

Facility Name: **Lasco Bathware, Inc.**

City: Cordele

County: Crisp

AIRS #: 04-13-081-00019

Application #: 16224

Date SIP Application Received: May 25, 2005

Date Title V Application Received: May 25, 2005

Permit No: 3088-081-0019-V-02-1

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Introduction

This narrative is being provided to assist the reader in understanding the content of the referenced SIP permit to construct and draft operating permit amendment. Complex issues and unusual items are explained in simpler terms and/or greater detail than is sometimes possible in the actual permit. This permit is being issued pursuant to: (1) Sections 391-3-1-.03(1) and 391-3-1-.03(10) of the Georgia Rules for Air Quality Control, (2) Part 70 of Chapter I of Title 40 of the Code of Federal Regulations, and (3) Title V of the Clean Air Act Amendments of 1990. The following narrative is designed to accompany the draft permit and is presented in the same general order as the permit. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Any revisions made to the permit in response to comments received during the public comment period and EPA review process will be described in an addendum to this narrative.

I. Facility Description

A. Existing Permits

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

Table 1: Current Title V Permit and Amendments

Permit/Amendment Number	Date of Issuance	Comments	
		Yes	No
3088-081-0019-V-02-0	7/08/04	x	

Table 2: Comments on Specific Permits

Permit Number	Comments
3088-081-0019-V-02-0	Title V Renewal; includes 40 CFR 63 Subpart WWWW

B. Regulatory Status

1. PSD/NSR/RACT

This facility is major under PSD (40 CFR 52.21) regulations because potential VOC emissions exceed 250 tons per year; this source is not one of the 28 listed source categories. The facility has never undergone PSD permitting because the majority of the plant was constructed prior to 1975 and therefore is “grandfathered” from PSD review. All expansions and increases in emissions have been done accomplished through PSD-avoidance measures.

Nonattainment NSR does not apply because the facility is located in an attainment area.

2. Title V Major Source Status by Pollutant

Table 3: Title V Major Source Status

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

II. Proposed Modification

A. Description of Modification

Application No. 16224 is for the construction and operation of a rotary concentrator (Unit I.D. CONC) and a thermal oxidizer (Unit I.D. RTO1) to control VOC/HAP emissions from the FRP processes. Lasco is adding this control system in order to comply with 40 CFR 63 Subpart WWWW *NESHAP for Fiberglass-Reinforced Plastics* (compliance date is April 21, 2006). Lasco proposes to make all production areas (spray booths and curing areas) into one large permanent total enclosure and to vent high-volume/low concentration exhaust from the enclosure to a rotary zeolite concentrator. The concentrator will be rated for an inlet airflow of 85,000 ACFM. VOC/HAP (in the form of styrene monomer) will be adsorbed into a section of the concentrator while another section of the concentrator is being desorbed (regenerated). The VOC/HAP collected in the concentrator will be desorbed using hot air and routed to a thermal oxidizer for destruction in a low-volume/high concentration flow. The oxidizer exhaust and the concentrator exhaust will be discharged via a common stack.

The assumed capture efficiency of the enclosure is 100 percent. The predicted collection efficiency of the concentrator is 95 percent. The predicted destruction efficiency of the oxidizer is 95%. Therefore, the overall removal efficiency of this control system is 90 percent.

B. Emissions Change

The installation of add-on controls will reduce the actual emissions of VOC and HAP from this facility by approximately 90%. Currently, facility-wide VOC emissions are limited to 517.21 tons per year. Actual VOC emissions are approximately 325 tons per year. Estimated actual emissions will fall to 35 tons per year after this modification. Emissions of products of combustion (NO_x, CO) will increase slightly, but will remain below 10 tons per year each.

Table 4: Emissions Change Due to Modification

Pollutant	Is the Pollutant Emitted?	Net Actual Emissions Change (tpy)	Net Potential Emissions Change (tpy)
PM	x	0	0
PM ₁₀	x	0	0
SO ₂		na	na
VOC	x	-293	0
NO _x	x	10	10
CO	x	10	10
TRS		na	na
H ₂ S		na	na
Individual HAP	x	-293	0
Total HAPs	x	-293	0

C. PSD/NSR Applicability

This modification does not trigger PSD review. The addition of add-on control devices will not result in increased emissions.

III. Facility Wide Requirements

A. Emission and Operating Caps:

No changes.

B. Applicable Rules and Regulations

Georgia Toxic Guidelines

While styrene emissions are not increasing due to this project, the stack configuration is changing slightly. The use of an oxidizer will elevate exhaust temperatures, resulting in better dispersion. Because no increase in ground-level concentration is expected, no toxic impact assessment was performed.

