

TECHNICAL SUPPORT DOCUMENT

TECHNICAL INFORMATION PRESENTED IN REVIEW OF AN
APPLICATION FOR A PART 70 OPERATING PERMIT

SUBMITTED BY

LASCO BATHWARE INC.

For

LASCO BATHWARE
Moapa, Nevada

Part 70 Operating Permit Number: 75, Renewal
Initial Permit Issued: December 30, 2002
Initial Permit Expiration: December 31, 2007

SIC Code 3089 – Plastic Bathware Manufacturing



Clark County
Department of Air Quality and Environmental Management
Permitting Section

September 2008

This Technical Support Document (TSD) accompanies the proposed Part 70 Operating Permit for Lasco Bathware.

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I. EXECUTIVE SUMMARY

Lasco is a bathware manufacturing operation located at 201 N. Meadow Valley Road, Moapa, NV. This is the only source owned and operated by Lasco in the state of Nevada. There are similar sources owned by the applicant in South Boston, VA; Elizabethtown, PA; and Lancaster, TX. The legal description of the location of the source is as follows: a portion of Section 29, T14S, R66E, in Moapa Valley, County of Clark, State of Nevada. Lasco is situated in hydrographic area 218 (California Wash). California Wash is designated as unclassified non-attainment area for 8-hour ozone (regulated through NO_x and VOC) and is PSD area for PM₁₀, CO and SO_x. Hydrographic basin 218 is PSD for all regulated air pollutants.

At present, all Lasco products are produced with thermosetting plastic resins modified with inert fillers and reinforced with glass fiber, wood strips, and other stiffening materials. Lasco's operation is open molding with mechanical resin application. The finished products are often referred to as Fiber Reinforced Polyester (FRP).

Major structures at Lasco's Moapa source include one production and warehouse building (168,000 sq. ft.) including an office building, two production lines, a resin mixing/storage area, four large above-ground tanks, a rail spur, and a propane fuel tank.

Bathware fixtures are produced in continuous assembly lines by laminating a mixture of thermosetting plastic resin and other inert materials onto a bathware mold.

The thermosetting plastic consists of resin which contains styrene monomer. While the production process relies upon the polymerization of styrene monomer to make the final product a rigid solid, a certain amount of the styrene is emitted as a volatile. These emissions occur primarily when the thermosetting plastic mixture is being sprayed and during the initial stages of curing.

The source emits styrene, a hazardous air pollutant (HAP) as well as volatile organic compounds (VOC), and minor amounts of particulate matter and combustion byproducts. The facility is subject to 40 CFR 63 Subpart WWWW- National Emission Standards for Hazardous Air Pollutants: Reinforced Composites Production. The facility's potential to emit for HAPs before the add-on control is greater than 100 tons per year and, therefore, the facility is required to meet 95 percent overall reduction of HAP emissions based on the Maximum Achievable Control Technology (MACT) standards under the Subpart. The source meets the requirements by using rotary preconcentrators and RTO as add-on control devices. Compliance with the MACT standards and other NSR requirements is demonstrated by continuous parameter monitoring for the control device, periodic performance testing for capture efficiency and destruction efficiency of the control device, and applicable recordkeeping.

Table 1-1: Maximum Source PTE (tons per year)

PM ₁₀	NO _x	CO	SO ₂	VOC	HAP
0.50	6.83	2.61	0.07	49.21	45.66

DAQEM received the Title V renewal application on December 29, 2006. The application also requested a Title V revision to incorporate changes addressed under NSR permit modifications 3 and 4, issued on 01/03/06, and 10/25/06, respectively. Based on information submitted by the applicant and a technical review performed by the DAQEM staff, the DAQEM proposes the issuance of a Part 70 Operating Permit to Lasco Bathware.

II. LIST OF ACRONYMS

Table II-1: Acronyms

Acronym	Term
AQR	Clark County Air Quality Regulations
ATC	Authority to Construct Certificate or Authority to Construct
ATC/OP	Authority to Construct/Operating Permit
BCC	Clark County Board of County Commissioners
CAO	Field Corrective Action Order
CE	Control Efficiency
CEM	Continuous Emissions Monitoring System
CF	Control Factor
CFR	United States Code of Federal Regulations
CO	Carbon Monoxide
CPI	Urban Consumer Price Index
DAQEM	Clark County Department of Air Quality & Environmental Management
dscf	dry standard cubic foot
DEM	Digital Elevation Model
EF	Emission Factor
EO	Executive Order
EPA	United States Environmental Protection Agency
EU	Emission Unit
EVR	Enhanced Vapor Recovery
GDO	Gasoline Dispensing Operation
HAP	Hazardous Air Pollutant
HP	Horse Power
kW	kiloWatt
MMBtu	Millions of British Thermal Units
NAC	Nevada Administrative Code
NAICS	North American Industry Classification System
NEI	Net Emission Increase
NO _x	Nitrogen Oxides
NOV	Notice of Violation
NRS	Nevada Revised Statutes
NSPS	New Source Performance Standards
NSR	New Source Review
OP	Operating Permit
PAL	Plantwide Applicability Limit
PM _{2.5}	Particulate Matter less than 2.5 microns
PM ₁₀	Particulate Matter less than 10 microns
ppm	Parts per Million
ppmvd	Parts per Million by Volume, Dry
PSD	Prevention of Significant Deterioration
PTE	Potential to Emit
RAP	Recycled Asphalt Product
scf	Standard Cubic Feet
SCC	Source Classification Codes
SCR	Selective Catalytic Reduction

Acronym	Term
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO _x	Sulfur Oxides
TCS	Toxic Chemical Substance
TSD	Technical Support Document
USGS	United States Geological Survey
UTM	Universal Transverse Mercator
VLP	Various Location Permit
VOC	Volatile Organic Compound

III. SOURCE INFORMATION

A. General

Permittee	Lasco Bathware
Mailing Address	8101 E Kaiser Boulevard, Suite 200 Anaheim, CA 92808
Responsible Official	Steve Dowler
Contacts	Viktor Prismantas
Phone Number	(714) 993-1220 ext. 86428
Fax Number	(714) 998-1377
Source Location	201 N. Meadow Valley Road, Moapa, Nevada
Hydrographic Area	218
Township, Range, Section	T14S, R66E, Section 29
SIC Code	3089 – Plastic Bathware Manufacturing
NAICS Code	326191 – Bathtubs, plastics, manufacturing

B. Description of Process

General Description

All Lasco products manufactured at this location are produced with thermosetting plastic resin, modified with inert fillers to obtain certain fire code ratings, shrink factors, and processing conditions. The resins are processed as liquids, which change to become permanent solids by chemical reaction initiated with catalyst and finalized with ambient heating for a period of time.

The filled laminating resin is reinforced with glass fiber roving, wood strips and other stiffening materials. The finished unit is a structural entity with an impervious colored surface on the inside (bathing compartment) of the unit. Gel coats containing polyester thermoset resin, colorants and inert fillers are used to produce the inside surface. Polyester thermoset resin is combined with inert fillers and glass fiber to form a fiberglass laminate to provide load-bearing capability. The finished product is often referred to as a FRP (Fiberglass Reinforced Polyester) bath fixture, with gel coat surface.

Lasco has two production lines: Line 1 and Line 2, with Line 2 differing from Line 1 in that the composite materials are applied to the moulds by robotic applicators instead of by workers. In Line 1, all Lasco products are produced with thermosetting plastic resins modified with inert fillers and reinforced with glass fiber, wood strips, and other stiffening materials. Lasco's operation is open molding with mechanical resin application. The resins are processed as liquids that are transformed into permanent solids through chemical reactions and heating. Gelcoat-containing polyester thermoset resin and colorants are used to produce the exposed surface. The finished products are often referred to as Fiber Reinforced Polyester (FRP).

In production line 2, Lasco uses thermosetting plastic resins to manufacture bathware using an operation similar to Line 1. In Line 2, the composite materials will be applied to the molds by robotic applicators instead of manual application as in the case of Line 1. Workers will still perform those tasks that cannot be automated, such as rolling out the wet laminate and placing the various structural parts into the wet molds. The mold is coated once every 100 cycles with VOC-containing polymer release agent to provide release of polymer resins from the mold. Frekote WOLO is applied as a release agent. Frekote PMC is used as a cleaning agent and Frekote FMS is used as a mold sealer.

HAP and VOC emissions from the coating operations at Lasco are controlled by two types of add-on control devices: two Rotary preconcentrators and a Regenerative Thermal oxidizer. All of the emissions from Line 1 are contained inside a building enclosure that surrounds Line 1. The spray booths and other process vents on Line 1 are connected to the preconcentrator unit where styrene and other VOCs are adsorbed before the exhaust is released to the atmosphere. A hot air stream of about 10,000 cubic feet per minute desorbs the adsorbed styrene and VOC in the preconcentrator and transport it to the existing RTO unit for thermal destruction to yield a 95 percent overall control efficiency. The building enclosure also surrounds all of Line 2, so that all of the emissions from Line 2 are captured and transferred to the control system. The spray booths and other process vents for line 2 are connected to a second preconcentrator unit. The desorbed styrene and VOCs from this second preconcentrator are also sent to the existing RTO unit for thermal destruction to yield a 95 percent overall control efficiency. Equipment specific operation description is provided in Section III-B: Equipment Description.

