₂ emissions for boilers and facility-wide; operating hours for stationary IC engines; and sulfur-content certification for fuel oil burned in the boilers and emergency generators. This requirement is described in Condition 6.2.15.

In the event that OFS has either boilers or reciprocating IC engines (RICE) that become subject to a National Emissions Standard for Hazardous Air Pollutants (NESHAP), Condition 6.2.16 calls for the facility to provide any notification or application as required by Section 112(j) of the Clean Air Act.

OFS has retrofitted boilers B001, B002 and B003 with low NO_x burners without going through proper permitting. The retrofitting action results in a physical change and would result in a net emissions increase of NO_x emissions (i.e., potential NO_x emissions after retrofit – baseline actual NO_x emissions before retrofit). Thus, the potential NO_x emissions from each boiler would most probably need to be limited in order for the facility to maintain a net emissions increase in NO_x emissions below 25 tons over five consecutive calendar years. OFS does have another option and that option is to apply for authorization for these retrofits as Pollution Control Projects (PCP) in accordance with the following EPA memorandum: Pollution Control Projects and New Source Review (NSR) Applicability, July 1, 1994, U.S. EPA/OAQPS. It is important to note that the retrofits would not be classified as modifications subject to permitting if they constituted a PCP according to the 1994 U.S. EPA memorandum. These requirements are detailed in Condition 6.2.18. (Note: Condition 6.2.14 requires the facility to maintain a record of the facility-wide net emission increase, if any, of NO_x and VOC for each five consecutive calendar year period that ends during the term of this Title V permit. Condition 6.2.19 requires the facility to provide the Division with facility-wide net emission increase, if any, of NO_x and VOC for the following five consecutive calendar year periods, (1) 1998 through 2002, and (2) 1999 through 2003, in order to determine OFS' compliance with net emission increase limits and update this record for the facility.)

VII. Specific Requirements

- A. Operational Flexibility: Not applicable.
- B. Alternative Requirements: Not applicable.
- C. Insignificant Activities: Refer to §4.10 of the Title V permit application.

13112: OFS is adding a VAD Development Lab and venting the room to the main VAD scrubber. Estimated emissions from the lab are: Particulate Matter = 0.264 lb/day; HCl = 0.0144 lb/day; and Chlorine = 0.00001 lb/day. The lab will be used intermittently. This activity is classified as a Title V Insignificant Activity.

13112: OFS is installing two 40 kW electric cleaning ovens to remove the tint that develops on the surface of the UV-lamp lenses. The UV lamps are used in the curing of the fiber ribbon matrix. This activity generates negligible emissions and is classified as a Title V Insignificant Activity.

- 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: The facility has indicated in Section 3.11 of the Title V application that the facility does have air conditioners or refrigeration equipment that uses CFC's or HFC's, with a capacity over 50 pounds. They also have indicated that HVAC repair and maintenance takes place on site.
- K. Pollution Prevention: Not applicable.
- L. Specific Conditions: Not applicable.

VIII. General Provisions

Generic provisions have been included in this permit to address the requirements in 40 CFR Part 70 that apply to all Title V sources, and the requirements in Chapter 391-3-1 of the Georgia Rules for Air Quality Control that apply to all stationary sources of air pollution.