40 CFR 63 Subpart SS

According to 40 CFR 63 Subpart WWWW (MACT for fiberglass products), a source using control equipment to comply with Subpart WWWW is also subject to 40 CFR 63 Subpart SS *NESHAP for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process*. This regulation contains no emissions standards, it only specifies the required monitoring, record keeping, and reporting that must be done for certain types of control devices. Subpart SS provides standard requirements for testing and monitoring of control devices such as thermal oxidizers, carbon adsorbers, etc. Subpart SS does not address zeolite rotary concentrators, but monitoring concepts in Subpart SS were used in this amendment.

C. Compliance Status

No noncompliance issues are known.

D. Operational Flexibility

No changes

E. Permit Conditions

New Condition 2.2.1 establishes the general applicability of 40 CFR 63 Subpart SS.

IV. Regulated Equipment Requirements

A. Brief Process Description

The manufacturing processes of the facility will not change. VOC/HAP emissions due to evaporative losses from the styrene monomer used in the spray booths will be captured by the permanent total enclosure and routed to a rotary concentrator and then to a thermal oxidizer.

B. Equipment List for the Process

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
EMA1	Spray Booth A1	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 40 CFR 63 Subpart WWWW 40 CFR 63 Subpart SS	2.1.1, 2.2.1, 3.3.1 through 3.3.5, 3.4.1, 3.4.2, 3.5.1, 4.2.1 through 4.2.4, 5.2.1 through 5.2.6, 6.2.1 through 6.2.20	CD01	Fabric Filter
				CONC	Rotary Concentrator
				RTO1	Regenerative Thermal Oxidizer
EMA2	Spray Booth A2	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 40 CFR 63 Subpart WWWW 40 CFR 63 Subpart SS	2.1.1, 2.2.1, 3.3.1 through 3.3.5, 3.4.1, 3.4.2, 3.5.1, 4.2.1 through 4.2.4, 5.2.1 through 5.2.6, 6.2.1 through 6.2.20	CD01	Fabric Filter
				CONC	Rotary Concentrator
				RTO1	Regenerative Thermal Oxidizer
EMA4	Spray Booth A4	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 40 CFR 63 Subpart WWWW 40 CFR 63 Subpart SS	2.1.1, 2.2.1, 3.3.1 through 3.3.5, 3.4.1, 3.4.2, 3.5.1, 4.2.1 through 4.2.4, 5.2.1 through 5.2.6, 6.2.1 through 6.2.20	CD01	Fabric Filter
				CONC	Rotary Concentrator
				RTO1	Regenerative Thermal Oxidizer
EMA7	Spray Booth A7	391-3-1-.02(2)(b) 391-3-1-.02(2)(e) 40 CFR 63 Subpart WWWW 40 CFR 63 Subpart SS	2.1.1, 2.2.1, 3.3.1 through 3.3.5, 3.4.1, 3.4.2, 3.5.1, 4.2.1 through 4.2.4, 5.2.1 through 5.2.6, 6.2.1 through 6.2.20	CD01	Fabric Filter
				CONC	Rotary Concentrator
				RTO1	Regenerative Thermal Oxidizer

C. Equipment & Rule Applicability

Emission and Operating Caps –

No Changes.

Applicable Rules and Regulations -

40 CFR 63 Subpart WWWW (NESHAP for Fiberglass-reinforced plastics). The compliance date for this regulation is April 21, 2006. The NESHAP is already established in the current permit, but the wording must now be changed to account for a new compliance option. The standard will not change drastically, but certain permit conditions have been modified to account for the recent amendment to Subpart WWWW which provided clarification. Subpart WWWW does not contain any full requirements for the use of control devices; instead Subpart WWWW refers to and specifies that 40 CFR Subpart SS applies.

D. Compliance Status

No noncompliance issues known.

E. Operational Flexibility

No changes.

F. Permit Conditions

Condition 3.3.1, which establishes 40 CFR 63 Subpart WWWW as applicable, is modified to include references to new conditions.

Condition 3.3.2, which explains the operations exempt from Subpart WWWW, is modified to include putty application as clarified in the amendment to Subpart WWWW.

Condition 3.3.3, which listed the emission limits of Subpart WWWW in tabular form, is modified to correct for the omission of the word “resin” and to account for a clarification of the limits in the amendment to Subpart WWWW.

New Condition 3.3.6 requires that the oxidizer be used all the time. This is a requirement of Subpart SS.

New Condition 3.3.7 requires that the concentrator be used all the time. This is a requirement of Subpart SS.