C. Permitting History

The initial ATC for Lasco Bathware was issued on November 4, 1993. Prior to the issuance of the initial title V permit, the source was modified two times. This section of the technical support explains the modifications and changes occurred after the issuance of the initial Title V permit.

Initial Part 70 Permit: Initial Part 70 permit for LASCO was issued on 30 December 2002.

ATC Modification 3: On June 10, 2004, DAQEM received an application proposing modification of Line 1 and construction of a new production line (Line 2).

Based on the application, the operation of the existing RTO unit that was connected to the four spray booths in Line 1 was proposed to be modified by adding a larger rotary preconcentrator unit before the RTO. The new unit was to increase the exhaust airflow rate in Line 1 from about 23,000 cubic feet per minute to 100,000 cubic feet per minute. This increased exhaust airflow made a permanent total enclosure a practical option. All of the emissions from Line 1, including up to 20 tons per year of fugitive emissions that was escaping until then, was proposed to be contained inside a building enclosure that will surround Line 1. The spray booths and other process vents on Line 1 were proposed to be connected to the preconcentrator unit where styrene and other VOCs will be adsorbed before the exhaust is released to the atmosphere. A hot air stream of about 10,000 cubic feet per minute was also proposed to desorb the adsorbed styrene and VOC in the preconcentrator and transport it to the existing RTO unit for thermal destruction. A minimum of 95 percent overall control efficiency was proposed from Line 1 to comply with the MACT standard (40 CFR 63 Subpart WWWW) promulgated in 2003 and NSR requirements.

The application also proposed a new production line (Line 2). Line 2 was identical to the existing Line 1 process, except that the composite materials would be applied to the molds by robotic applicators instead of by workers. The building enclosure described in Line 1 modification was proposed to surround all of Line 2, so that all of the emissions from Line 2 would be captured and transferred to the control system. The spray booths and other process vents were also proposed to be connected to a second preconcentrator unit. The desorbed styrene and VOCs from this second preconcentrator would then be sent to the existing RTO unit for thermal destruction to yield a 95 percent overall control efficiency. A minimum of 95 percent overall control efficiency was proposed to comply with the MACT standard (40 CFR 63 Subpart WWWW) promulgated in 2003 and NSR requirements.

ATC for Modification 3 was issued on January 14, 2005. The modification was completed in January 2006 and an ATC/OP for the source was issued on January 3, 2006. The following emission limits were assigned to Lasco in this operating permit.

Pollutant	tons/year
PM ₁₀	0.44
NO _x	6.30
CO	2.36
SO ₂	0.05
VOC	49.13
HAP (styrene)	45.62

ATC Modification 4: On April 19, 2006, DAQEM received an application to modify the existing permit by increasing the propane usage limit for RTO operation.

The existing source permit (ATC/OP Modification 3) limited the propane usage of the RTO to 59,149 gallons per year. This value was calculated based on RTO performance prior to Modification 3. Based on the application for Modification 4, Lasco explained that it did not account for the heat to

be used for the heat exchanger at the time of Modification 3. This additional heat comes from the RTO and, therefore, the process has created a greater demand for propane use by the concentrator/RTO system. Lasco proposed to increase the propane usage to 193,596 gallons per year.

ATC/OP Modification 4 for the source was issued on October 10, 2006. The following PTE were assigned to Lasco in this operating permit:

Pollutant	tons/year
PM ₁₀	0.50
NO _x	6.83
CO	2.61
SO ₂	0.07
VOC	49.21
HAP (styrene)	45.66

Title V renewal Application: DAQEM received the Title V renewal application on December 29, 2006. The application also requested a Title V revision to incorporate changes addressed under NSR permit modifications 3 and 4, issued on 01/03/06, and 10/25/06, respectively. Source is in compliance with Title V requirements for these ATC actions due to the fact that Title V applications for these modifications were received within 12 months of commencement of operation.

Table II-C-2: Control Technology Determinations for Lasco

EU	Description	Control Technology	Limitations/Control Technology Requirements
A01, A04, A05, A07, A08, A26, and A31	Production Line 1	Preconcentrators and RTO	Minimum 95% overall destruction efficiency for VOC and HAP emissions. Styrene-containing resins are limited to a maximum styrene content less than or equal to 36 percent for gelcoat, 42 percent for barriercoat and 49 percent for laminate, by weight.
A09, A11, A13, A15, A27, and A35	Production Line 2	Preconcentrators and RTO	Minimum 95% overall destruction efficiency for VOC and HAP emissions. Styrene-containing resins are limited to a maximum styrene content less than or equal to 36 percent for gelcoat, 42 percent for barriercoat and 49 percent for laminate, by weight.
A02, A06, A10, A12, A14 and A20	Air Heaters (for both Line 1 and Line 2)	Sole use of propane fuel and good combustion practices	Each is limited to 2,200 hours of operation per year. Combined propane use limitation of 662,645 gallons per year.
A17A	Trim Saw	Dust collector	At least 99.0 percent Control efficiency for particulates.

EU	Description	Control Technology	Limitations/Control Technology Requirements
A23	Storage Silo (CaCO ₃)	Binvent	At least 99.0 percent Control efficiency for particulates.
A21, A22, A24, A25, A39	Myer Mixer, Holding Tank Rooms (Lam1, Lam2, Lam3 & BC), & Myer Putty Mixer	Preconcentrators and RTO	Minimum 95% overall destruction efficiency for VOC and HAP emissions. Styrene-containing resins are limited to a maximum styrene content less than or equal to 36 percent for gelcoat, 42 percent for barriercoat and 49 percent for laminate, by weight.
A42	Preconcentrators RTO	Sole use of propane as auxiliary fuel.	RTO operating temperature limitation between 1,600 °F and 2,000 °F (averaged over 10 minutes) Auxiliary fuel use limitation of 193,596 gallons (including startups and idling) of propane per year.

D. Operating Scenario

All the emission units and the add-on control device(s) at Lasco, except the Air heaters (EUs: A02, A06, A10, A12, A14 and A20) are permitted for unlimited operation (8,760 hours). Each of the air heaters at the source (EUs: A02, A06, A10, A12, A14 and A20) are limited to 2,200 hours of operation. No alternate operating scenario was proposed by the applicant or included in the permit.

E. Proposed Exemptions

Lasco has not proposed any exemptions in the Title V renewal application.

III. EMISSIONS INFORMATION

A. Total Source Potential to Emit

The source potential to emit (PTE) for pollutants (Table III-A-1), as presented in the Part 70 Operating Permit application, establishes the major source status of the source.

Table III-A-1: Maximum Source PTE (tons per year)

PM ₁₀	NO _x	CO	SO ₂	VOC	HAP
0.50	6.83	2.61	0.07	49.21	45.66

B. Equipment Description

Source Plot Plan is provided in Attachment T-2 (Drawing # D-10-4424-3) of the ATC Modification 3 application (submitted to DAQEM on June 10, 2004). The air emission source equipment and associated major equipment is listed below and shown on the Plot Plan. The source is configured into two (2) production lines: Line 1 and Line 2. In addition, common ancillary/support equipment such as resin mixing/storage area, above-ground tanks, and propane fuel tank also exist at the source.

Production Line 1 (Line 1)

Line 1 consists of the following emission units:

Mold Preparation Station (EU: A31): In this process, bare molds are cleaned, repaired if necessary, and are waxed and polished prior to the next manufacturing cycle on the conveyor, which begins with the gel coating.

Spray booths: Production line contains 4 spray booths- A01, A04, A05, and A07. These spray booths are used for the application of gelcoats, fiberglass reinforced laminates, and barrier coats during various stages of the molding process.

Part Demolding Station (EU: A30): The cured bath fixture is loosened from the mold and transported to the grinding booth. This is common to both production lines 1 & 2.

Grinding Booth(s) (EU: A08): This is a three sided booth with a top and a catch basin below the grated floor. Finished bathtub/shower units are trimmed by air powered equipment (primarily grinders and drills). The booth maintains a negative pressure with respect to the surrounding area, thus essentially no dust escapes from the booth. The lighter ground dust is controlled by the use of dry filter media through which air passes before leaving the booth and exiting to the roof vent.

Process Air heaters: Production line 1 also contains the following propane-fired process air heaters: One (1), 6.3 MMBtu/hr heater (EU: A02), one (1), 4.8 MMBtu/hr heater (EU: A06); and one (1), 0.36 MMBtu/hr heater. Air heaters are used to keep the process air at optimum temperatures to facilitate the bonding and curing of resins and laminates during the manufacturing operations.

Gelcoat Room: The gelcoat storage room for production line 1 is identified as emission unit A26.

Production Line 2 (Line 2)

Similar to production line 1, Line 2 also contain 4 spray booths (EUs: A09, A11, A13, and A15) for the application of gelcoats, fiberglass reinforced laminates, and barrier coat during various stages of the molding process. Line 2 contains two similar air heaters as Line 1 - EU: A10 rated at 6.3 MMBtu/hr, and EU: A12 rated at 4.8 MMBtu/hr. Line 2 also has five propane-fired cure tunnel air heaters (EU: A14) with a cumulative rating of 5 MMBtu/hr. The mold preparation station for Line 2 is identified as EU: 35 and EU: A27 is the Gelcoat storage room for Line 2.

Common equipment

Mixers (EUs A21 and A22): Virgin polyester resin is mixed with fillers (aluminum trihydrate and calcium carbonate) in a closed system 5 Hp Autocon Hy-Solv disperser. The newly mixed high-filled resin is pumped directly to the holding tanks which are located inside the manufacturing building in a fire resistant room adjacent to the spray booth. The virgin resin is supplied to the disperser from a remote 7,000 gal. storage tank by gravity. The calcium carbonate is automatically loaded through a dust free pneumatic conveying system. The aluminum trihydrate is manually loaded into the mixer. The source also has a putty mixer (EU: A39).

Inspection (EU: A36): The parts are checked for structural weakness, dimensional tolerances and finish flaws. The parts are also weighed to compare with a standard for material control purposes. The unit is routed to the warehouse, if accepted, or to part repair if minor touch-up finishing is required.

Part Repair (EU: A37): Parts are routed here for touch-up repair of minor defects and are then inspected and forwarded to the warehouse.

Storage Silo (CaCO₃) (EU: A23): Stores calcium carbonate filler material. The filler material is pneumatically conveyed to the mixer where it is mixed with polyester resins. Particulate emissions during loading and unloading of the silo are controlled by a binvent with at least 99.0 percent PM₁₀ control efficiency.

Holding Tank Rooms (EUs: A24, and A25): These rooms contain tanks which store different types of fiberglass reinforced laminates (Lam 1, 2 and 3) and barrier coat.

In addition to the above, the source also has a Protective Coating booth (EU: A40), a virgin resin storage tank (EU: A38), and two (2) trim saws (EU: A17A) as common equipment.

Add-on Control Devices

These include the 2 rotary preconcentrators and the Regenerative Thermal Oxidizer (RTO). Their Operation is discussed in detail below.

Rotary Preconcentrators: The purpose of the preconcentrators is to concentrate the dilute gaseous VOC in a large air volume to a smaller air volume. The VOC in the smaller air volume is more efficiently destroyed or collected.

The concentration of VOC in the process exhaust air is achieved as follows. The VOCs are collected by passing the VOC laden process exhaust air through a rotary disk adsorber with zeolite as active adsorbent media. As the process air passes through the disk adsorber, the VOCs are adsorbed on to the adsorbent media affixed to the rotor. The purified process exhaust air is then exhausted to the atmosphere. The VOCs adsorbed on the rotor are continuously desorbed by a high temperature-volume desorption air stream. Desorption air stream exits the concentrator containing the VOC desorbed from the rotary disks. The desorption air stream is then directed into the RTO for VOC destruction. A modular three stage filter, each stage with progressively higher levels of filtration for the removal of particulates prior to the concentrator inlet, is also part of the system.

Regenerative Thermal Oxidizer (RTO): The regenerative thermal oxidizer (RTO) unit is manufactured by Adwest Technologies, Inc. and is referred to as the Retox® oxidizer.

The Retox® oxidizer consists of a reinforced, insulated twin bed chamber filled with ceramic heat exchanger media. The gas flow is automatically controlled by a zero leakage poppet valve mechanism that changes the direction of the gas flow at regular intervals via an integral programmable logic control (PLC) system. An external burner is used for initial cold startup, (typically one hour) and for maintaining RTO operating temperature between 1,600 °F and 2,000 °F. The external burner is fueled with liquid propane that is stored in a tank at Lasco’s facility.

Due to the abundant oxygen content of the process gas, complete combustion readily occurs when the ignition point is reached in the oxidizer (typically 1600-1700°F). Styrene is converted to carbon dioxide and water vapor. With a sufficient concentration of styrene in the incoming process gas, the exotherm of the styrene will be enough so that the combustion will be self-sustaining and no auxiliary heat energy is required from the fuel source.

The high degree of heat recovery achieved is the result of regenerative heat transfer. The styrene-laden process air enters a porous bed filled with high temperature ceramic heat transfer media. The air is preheated by bed #1 to a maximum temperature, passes through a central combustion chamber where the styrene is oxidized to carbon dioxide and water vapor, and then exits a second bed where heat is transferred from the hot air back into the bed. In order to avoid an uneven temperature distribution throughout the oxidizer, the gas flow direction is changed at regular intervals by the automatic valve-switching mechanism to maintain an even temperature profile between the twin beds.

C. Emission Units and PTE

Table III-C-1 identifies the emission units associated with the source.

Table III-C-1: Source Emission Units

EU	Description	SCC	Type ¹
A01	Spray Booth (Line 1) with Preconcentrator and RTO. Lasco Custom Design, S/N A07501	30800724	SC1
A02	Air Heater (Line 1, 6.3 MMBtu/hr) Hasting SBD-233-EC750, S/N 47514-2	30890004	F1
A04	Spray Booth (Line 1) with Preconcentrator and RTO. Lasco Custom Design, S/N A07504	30800724	SC1
A05	Spray Booth (Line 1) with Preconcentrator and RTO. Lasco Custom Design, S/N A07505	30800724	SC1
A06	Air Heater (Line 1, 4.8 MMBtu/hr) Hasting SBD-277-EC500, S/N 45716-1	30890004	F1
A07	Spray Booth (Line 1) with Preconcentrator and RTO. Lasco Custom Design, S/N A07507	30800724	SC1
A08	Grinding Booth (Line 1), Lasco Custom Design, S/N A07508	30800701	P1
A09	Spray Booth (Line 2) with Preconcentrator and RTO. Lasco Custom Design, S/N A07509	30800724	SC1
A10	Air Heater (Line 2, 6.3 MMBtu/hr) Hasting SBD-233-EC750, S/N 47514-2	30890004	F1
A11	Spray Booth (Line 2) with Preconcentrator and RTO. Lasco	30800724	SC1

EU	Description	SCC	Type ¹
	Custom Design, S/N A07511		
A12	Air Heater (Line 2, 4.8 MMBtu/hr) Hasting SBD-277-EC500, S/N 45716-1	30890004	F1
A13	Spray Booth (Line 2) with Preconcentrator and RTO. Lasco Custom Design, S/N A07513	30800724	SC1
A14	Five Cure Tunnel Air Heaters (Line 2, 5.0 MMBtu/hr total) Eclipse RM-100, 0.99 MMBtu/hr each	30890004	DM
A15	Spray Booth (Line 2) with Preconcentrator and RTO. Lasco Custom Design, S/N A07515	30800724	SC1
A17A	Trim Saw (2 units) with Recirculating Dust Collector. S/N A07517	30800701	DM
A20	Air Heater (Line 1, 0.36 MMBtu/hr) Hasting SBD-112-EC-40	30890004	DM
A21	Autocon/Myer Mixer, S/N Las3	30501223	DM
A22	Myer Mixer, S/N 800A-20-1180	30501223	DM
A23	Storage Silo (CaCO ₃) High Pneu-Con	30501222	S2
A24	Holding Tank Room (Lam 2 & 3)	30800799	P1
A25	Holding Tank Room (BC and Lam 1)	30800799	P1
A26	Gelcoat Room, Line 1	30800799	DM
A27	Gelcoat Room, Line 2	30800799	DM
A30	Part Demold, Line 1 & 2	30800799	DM
A31	Mold Preparation, Line 1	30800799	P1
A35	Mold Preparation, Line 2	30800799	P1
A36	Inspection	30800799	DM
A37	Part Repair	30800799	DM
A38	Virgin Resin Storage Tank	30501222	DM
A39	Myer Putty Mixer	30501223	DM
A40	Protective Coating Booth	30800703	P1
A42	Preconcentrators and Regenerative Thermal Oxidizer (RTO) AIREX Corporation, S/N #2278-25ORTO-2064, Operating Temperature: 1,600-1,700 °F	30800799	DM

¹ Billing code is a designation for emission unit billing purposes: P1 = Process equipment; SC1 = Surface coating; S2 = Storage silo. DM = 'deminimus' (unit has negligible emissions or is not subject to an annual fee). Fees are listed in AQR Section 18.