New Condition 3.5.1 requires that the concentrator adsorption bed material be replaced if the overall control of the concentrator/oxidizer combination falls below 86%. Since oxidizer DRE is not likely to fall below 95%, the 86% represents a concentrator efficiency of 90%. This requirement is established because once an adsorber begins to get “saturated” and lose efficiency, the drop off to complete failure is fairly rapid. The monitoring required only covers day to day operation and cannot fully account for aging of the adsorber bed material.

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

Condition 4.1.3 was modified to properly include sampling and testing methods.

New Condition 4.2.1 requires an initial VOC control efficiency stack test on the concentrator and oxidizer. This test must be done no later than 180 days after the 40 CFR 63 Subpart WWWW compliance date.

New Condition 4.2.2 requires a VOC control efficiency test on the concentrator and oxidizer every 36 months. Periodic testing is required because the concentrator parameters to be monitored may not account for fouling and overall aging of the adsorber zeolite material, which will eventually become ineffective. Although the useful life of the oxidizer is expected to be much longer than that of the adsorber material, since the concentrator and oxidizer exhaust from a common stack, both are essentially tested.

New Condition 4.2.3 requires a VOC test on the concentrator and oxidizer whenever the adsorber material is replaced.

New Condition 4.2.4 requires an initial test to verify a permanent total enclosure. This test must be done no later than 180 days after the 40 CFR 63 Subpart WWWW compliance date.

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

40 CFR 63 Subpart SS details the monitoring requirements for thermal oxidizers and carbon adsorbers. For oxidizers, Subpart SS requires temperature monitoring. The zeolite rotary concentrator is not exactly a carbon adsorber, therefore Subpart SS does not apply. However, the similarities between zeolite concentrators and carbon adsorbers allow one to consider similar monitoring strategies.

For carbon adsorbers, Subpart SS requires: (1) An integrating regeneration stream flow monitor to record the total mass flow or volume flow of regeneration (desorption) air, and (2) a temperature monitor on the bed after desorption and cool down period. It is EPD's determination that these parameters were not as meaningful as other possible parameters. In lieu of using these parameters, the amendment used the Cybershield (Canton) permit as a model. Cybershield uses a zeolite concentrator and thermal oxidizer to control painting emissions.

The chosen concentrator parameters to be monitored are desorption air inlet temperature and pressure drop across the adsorber section. If desorption temperature falls too low, the bed will not be cleaned out properly and may be unable to adsorb VOC adequately. If pressure drop gets too high, the bed may be getting fouled, reducing the efficiency of the bed material. Periodic inspection of the bed material is also recommended.

For the permanent total enclosure, a pressure differential across the enclosure of at least 0.007 inches water constitutes a PTE.

New Condition 5.2.4 requires continuous monitoring of oxidizer temperature and desorption gas temperature.

New Condition 5.2.5 requires daily recording of pressure differential drop across the PTE, and pressure drop across the adsorber section of the rotary concentrator.

New Condition 5.2.6 requires annual inspections of the rotary concentrator bed.

Compliance Assurance Monitoring (CAM)

CAM does not apply to LASCO because the new VOC control device is not needed to meet the VOC limit in the permit (Lasco has been meeting this limit with no controls for several years).

VII. Other Record Keeping and Reporting Requirements

Condition 6.1.7 is modified to include new excursions of the control device parameters as established.

The following conditions modified address requirements of 40 CFR 63 Subpart WWWW.

Condition 6.2.2 is modified to include the use of an add-on control device.

Condition 6.2.3 is modified to include the word “resin” that was erroneously omitted in the permit.

Condition 6.2.5 is modified to update the record keeping requirements in 40 CFR 63 Subpart WWWW which account for the use of an add-on control device.

Condition 6.2.6 is updated to reflect the amendment to Subpart WWWW which clarifies the record keeping requirements when switching between compliance options.

New Condition 6.2.20 requires that a Startup Shutdown, and Malfunction Plan be developed. This is a requirement of 40 CFR 63 Subpart SS and Subpart A for any source that uses add-on controls to comply with a MACT standard.

VIII. Specific Requirements

Discuss any of the following specific requirements as they apply to the modification.