Emission Calculations for Criteria Air Pollutants

The following section describes the emission factors and methodology used to calculate the PTEs for various regulated air pollutants.

VOC and HAP Emissions

The thermosetting polyester resins used at Lasco Bathware are complex polymers resulting from the cross-linking reaction of a liquid unsaturated polyester with a vinyl type monomer, styrene. Styrene is a colorless liquid that has a sweet smell. The odor threshold for styrene is 0.32 parts per million. The chemical formula for styrene is C₈H₈, and the molecular weight is 104.16 grams per mole. Styrene is a VOC as well as a HAP.

Gelcoat contains a maximum of 36 percent styrene. Barrier coat contains 42 percent styrene, and Laminate contains 49 percent styrene. When the resin is applied to the molds, some styrene is emitted and some styrene is bound up in the finished product. Most of the VOC emissions occur from the spray booths during the resin application. The quantity of styrene

released to the atmosphere from the molds is dependent on the duration of the polymerization reaction.

Table III-C-2: Uncontrolled Emission Estimation for VOC Including HAP

Parameter	Value	Unit
HAP in Gelcoat	36	%
HAP in Barrier Coat	42	%
HAP in Laminate	49	%
Using 40CFR 63 Subpart WWWW (MACT) Table 1		
Emission Factor for GC	356	lbs/ton
Emission Factor for BC	240	lbs/ton
Emission Factor for Laminate	121	lbs/ton
Average Gelcoat per Unit	11.05	lbs
Average Barrier Coat per Unit	5.17	lbs
Average Laminate per Unit	40.55	lbs
Total Resin per Unit	56.77	lbs
Average EF	177.5059	lbs/ton
Work Days per Year	300	days
Gelcoat Usage per Day	13150	lbs
Barrier Coat Usage per Day	6153	lbs
Laminate Usage per Day	48256	lbs
Total Resin per Day	33.93	tons
Total Resin per Year	10178.83	tons
Uncontrolled Emissions per Year	899.4	tons
Uncontrolled Emissions per Day	3.6	tons
Uncontrolled Emissions per Hour	299.8	lbs
Average Number of Units per Day	1190	units

It is assumed that the permanent total enclosures proposed for Line 1 and Line 2 capture the VOC emissions from all spray booths, mixers, holding tanks, gelcoat room, laminate roll, cure and trim area and mold preparation area. It is proposed to have 100 percent capture (compliance demonstration using Method 204) and a minimum of 95 percent overall control efficiency (97 percent efficiency for the preconcentrator and 98 percent efficiency for the RTO).

There are also small amounts of VOC emissions from fuel burning equipment, Part Repair (A37) and Protective Coating (A40) booth. VOC emissions from Part Repair and Protective Coating are calculated based on the estimated usage of the solvents.

PM₁₀ Emissions

The source emits small amounts of PM₁₀ from the grinding booths and from the operation of the fuel burning equipment. The total PM₁₀ emission estimated from the source is less than 0.50 tons per year.

CO, NO_x and SO_x

The gaseous emissions from the source are due to two air heaters for production line 1 (A02 - 6.3 MMBtu per hour and A06 - 4.8 MMBtu per hour), two air heaters for production line 2 (A10 - 6.3 MMBtu per hour and A12 - 4.8 MMBtu per hour), five cure tunnel air heaters for production line 2 (total of 5 MMBtu/hr) and the RTO (A42). The heaters use propane fuel. The emission calculations are based on AP-42 and equipment-specific emission factors for propane fuel. The conversion factors used for propane emission calculations are: 91.5 MMBtu per 1000 gallons of propane; 36.4 cubic foot per gallon of propane; 2552.5 Btu per cubic foot of propane; Sulfur = 0.20 grains per 100 cubic foot; HAP = 50 percent of VOC.

The PTEs for RTO emissions are estimated based on the propane usage and other operating parameters proposed in ATC/OP Modification 4. The PTEs are estimated by calculating emissions due to the combustion of process air and emissions from the combustion of propane fuel used for start-up and make-up heat. Process air combustion emissions are based on estimation of the equivalent million cubic feet (MMft³) of natural gas. It is estimated that the thermal value of the process air is 3.6 Btu per cubic foot. Therefore, for a process airflow rate of 22,688 cubic feet per minute to the RTO, the equivalent amount of natural gas is 35.28 MMft³. (22,688 ft³/min * 60 min/hr * 7,200 hr/yr * 3.6 Btu/ft³ / 1,000 Btu/ft³ of natural gas = 35.28 MMft³). Propane usage for the RTO was estimated as 3.11 MMBtu per hour (equivalent to 34 gallons per hour) and 17,714 MMBtu per year (equivalent to 193,596 gallons per year). The hourly and annual NO_x emissions from RTO are calculated based on the performance test conducted in May 2006 (Annual PTE = 0.39 lb/hr * 8,760 hours divided by 2,000 lb/ton * 1.30 factor of safety).

The May 2006 source test also verified the VOC destruction efficiency and VOC actual emissions for RTO.

Table III-C-3: Emission Unit and Source PTE

EU	Control ¹	Operation (hrs/yr)	PM ₁₀	NO _x	CO	SO ₂	VOC incl. HAP	HAP
A01	Precon+RTO	8,760	Included in Emissions from RTO					
A02	None	2,200	0.03	1.06	0.14	0.01	0.04	0.02
A04	Precon+RTO	8,760	Included in Emissions from RTO					
A05	Precon+RTO	8,760	Included in Emissions from RTO					
A06	None	2,200	0.02	0.81	0.11	0.01	0.03	0.01
A07	Precon+RTO	8,760	Included in Emissions from RTO					
A08	None	8,760	0.15	0.00	0.00	0.00	0.00	0.00
A09	Precon+RTO	8,760	Included in Emissions from RTO					
A10	None	2,200	0.03	1.06	0.14	0.01	0.04	0.02
A11	Precon+RTO	8,760	Included in Emissions from RTO					
A12	None	2,200	0.02	0.81	0.11	0.01	0.03	0.01
A13	Precon+RTO	8,760	Included in Emissions from RTO					
A14	None	2,200	0.02	0.81	0.11	0.01	0.03	0.01
A15	Precon+RTO	8,760	Included in Emissions from RTO					
A17A	99 %	8,760	0.01	0.00	0.00	0.00	0.00	0.00
A20	None	2,200	0.01	0.06	0.01	0.01	0.01	0.01
A21	Precon+RTO	8,760	Included in Emissions from RTO					
A22	Precon+RTO	8,760	Included in Emissions from RTO					
A23	99 %	8,760	0.01	0.00	0.00	0.00	0.00	0.00

EU	Control ¹	Operation (hrs/yr)	PM ₁₀	NO _x	CO	SO ₂	VOC incl. HAP	HAP
A24	Precon+RTO	8,760	Included in Emissions from RTO					
A25	Precon+RTO	8,760	Included in Emissions from RTO					
A26	Precon+RTO	8,760	Included in Emissions from RTO					
A27	Precon+RTO	8,760	Included in Emissions from RTO					
A30	None	8,760	0.00	0.00	0.00	0.00	0.00	0.00
A31	Precon+RTO	8,760	Included in Emissions from RTO					
A35	Precon+RTO	8,760	Included in Emissions from RTO					
A36	None	8,760	0.00	0.00	0.00	0.00	0.00	0.00
A37	None	8,760	0.00	0.00	0.00	0.00	1.00	1.00
A38	None	8,760	0.00	0.00	0.00	0.00	0.10	0.10
A39	Precon+RTO	8,760	Included in Emissions from RTO					
A40	None	8,760	0.00	0.00	0.00	0.00	3.30	0.00
A42	RTO	8,760	0.20	2.22	1.98	0.01	44.63	44.48
Total			0.50	6.83	2.61	0.07	49.21	45.66

¹ Precon+RTO: 100% capture by permanent total enclosure and 95% overall control by preconcentrators and RTO.

Table III-C-4: Fuel Burning Equipment Potential to Emit (pounds per hour)¹

EU	Rating (MMBtu/hr)	PM ₁₀	NO _x	CO	SO ₂	VOC incl. HAP	HAP
A02	6.30	0.03	0.96	0.13	0.01	0.03	0.02
A06	4.80	0.02	0.73	0.10	0.01	0.03	0.01
A10	6.30	0.03	0.96	0.13	0.01	0.03	0.02
A12	4.80	0.02	0.73	0.10	0.01	0.03	0.01
A14	5.00	0.02	0.77	0.10	0.01	0.03	0.01
A20	0.36	0.01	0.06	0.01	0.01	<0.01	<0.01
A42	(RTO) ²	0.05	0.78	0.47	0.01	14.84	14.83
Total		0.18	4.99	1.04	0.07	15.00	14.91

¹ Emissions based on AP 42- Propane fuel, Commercial Boiler (<10 MMBtu/hr).

² RTO emissions are based on fuel usage, heat value of process air and overall capture and control efficiency of 95%.
NO_x emissions are based on the May 2006 performance test.

Table III-C-5: PTE of Emission Units Not Controlled by RTO (pounds per hour)

EU	Control	PM ₁₀	NO _x	CO	SO ₂	VOC incl. HAP	HAP
A08	None	0.82	0.00	0.00	0.00	0.00	0.00
A17A	99%	0.05	0.00	0.00	0.00	0.00	0.00
A23	99%	0.05	0.00	0.00	0.00	0.00	0.00
A30	None	0.00	0.00	0.00	0.00	0.00	0.00
A36	None	0.00	0.00	0.00	0.00	0.00	0.00
A37	None	0.00	0.00	0.00	0.00	0.34	0.34
A38	None	0.00	0.00	0.00	0.00	0.03	0.03
A40	None	0.00	0.00	0.00	0.00	1.13	0.00
Total		0.92	0.00	0.00	0.00	1.50	0.37

Table III-C-6: Combined PTE of Preconcentrators and RTO (A42)¹

EU	PM ₁₀		NO _x		CO		SO ₂		VOC incl HAP		HAP	
	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
Precon+RTO	0.05	0.20	0.78	2.22	0.47	1.98	0.01	0.01	14.84	44.63	14.83	44.48

[†]Emissions from two Preconcentrators and the RTO occur through two stacks.

D. Performance Testing and Continuous Parameter Monitoring

After the modification in January 2006 (Modification 3), initial performance testing for the capture efficiency (the permanent total enclosure), VOC destruction efficiency and VOC actual emissions for RTO was completed on May 2006. The hourly and annual NO_x emissions from RTO are also calculated based on the performance test conducted in May 2006. Any additional required testing will be performed based on the following:

The performance test to estimate the overall removal efficiency of the preconcentrator-RTO system for VOC emissions from Lines 1 and 2 and other emission units must conform to 40 CFR 63, Subpart SS and §63.5850. The performance tests to demonstrate compliance with the 100 percent capture efficiency for spray booths and other emission units at the source identified in Table III-C-3 as part of the permanent total enclosure must conform to 40 CFR 51 Appendix M.

Lasco is required to conduct the above tests annually. The source is in compliance with the performance test requirements. Performance testing requirements are included in Section IV-D of the Part 70 OP.

Continuous Parameter Monitoring

The operating temperature of the RTO is continuously monitored (averaged over 10 minutes) to ensure that it is operating between 1,600 °F and 2,000 °F. The RTO is also equipped with a low temperature alarm (Allen Bradley PLC) whose set point is the minimum operating temperature. Controls are set to ignite propane fuel to recover the dropped temperature if the low temperature alarm goes off (below 1,600 °F). An interlock with the air supply is installed to prevent operation of the spray guns if the RTO temperature drops below the 1,600 °F.

The continuous temperature monitoring is performed based on the procedures in 40 CFR 63 Subpart SS. The fire box temperature of the RTO is continuously monitored according to § 63.988(c) of subpart SS. Conditions are included in Section IV-C of the Part 70 OP. Compliance demonstration is further ensured by recordkeeping requirements.

IV. REGULATORY REVIEW

A. Local Regulatory Requirements

DAQEM has determined that the following public law, statutes and associated regulations are applicable:

1. Nevada Revised Statutes (NRS), Chapter 445B;
2. Portions of the AQR that are included in the State Implementation Plan (SIP) for Clark County, Nevada. SIP requirements are federally enforceable. All requirements from Authority to Construct permits issued by DAQEM are federally enforceable because these permits were issued pursuant to SIP-included sections of the AQR; and

- Portions of the AQR that are not included in the SIP. These locally applicable requirements are locally enforceable only.

The Nevada Revised Statutes (NRS) and the Clean Air Act Amendments (CAAA) are public laws that establish the general authority for the Regulations mentioned.

The DAQEM Part 70 (Title V) Program received Final Approval on November 30, 2001 with publication of that approval appearing in the Federal Register December 5, 2001 Vol. 66, No. 234. AQR Section 19 - Part 70 Operating Permits [Amended 07/01/04] details the Clark County Part 70 Operating Permit Program. These regulations may be accessed on the Internet at: <http://www.accessclarkcounty.com/depts/daqem/aq/pages/regs.aspx>

Local regulations contain sections that are federally enforceable and sections that are locally enforceable only. Locally enforceable only rules have not been approved by EPA for inclusion into the State Implementation Plan (SIP). Requirements and conditions that appear in the Part 70 OP which are related only to non-SIP rules are notated as locally enforceable only.

Table IV-A-1: AQR Section 12 and 55 Summary Table for This Source

	PM ₁₀	NO _x	CO	SO ₂	VOC	HAP
Air Quality Area	PSD	Unclassified nonattainment (ozone)	PSD	PSD	Unclassified nonattainment (ozone)	N/A
Source PTE (tpy)	0.50	6.83	2.61	0.07	49.21	45.66
Major Source	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 10 tpy for each HAP, or ≥ 25 tpy for combined HAPs

Discussion: Lasco is a major source of HAPS and minor for all the other regulated pollutants. As part of the New Source Review Analysis performed with Modification 3, the net emissions increase for HAPs triggered notice of proposed action.

Table IV-A-2: Clark County Department of Air Quality and Environmental Management – Air Quality Regulations with Source Compliance or Requirement

Applicable Section	Applicable Subsection – Title	SIP	Affected Emission Unit
0. Definitions	applicable definitions	yes	entire source
1. Definitions	applicable definitions – “Affected Facility”, “Air Contaminant”, “Air Pollution Control Committee”, “Area Source”, “Atmosphere”, “Board”, “Commercial Off-Road Vehicle Racing”, “Dust”, “Existing Facility”, “Existing Gasoline Stations”, “Fixed Capital Cost”, “Fumes”, “Health District”, “Hearing Board”, “Integrated Sampling”, “Minor Source”, “Mist”, “New Gasoline Stations”, “New	yes	entire source

Applicable Section	Applicable Subsection – Title	SIP	Affected Emission Unit
	Source”, “NIC”, “Point Source”, “Shutdown”, “Significant”, “Single Source”, “Smoke”, “Source of Air Contaminant”, “Special Mobile Equipment”, “Standard Commercial Equipment”, “Standard Conditions”, “Start Up”, “Stop Order”, “Uncombined Water”, and “Vapor Disposal System”		
4. Control Officer	all subsections	yes	entire source
5. Interference with Control Officer	all subsections	yes	entire source
7. Hearing Board and Hearing Officer	all subsections	no	entire source
8. Persons Liable for Penalties - Punishment: Defense	all subsections	yes	entire source
9. Civil Penalties	all subsections	yes	entire source
10. Compliance Schedule	when applicable; applicable subsections	yes	entire source
11. Ambient Air Quality Standards	applicable subsections	yes	entire source
12. Preconstruction Review for New or Modified Stationary Sources	§ 12.1 General Application Requirements for New and Modified Sources of Air Pollutants. § 12.2.5 PM ₁₀ sources in the PSD Area § 12.2.10 CO sources in the PSD Area § 12.2.16 SO ₂ sources in the PSD Area § 12.2.18 HAP Sources in Clark County § 12.3 Owner/Operator Notification, Application Processing Deadlines, Notice of Proposed Action Procedures, and Public Hearings. § 12.8 Issuance of Authority to Construct Certificate with conditions § 12.9 Cancellation or Extension of Authority To Construct Certificate § 12.10 Disclaimers § 12.11 Severability Clause	Yes (except § 12.2.18 and § 12.2.20)	entire source
16. Operating Permits	all subsections	yes	entire source
18. Permit and Technical Service Fees	§ 18.1 Operating Permit Fees § 18.2 Annual Emission Unit Fees § 18.4 New Source Review Application Review Fee § 18.5 Part 70 Application Review Fee § 18.6 Annual Part 70 Emission Fee § 18.14 Billing Procedures	yes	entire source
19. Part 70 Operating	§ 19.2 Applicability	N/A	entire source