- A. Operational Flexibility – No Changes
- B. Alternative Requirements– No Changes
- C. Insignificant Activities– No Changes
- D. Temporary Sources– No Changes
- E. Short-Term Activities– No Changes
- F. Compliance Schedule/Progress Reports– No Changes
- G. Emissions Trading– No Changes
- H. Acid Rain Requirements– No Changes
- I. Prevention of Accidental Releases– No Changes
- J. Stratospheric Ozone Protection Requirements– No Changes
- K. Pollution Prevention– No Changes
- L. Specific Conditions– No Changes

Addendum to Narrative

The 30-day public review started on January 12, 2006 and ended on February 12, 2006. Comments were received by the Division. The only comments submitted to the Division regarding this permit amendment came from the facility on January 24, 2006. Lasco's comments are summarized below followed by the Division response.

Comment #1

Condition 3.3.6, which requires that the new oxidizer be operated at all times that emissions are routed to it, should be eliminated. This condition specifically cites 40 CFR 63 Subpart SS section 988 as the regulatory backing for this requirement. However, this requirement of 40 CFR 63.988 does not apply unless the applicable federal standard specifies a percent reduction or exit concentration.

Division Response

The Division agrees that this requirement of 40 CFR 63 Subpart SS does not apply because 40 CFR 63 Subpart WWWW that applies to Lasco does not specify a percent reduction or exit concentration. Condition 3.3.6 is removed.

Comment #2

Condition 3.3.7, which requires that the new concentrator be operated at all times that emissions are routed to it, should be eliminated. This condition specifically cites 40 CFR 63 Subpart SS section 993 as the regulatory backing for this requirement. However, this requirement of 40 CFR 63.993 does not apply unless the applicable federal standard specifies a total reduction efficiency (TRE).

Division Response

The Division agrees that this requirement of 40 CFR 63 Subpart SS does not apply because 40 CFR 63 Subpart WWWW that applies to Lasco does not specify a TRE. Condition 3.3.7 is removed.

Comment #3

Condition 3.5.1, which requires that the zeolite concentrator bed be replaced within 30 days after any test reveals a reduced control efficiency, should be modified to allow 120 days instead of 30 days. The minimum time it takes to order a replacement, have it shipped, and then to install it is 120 days. Since the applicable standard (40 CFR 63 Subpart WWWW) is an annual average, operating at a reduced efficiency for such a period will not result in a violation of the standard.

Division Response

The Division agrees to change the deadline from 30 days to 120 days.

Comment #4

Condition 4.1.3 listing the applicable testing methods should be modified to include Method 25A, not just Method 25 for VOC control efficiency. This is allowable specifically in 40 CFR 63.5850

Division Response

The Division agrees. Method 25a is specified in the applicable NESHP as an acceptable test method.

Comment #5

Condition 4.2.2 should be corrected to accurately reflect the testing frequency specified by the NESHAP 40 CFR 63 Subpart WWWW. While the permit requires testing every 3 years, 40 CFR 63.5845 specifies that every 5 years is appropriate.

Division Response

The Division agrees to change the testing frequency to once every 5 years to match the NESHAP. This was an oversight on my part.

Comment #6

Condition 4.2.4 should be clarified to specify that only the lamination and gel coat spray booths will be located inside the permanent total enclosures (PTEs). Because 40 CFR 63 Subpart WWWW states that mixing and storage tanks are covered by the NESHAP (but have no specified emission limit under the NESHAP), requiring all MACT subject operations to be in the PTE is not necessary.

Division Response

The Division agrees to clarify the condition to specify that only lamination and gel coat spray operations are to be inside the PTEs.

Comment #7

Condition 5.2.5 requires pressure readings across the booths to verify a permanent total enclosure. Lasco proposes to verify permanent total enclosure status by conducting a daily check of duct pressure from the PTE to the concentrator.

Division Response

The Division agrees that there can be many ways to ensure 100 percent capture efficiency. Condition 5.2.5 has been changed to allow duct pressure monitoring. Condition 4.2.4 has been changed to include that this parameter be monitored and recorded during the capture efficiency tests.

Comment #8

The existing lamination and spray booth filters will no longer be used because all emissions will be routed to the concentrator and oxidizer, which will contain filters to eliminate particulate matter from fouling the control devices. The requirements of Conditions 5.2.1 through 5.2.3 should be removed.

Division Response

The Division disagrees. According to Lasco, the filters will be maintained in place to control particulate matter during any bypass/control device downtime mode when emissions are routed away from the concentrator/oxidizer and to the existing filters. Because the filters will be used very rarely, Conditions 5.2.1 through 5.2.3 are modified to clarify that the filter changeout schedule only applies based on concentrator/oxidizer bypass hours. Furthermore, Condition 6.1.7 has been changed to clarify this scenario.

Because these changes affected the final construction/draft operating permit amendment, the original permit amendment 3088-081-0019-V-02-1 is revoked and replaced with a new amendment (-02).