Applicable Section	Applicable Subsection – Title	SIP	Affected Emission Unit
Permit Federal Approval (11/25/01)	§ 19.3 Part 70 Permit Applications § 19.4 Part 70 Permit Content § 19.5 Permit Issuance, Renewal, Re-openings, and Revisions § 19.6 Permit Renewal by the EPA and Affected States § 19.7 Fee Determination and Certification		
20. Emission Standards For Hazardous Air Pollutants For Source Categories	§ 20.1.1 Subpart A – General Provisions	no	entire source
24. Sampling and Testing - Records and Reports	§ 24.1 Requirements for installation and maintenance of sampling and testing facilities § 24.2 Requirements for emissions record keeping § 24.3 Requirements for the record format § 24.4 Requirements for the retention of records by the emission sources	yes	entire source
25.1 Upset/Breakdown, Malfunctions	§ 25.1 Requirements for the excess emissions caused by upset/breakdown and malfunctions	no	entire source
25.2 Upset/Breakdown, Malfunctions	§ 25.2 Reporting and Consultation	yes	entire source
26. Emission of Visible Air Contaminants	§ 26.1 Limit on opacity (\leq 20 percent for 3 minutes in a 60-minute period)	yes	entire source
28. Fuel Burning Equipment	Emission Limitations for PM	yes	entire source
40. Prohibitions of Nuisance Conditions	§ 40.1 Prohibitions	no	entire source
41. Fugitive Dust	§ 41.1 Prohibitions	yes	entire source
42. Open Burning	§ 42.2	no	entire source
43. Odors In the Ambient Air	§ 43.1 Prohibitions coded as Section 29	no	entire source
55. Preconstruction Review for New or Modified Stationary Sources in the 8-hour Ozone Nonattainment Area	§ 55.2 Definitions § 55.3 The 8-Hour Ozone Nonattainment Areas § 55.5 Requirements for non-major modifications for non-major sources	no	entire source
60. Evaporation and Leakage	all subsections	yes	entire source
70. Emergency Procedures	all subsections	yes	entire source
80. Circumvention	all subsections	yes	entire source

AQR SECTION 11 - AMBIENT AIR QUALITY STANDARDS

Discussion: Since the minor source baseline dates for PM₁₀ (May 21, 1979) and SO₂ (May 21, 1979) have been triggered, PSD increment analysis for Lasco was required. As modeled using ISCST3, the post-baseline increment assigned to Lasco Bathware is outlined in Table IV-A-3. Following is the present increment consumption by the source.

Table 4-6: PSD Increment Consumption

Pollutant	Averaging Period	PSD Increment Consumption by the Source (µg/m ³)	Location of Maximum Impact UTM X (m), UTM Y (m)
PM ₁₀	24-hour	16.60 ¹	712498, 406273 5
PM ₁₀	Annual	0.67	712498, 406273 5
SO ₂	3-hour	14.56 ¹	712498, 406273 5
SO ₂	24-hour	3.87 ¹	712498, 406273 5
SO ₂	Annual	0.11	712498, 406273 5

¹ Modeled 2nd High Concentration.

The above table shows the location of the maximum impact and the PSD increment consumed by the source at that location. The results are below the increment levels of exceedance.

B. Federally Applicable Regulations

DAQEM has determined that the following federal regulations are applicable:

1. Clean Air Act, as amended (CAAA), Authority: 42 U.S.C. § 7401, et seq
2. Title 40 of the Code of Federal Regulations (CFR)

40 CFR 63 - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES:

Subpart A - General Provisions

40 CFR § 63.5 Preconstruction review and notification requirements

Discussion: Since the source underwent a major modification (Modification 3) after the effective date of the relevant standard promulgated under 40 CFR 63 Subpart WWWW, LASCO is subject to this section. DAQEM preconstruction requirements under AQR Section 12 have been met for these modifications. The SIP-approved preconstruction requirements are identical or more stringent than those outlined in § 63.5.

40 CFR § 63.7- Performance tests

Discussion: These requirements are found in the Part 70 OP in Section IV-D. Notice of intent to test, the applicable test methods, acceptable test method operating conditions,

and the requirement for three runs are outlined in this regulation. DAQEM requirements for initial performance testing are identical to § 63.7. DAQEM also requires periodic performance testing on emission units based upon throughput or usage. Specifically, conditions for performance tests, performance evaluations, design evaluations, capture efficiency testing and other initial compliance demonstrations required by 40 CFR 63, Subpart WWWW, in accordance with 40 CFR 63, Subpart SS are included in the Part 70 operating permit. More discussion is provided in this document under the compliance section.

40 CFR § 63.10-Record keeping and Reporting Requirements

Discussion: This regulation requires notification to DAQEM of modifications, opacity testing, records of excess emissions, malfunctions of process equipment; air pollution control equipment; and monitoring equipment, and performance test data. These requirements are found in the Part 70 OP in Sections IV-E and IV-F. DAQEM requires records to be maintained on-site for five years, a more stringent requirement than the two (2) years required by § 63.10.

40 CFR § 63.6 -Compliance with standards and maintenance requirements

Discussion: Lasco shall demonstrate continuous compliance with all organic HAP emission limits in Subpart WWWW that the facility meets using add-on control, except during start-up, shut-down and malfunction. Lasco shall develop and implement a written start-up, shut-down and malfunction plan according to the provisions in 40 CFR § 63.6(e)(3).

In addition to the sections discussed above, the parts of the general provisions in §§63.1 through 63.15 presented in Table 15 of 40 CFR 63 Subpart WWWW, are also applicable to the facility.

40 CFR63 Subpart WWWW—National Emissions Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production

40 CFR § 63.5785 -Applicability

Discussion: Subpart WWWW applies to the entire source.

40 CFR §63.5799 Calculation of facility's organic HAP emissions on a TPY basis for purposes of determining which paragraphs of §63.5805 apply

Discussion: The uncontrolled HAP emissions from the source operations were calculated using factors from Table 1 of the subpart. A detailed description is provided in Section III-C of this document under 'Emission Calculations for Criteria Air Pollutants'.

40 CFR § 63.5800 Compliance Dates

Discussion: Facility is currently subject to the MACT standards. Subpart WWWW became effective on April 21, 2003. All existing sources required comply with the standard by April 21, 2006. LASCO became subject to this subpart in January 2005 when the source underwent a major modification.

40 CFR § 63.5805 Standards to meet to comply with this subpart

Discussion: The facility’s potential to emit for HAPs before the add-on control is greater than 100 tons per year and, therefore, the facility is required to meet 95 percent (by weight) overall reduction of HAP emissions from continuous casting operations based on the subpart.

40 CFR § 63.5900 Demonstration of continuous compliance with the standards

Discussion: Lasco demonstrates continuous compliance based on the procedures in 40 CFR 63 Subpart SS. The fire box temperature of the RTO is continuously monitored according to § 63.988(c) of subpart SS. Conditions are included in Section III-C of the Part 70 OP.

40 CFR § 63.5850- Conduct performance tests, performance evaluations, and design evaluations

Discussion: LASCO demonstrates compliance with the permanent total enclosure requirements by performing an analysis based on Method 204 of Appendix M of 40 CFR Part 51. Meeting Method 204 requirements demonstrates 100 percent capture efficiency for HAP and VOC emissions. Lasco also demonstrates compliance with the 95 percent overall destruction efficiency of the preconcentrators/RTO units by testing the inlet and outlet of the preconcentrator-RTO system in accordance with 40 CFR 63, Subpart SS, and §63.5850. Lasco is required to conduct the abovementioned tests annually. These requirements are found in the conditions for performance testing found in Section IV-A of the Part 70 OP.

40 CFR § 60.49a – Reporting Requirements

Discussion: These are discussed in **Section IV-C** of the Part 70 operating permit.

40 CFR PART 64-COMPLIANCE ASSURANCE MONITORING

40 CFR § 64.2 – Applicability

Discussion: The CAM Rule is not applicable to LASCO based on the applicability statement outlined in 40 CFR 64.2(b)(i), i.e., the source is subject to emissions limitations or standards proposed by the administrator after November 15, 1990 pursuant to section 111 or 112 of the CAA. The source is subject to 40 CFR 63 Subpart WWWW, which was promulgated in 2003.

40 CFR PART 72-ACID RAIN PERMITS REGULATION

Discussion: LASCO is not subject to the acid rain permit regulation.

V. COMPLIANCE

A. Compliance Certification

19.3.3.9 Requirements for compliance certification:

(a) Regardless of the date of issuance of this Part 70 OP, the schedule for the submittal of reports to the DAQEM Compliance Reporting Supervisor shall be as follows:

Quarter	Applicable Period	Due Date	Required Contents
1	January, February, March	April 30 each year	Quarterly Report for 1 st Calendar Quarter

2	April, May, June	July 30 each year	Quarterly Report for 2 nd Calendar Quarter
3	July, August, September	October 30 each year	Quarterly Report for 3 rd Calendar Quarter
4	October, November, December	January 30 each year	Quarterly Report for 4 th Calendar Quarter, any additional annual records required, and Annual Certification of Compliance

- (b) A statement of methods used for determining compliance, including a description of monitoring, recordkeeping, and reporting requirements and test methods.
- (c) A schedule for submission of compliance certifications during the permit term.
- (d) A statement indicating the source's compliance status with any applicable enhanced monitoring and compliance certification requirements of the Act.

B. Compliance Summary

Citation	Title	Applicability	Applicable Test Method	Compliance Status
CCAQR Section 0 [amended 10/7/04]	Definitions	Applicable – Lasco will comply with all applicable definitions as they apply.	Lasco will meet all applicable test methods should new definitions apply.	Lasco complies with applicable requirements.
CCAQR Section 4 [amended 7/1/04]	Control Officer	Applicable – The Control Officer or his representative may enter into Lasco property, with or without prior notice, at any reasonable time for purpose of establishing compliance.	Lasco Bathware will allow Control Officer to enter Lasco property as required.	Lasco complies with applicable requirements.
CCAQR Section 11 [amended 7/1/04]	Ambient Air Quality Standards	Applicable – Lasco is a source of air pollutants.	Lasco demonstrated compliance in the ATC permit application with air dispersion modeling using ISCST3.	Lasco complies with applicable requirements using ISCST3.
CCAQR Section 12.1 [amended 10/7/04]	General application requirements for construction of new and modified sources of air pollution	Applicable – Lasco applied for and the ATC certificate was issued before commencing construction for the modifications proposed after the initial Part 70 permit.	Lasco received ATC permit(s) to construct.	Lasco complies with applicable requirements.
CCAQR Section 12.2.5 [amended 10/7/04]	Requirements for specific air pollutants: PM ₁₀ emission source located in the PSD area	Applicable – Lasco has PM ₁₀ PTE < 100 TPY. The combustion emission units (air heaters, and supplemental fuel combustion for the RTO) meet BACT requirements based on combusting propane gas, and the sawing and grinding operations meet BACT by utilizing a dust collector. Pre and post construction ambient air monitoring, Class I area analysis, additional impact analysis are not required.	The combustion emission units (air heaters, and supplemental fuel combustion for the RTO) meet BACT requirements based on combusting propane gas only, and the sawing and grinding operations meet BACT by utilizing a dust collector. Emissions were assessed with dispersion modeling and results complied with PSD Class I, Class II increments and NAAQS using ISCST3.	Lasco complies with applicable control technology requirements. PSD increment analysis for Lasco was conducted and the results are below the increment levels of exceedance.
CCAQR Section 12.2.6 [amended 10/7/04]	Requirements for specific air pollutants: CO sources located in the PSD area	Applicable – Lasco has CO PTE <100 TPY. Pre and post construction ambient air monitoring, Class I area analysis, additional impact analysis are not required.	The combustion emission units (air heaters, and supplemental fuel combustion for the RTO) meet BACT requirements based on combusting propane gas only and good combustion practices..	Lasco complies with applicable control technology requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
CCAQR Section 12.2.16 [amended 10/7/04]	Requirements for specific air pollutants: SO ₂ sources located in the PSD area	Applicable – SO ₂ PTE < 100 TPY	The combustion emission units (air heaters, and supplemental fuel combustion for the RTO) meet BACT requirements based on combusting propane gas only and good combustion technology. Emissions were assessed with dispersion modeling and results complied with PSD Class I and II increments and NAAQS using ISCST3.	Lasco complies with applicable control technology requirements. PSD increment analysis for Lasco was conducted using ISCST3 and the results are below the increment levels of exceedance.
CCAQR Section 12.2.18 [amended 10/7/04]	HAP Sources in Clark County	Applicable – HAP PTE is >25 tpy for combination of HAPs. Lasco meet BACT for the coating operations by the use of permanent total enclosure, preconcentrator and RTO to have at least 95% overall destruction efficiency for HAPs.	Lasco meet BACT for VOC for the coating operations by the use of permanent total enclosure, preconcentrator and RTO to have at least 95% overall destruction efficiency for HAPs. Compliance is demonstrated through parameter monitoring and performance testing.	Lasco complies with applicable control technology requirements.
CCAQR Section 12.5 [amended 10/7/04]	Air Quality Models	Applicable – Dispersion modeling performed in ATC permit application using ISCST3 in accordance with provisions of 40 CFR Part 51, Appendix W.	As applicable, future dispersion modeling performed in ATC permit modifications will be in accordance with provisions of 40 CFR Part 51, Appendix W.	Lasco complies with applicable requirements.
CCAQR Section 16 [amended 7/1/04]	DAQEM Operating Permits	Applicable – Any emission unit of stationary source must apply for and obtain a DAQEM operating permit. Lasco applied for the operating permit from DAQEM.	Lasco applied for and received operating permit from DAQEM (for the modifications proposed after the initial Part 70 permit) prior to commercial operation.	Lasco complies with applicable requirements.
CCAQR Section 17 [amended 7/1/04]	Dust Control Permit for Construction Activities Including Surface Grading and Trenching	Applicable – Lasco will need to apply for dust control permit in event construction activity greater than ¼ acre (aggregate) or trench at least 100 ft in length (and aggregate acreage greater than ¼ acre).	Lasco applied for permits as needed during initial construction and conformed to required best management practices in dust control permit. Lasco will continue to do so in future as needed.	Lasco complies with applicable requirements.
CCAQR Section 18 [amended 1/20/05]	Permit and Technical Service Fees	Applicable – Lasco will be required to pay all required/applicable permit and technical service fees.	Lasco is required to pay all required/applicable permit and technical service fees.	Lasco complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
CCAQR Section 19 [amended 7/1/04]	40 CFR Part 70 Operating Permits	Applicable – Lasco is a major Stationary source and under Part 70. The Title V permit renewal application was submitted within 12-18 months of the initial Title V permit expiration. Section 19 is both federally and locally enforceable	Lasco has submitted the Part 70 permit renewal within 12-18 months of the initial Title V permit expiration.	Lasco complies with applicable requirements.
CCAQR Section 20.1.1 Subpart A [amended 7/1/04]	Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP) – General Provisions	Applicable – Lasco is an affected facility under the regulations. Section 20 is locally enforceable; however, the NESHAP standards referenced are federally enforceable.	Applicable monitoring, recordkeeping and reporting requirements.	Lasco complies with applicable requirements.
CCAQR Section 25 [amended 7/1/04]	Upset/Breakdown, Malfunctions	Applicable – Any upset, breakdown, emergency condition, or malfunction which causes emissions of regulated air pollutants in excess of any permit limits shall be reported to Control Officer. Section 25.1 is locally and federally enforceable.	Any upset, breakdown, emergency condition, or malfunction in which emissions exceed any permit limit shall be reported to the Control Officer within one (1) hour of onset of such event.	Lasco currently complies with applicable requirements.
CCAQR Section 26 [amended 7/1/04]	Emissions of Visible Air Contaminants	Applicable – Opacity for the Lasco RTO, and the binvent on storage silo (EU: A23) must not exceed 20 percent, and 7 percent, respectively, for more than three (3) minutes in any 60-minute period.	Compliance determined by EPA Method 9	Lasco complies with applicable requirements.
CCAQR Section 27 [amended 7/1/04]	Particulate Matter from Process Weight Rate	Applicable – Lasco emission units are required to meet the maximum weight based on maximum design rate of equipment.	Compliance determined by meeting maximum particulate matter discharge rate based on process rate from AQR Table 27-1.	Lasco complies with applicable requirements.
CCAQR Section 28 [amended 7/1/04]	Fuel Burning Equipment	Applicable – The PM emission rate for the combustion turbines and duct burners are well below those established based on Section 28 requirements.	Maximum allowable PM emission rate determined from equation in Section 28.	Lasco complies with applicable requirements.
CCAQR Section 40 [amended 7/1/04]	Prohibition of Nuisance Conditions	Applicable – No person shall cause, suffer or allow the discharge from any source whatsoever such quantities of air contaminants or other material which cause a nuisance. Section 40 is locally enforceable only.	Lasco air contaminant emissions controlled by pollution control devices or good combustion in order not to cause a nuisance.	Lasco complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
CCAQR Section 41 [amended 7/1/04]	Fugitive Dust	Applicable – Lasco shall take necessary actions to abate fugitive dust from becoming airborne.	Lasco utilizes appropriate best practices to not allow airborne fugitive dust.	Lasco complies with applicable requirements.
CCAQR Section 42 [amended 7/1/04]	Open Burning	Applicable – In event Lasco burns combustible material in any open areas, such burning activity will have been approved by Control Officer in advance. Section 42 is a locally enforceable rule only.	Lasco will contact the DAQEM and obtain approval in advance for applicable burning activities as identified in the rule.	Lasco complies with applicable requirements.
CCAQR Section 43 [amended 7/1/04]	Odors in the Ambient Air	Applicable – An odor occurrence is a violation if the Control Officer is able to detect the odor twice within a period of an hour, if the odor causes a nuisance, and if the detection of odors is separated by at least fifteen minutes. Section 43 is a locally enforceable rule only.	Lasco will not operate its facility in a manner which will cause odors.	Lasco complies with applicable requirements.
CCAQR Section 49 [amended 7/1/04]	Emission Standards for Boilers and Steam Generators Burning Fossil Fuels	Not Applicable – Lasco does not have any boilers and steam generators		
CCAQR Section 55.5 [adopted 12/21/04]	Preconstruction review for New or Modified Stationary Sources in the 8-Hour Ozone Nonattainment Area	Applicable – Lasco is located in Moapa Valley airshed (hydrographic area 218 California wash) and will need to meet the applicable emission control requirements for NOx and VOC. Lasco has both VOC and NOx PTEs < 100 tpy. Therefore, Lasoc is subject to BACT for these pollutants. The combustion emission units (air heaters and supplemental fuel combustion for the RTO) meet BACT requirements based on combusting propane gas only and good combustion technology.	The combustion emission units (air heaters, and supplemental fuel combustion for the RTO) meet BACT requirements based on combusting propane gas only and good combustion technology.	Lasco complies with applicable requirements.
CCAQR Section 70.4 [amended 7/1/04]	Emergency Procedures	Applicable – Lasco submitted an emergency standby plan for reducing or eliminating air pollutant emissions in the Section 16 Operating Permit Application.	Lasco submitted an emergency standby plan and received the Section 16 Operating Permit.	Lasco complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 52.1470	SIP Rules	Applicable – Lasco is classified as a Title V source, and SIP rules apply.	Applicable monitoring and record keeping of emissions data.	Lasco is in compliance with applicable state SIP requirements including monitoring and record keeping of emissions data.
40 CFR Part 63, Subpart A	National Emissions Standards for Hazardous Air Pollutants for Source Categories(NESHAP) – General Provisions	Applicable – Lasco is an affected facility under the regulations.	Applicable monitoring, recordkeeping and reporting requirements.	Lasco complies with applicable requirements.
40 CFR Part 63, Subpart WWWW	National Emissions Standards for Hazardous Air Pollutants for Source Categories(NESHAP) - Reinforced Plastic Composites Production	Applicable – Lasco is an affected facility under the regulations.	LASCO demonstrate compliance with the permanent total enclosure requirements by performing an analysis based on Method 204 of Appendix M of 40 CFR Part 51. Meeting Method 204 requirements demonstrates 100 percent capture efficiency for HAP and VOC emissions. Lasco also demonstrate compliance with the 95 percent overall destruction efficiency of the preconcentrators-RTO units by testing the inlet and outlet of the preconcentrator-RTO system in accordance with 40 CFR 63, Subpart SS, and §63.5850.	Lasco complies with applicable requirements.
40 CFR Part 63 Subpart SS	National Emissions Standards for Hazardous Air Pollutants for Source Categories(NESHAP)- National Emission Standards for Closed Vent Systems, Control Devices, Recovery Devices and Routing to a Fuel Gas System or a Process	Applicable- Overall destruction efficiency of the preconcentrators-RTO units by testing the inlet and outlet of the preconcentrator-RTO system in accordance with 40 CFR 63, Subpart SS	Lasco demonstrate compliance with the 95 percent overall destruction efficiency of the preconcentrators-RTO units by testing the inlet and outlet of the preconcentrator-RTO system in accordance with 40 CFR 63, Subpart SS, and §63.5850.	Lasco complies with applicable requirements.
40 CFR Part 60	Appendix A, Method 9 or equivalent, (Opacity)	Applicable – Emissions from stacks are subject to opacity standards.	Opacity determined by EPA Method 9.	Lasco complies with applicable requirements.
40 CFR Part 51	Appendix M Method 204 or equivalent	Applicable - LASCO demonstrate compliance with the permanent total enclosure requirements by performing an analysis based on Method 204	100 percent capture efficiency for HAP and VOC emissions from coating operations is demonstrated by Method 204.	Lasco complies with applicable requirements.

Citation	Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 64	Compliance Assurance Monitoring	Not Applicable – Lasco is subject to emissions limitations or standards proposed by the administrator after November 15, 1990 pursuant to section 111 or 112 of the CAA. The source is subject to 40 CFR 63 Subpart WWWW, which was promulgated in 2003.	Lasco does not have CAM requirements, but does have compliance demonstration requirements for regulated pollutants.	Lasco complies with applicable requirements.
40 CFR Part 68	Chemical Accident Prevention Provisions	Not Applicable – Lasco does not store or handle more than the threshold quantity of any chemicals listed in § 68.130	Recordkeeping of the type of materials used at Lasco.	Lasco complies with applicable requirements.

C. Summary of Monitoring for Compliance

Emission Unit #	Process Description	Monitored Pollutants/Parameter	Applicable Subsection Title	Requirements	Compliance Monitoring
A01, A04, A05, A07, A08, A26, A31, A09, A11, A13, A15, A27, A35, A21, A22, A24, A25, and A39	Production Line 1, Production Line 2, Myer Mixer, Holding Tank Rooms (Lam1, Lam2, Lam3 & BC), & Myer Putty Mixer	VOC, HAPs	Section 12, Section 19, Section 55 40 CFR 63 Subpart WWWW	Annual and short-term emission limits.	Stack testing for VOC and HAPs by EPA Methods as outlined in Part 70 Permit. Recording is required for compliance demonstration. The operating temperature of the RTO is continuously monitored (averaged over 10 minutes) to ensure that it is operating between 1,600 °F and 2,000 °F.
A42	Preconcentrators and RTO		Section 12, Section 19, Section 55 40 CFR 63 Subpart WWWW	Annual and short-term emission limits.	Compliance for PM ₁₀ , NO _x , CO, SO ₂ , VOC and HAPs shall be based on sole use of propane as fuel and emission factors. Recording of fuel usage is required for compliance demonstration. The operating temperature of the RTO is continuously monitored (averaged over 10 minutes) to ensure that it is operating between 1,600 °F and 2,000 °F.
A42	Preconcentrators and RTO	Opacity	AQR Section 26	Less than twenty percent opacity except for three (3) minutes in any 60-minute period.	Sole use of Propane as the auxiliary fuel and daily visual emissions inspection by an individual trained in Method 9 to verify compliance with the opacity limit.
A02, A06, A10, A12, A14, A20	Air heaters	CO, NO _x , SO ₂ , PM ₁₀ , VOC, HAPs	Section 12, Section 19, Section 55	Annual and short-term emission limits.	Compliance for PM ₁₀ , NO _x , CO, SO ₂ , VOC and HAPs shall be based on sole use of propane as fuel and emission factors. Recording of fuel usage and hours of operation is required for compliance demonstration.
A02, A06, A10, A12, A14, A20	Air heaters	Opacity	AQR Section 26	Less than twenty percent opacity except for three (3) minutes in any 60-minute period.	Sole use of propane as fuel and EPA Method 9 performance testing upon the request of the Control Officer.
A17A	Trim Saw	PM ₁₀	Section 12, Section 19, Section 55	Annual and short term limits	Daily observation of the dust collector. Recording is required for compliance demonstration.

Emission Unit #	Process Description	Monitored Pollutants/Parameter	Applicable Subsection Title	Requirements	Compliance Monitoring
A23	Storage Silo (CaCO ₃)	PM ₁₀	Section 12, Section 19, Section 55	Annual and short term limits	Daily observation of the dust collector. Recording is required for compliance demonstration.
A23	Storage Silo (CaCO ₃)	Opacity	AQR Section 26	Less than twenty percent opacity except for three (3) minutes in any 60-minute period.	Daily visual emissions inspection by an individual trained in Method 9 to verify compliance with the opacity limit. Monthly leak inspections Recording is required for compliance demonstration.

VI. EMISSION REDUCTION CREDITS (OFFSETS)

The source is subject to offset requirements in accordance with Section 59 of the Clark County Air Quality Regulations. Offset requirements and associated mitigation are pollutant-specific.

VII. ADMINISTRATIVE REQUIREMENTS

Section 19 requires that DAQEM identify the original authority for each term or condition in the Part 70 Operating Permit. Such reference of origin or citation is denoted by [italic text in brackets] after each Part 70 Permit condition.

DAQEM proposes to issue the Part 70 Operating Permit conditions on the following basis:

Legal:

On December 5, 2001 in Federal Register Volume 66, Number 234 FR30097 the EPA fully approved the Title V Operating Permit Program submitted for the purpose of complying with the Title V requirements of the 1990 Clean Air Act Amendments and implementing Part 70 of Title 40 Code of Federal Regulations.

Factual:

Lasco Bathware has supplied all the necessary information for DAQEM to draft Part 70 Operating Permit conditions encompassing all applicable requirements and corresponding compliance.

Conclusion:

DAQEM has determined that Lasco Bathware will continue to determine compliance through the use of CEMS, performance testing, quarterly reporting, daily recordkeeping, coupled with annual certifications of compliance. DAQEM proceeds with the preliminary decision that a Part 70 Operating Permit should be issued as drafted to Lasco Bathware for a period not to exceed five (5) years.