

TECHNICAL SUPPORT DOCUMENT

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

SUBMITTED BY

Aquatic Co.

For

**Aquatic Co.
Moapa, Nevada**

Part 70 Operating Permit Number: 75

SIC Code 3088 – Plastic Plumbing Manufacturing



Clark County
Department of Air Quality and Environmental Management
Permitting Section

May 2014

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

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I. EXECUTIVE SUMMARY

Aquatic Co. is a bathware manufacturing operation located at 201 N. Meadow Valley Road, Moapa, NV. This is the only source owned and operated by Aquatic Co. 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. Aquatic Co. is situated in hydrographic area 218 (California Wash). California Wash is designated as PSD area for all regulated air pollutants. Aquatic Company is a major source of HAP and therefore, it is a major Part 70 source.

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

Major structures at Aquatic Co.'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 source is required to meet emission limits and work practice standards under the subpart based on the types of operations in the plant. 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.

The renewal application included PTE calculation for CO₂ and GHG. The source certified that the total CO₂ potential to emit is below the reporting rule thresholds and no other GHGs are present.

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

Pollutant	PM ₁₀	PM _{2.5}	NO _x	CO	SO _x	VOC	HAP	H ₂ S	Pb	GHG
Source Total	0.69	0.51	9.47	3.18	0.24	49.42	45.67	0	0	6,025

Air Quality received the Title V renewal application on July 5, 2013. The application also requested the addition of six insignificant domestic hot water heaters and quantified greenhouse gas emissions. The fire pump added in the Title V revision issued on July 13, 2012, is the only

emission unit added during this renewal period. Based on information submitted by the applicant and a technical review performed by the Air Quality staff, Air Quality proposes the issuance of a Part 70 Operating Permit to Aquatic Co.

II. LIST OF ACRONYMS AND ABBREVIATIONS

Table II-1: Acronyms and Abbreviations

Acronym	Term
Air Quality	Clark County Department of Air Quality & Environmental Management
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
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

Acronym	Term
scf	Standard Cubic Feet
SCC	Source Classification Codes
SCR	Selective Catalytic Reduction
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	Aquatic Co.
Mailing Address	8101 E Kaiser Boulevard, Suite 200 Anaheim, CA 92808
Responsible Official	Steve Dowler
Phone Number	(702) 864-2100
Fax Number	(702) 864-2130
Contact	Steve Dowler (702) 864-2100 Fax: (702) 864-2130 Email: sdowler@aquaticbath.com
Source Location	201 N. Meadow Valley Road, Moapa, Nevada
Hydrographic Area	218
Township, Range, Section	T14S, R66E, Section 29
SIC Code	3088 – Plastic Plumbing Manufacturing
NAICS Code	326191 – Bathtubs, plastics, manufacturing

B. Description of Process

General Description

All Aquatic Co. 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 a 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.

Aquatic Co. 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 molds by robotic applicators instead of by workers. In Line 1, all Aquatic Co. products are produced with thermosetting plastic resins modified with inert fillers and reinforced with glass fiber, wood strips, and other stiffening materials. Aquatic Co.'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, Aquatic Co. 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 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 a 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 Aquatic Co. 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. An equipment specific operation description is provided in Section IV-B: Equipment Description.

C. Permitting History

This section of the technical support explains the modifications and changes that occurred after the issuance of the first renewal Title V permit on February 11, 2009.

Part 70 Permit Minor Revision: Air Quality received an application on July 20, 2011, that proposed a new diesel-powered fire pump (EU: B01) and corrections to serial numbers for Emission Units A02, A06, A10, and A12.

The potential emissions from the fire pump did not exceed the Minor NSR Significant Levels of AQR 12.4.2.1(b) and therefore a controls analysis was not required. Aquatic Co. voluntarily chose a unit that is turbocharged and aftercooled. Based on the manufacture date, the fire pump is subject to 40 CFR 63 Subpart ZZZZ and is limited to 100 hours per year for testing and maintenance purposes.

The correction of serial numbers was considered an administrative revision and did not trigger any additional analysis.

The reporting period was changed, with approval from the source, from quarterly to semi-annual, following a change in Air Quality policy.

The Title V revision was issued on July 13, 2012.

Title V Renewal Application: Air Quality received the Title V renewal application on July 5, 2013. The renewal application was received timely and therefore, the source is eligible for an application shield. The application also requested the addition of six insignificant domestic hot water heaters and quantified greenhouse gas emissions.

The previous permit designation of synthetic minor for VOC was based on the fact that hydrographic basin 218 was previously designated as a nonattainment area for Ozone and the major source threshold was 100 tpy for VOC. Now, it is PSD for ozone and the major source threshold is 250 tpy. Additionally, the VOC PTE was brought down by add-on control required by the regulation effective at that time. Therefore, the source is no longer a synthetic minor for VOC.

D. Operating Scenario

All the emission units and the add-on control device(s) at Aquatic Co., 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

Aquatic Co. proposed in the Title V renewal application to add six domestic hot water heaters as exempt units.

Table III-E-1: Insignificant Emission Units

Description
Part Demolding, Lines 1 and 2
(4) Noritz Hot Water Heaters, 0.236 MMBtu/hr, M/N: N-084M-DV
(2) State How Water Heaters, 0.199 MMBtu/hr, M/N: SBD100199PET

IV. EMISSIONS INFORMATION

A. Total Source Potential to Emit

Based upon the source-wide PTE, this stationary source is a major source for HAPs and a minor source for PM₁₀, NO_x, CO, SO_x, and VOC.

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

Pollutant	PM ₁₀	PM _{2.5}	NO _x	CO	SO ₂	VOC	HAP	H ₂ S	Pb
Source Totals	0.69	0.51	9.47	3.18	0.24	49.42	45.67	0	0

B. Equipment Description

The Source Plot Plan is provided in Attachment T-2 (Drawing # D-10-4424-3) of the ATC Modification 3 application (submitted to Air Quality 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, a propane fuel tank, and a fire pump 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 (EUs: 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 Lines 1 and 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 Line 1 is identified as emission unit A26.

Production Line 2 (Line 2)

Similar to 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 gallon 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).

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 an 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. The desorption air stream exits the concentrator containing the VOCs 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 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 the 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 Aquatic Co.'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 1,600°F – 1,700°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.

Table IV-B-2: Control Technology Determinations for Aquatic Co.

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.

EU	Description	Control Technology	Limitations/Control Technology Requirements
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 limited to 662,645 gallons per year.
A17A	Trim Saw	Dust collector	A minimum 99.0 percent control efficiency for particulates.
A23	Storage Silo (CaCO ₃)	Binvent	A minimum 99.0 percent control efficiency for particulates.
A21, A22, A24, A25, A39	Myer Mixer, Holding Tank Rooms (Lam1, Lam2, Lam3, and BC), and 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.

C. Emission Units and PTE

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

Table IV-C-1: Source Emission Units

EU	Description	Manufacturer	Model No.	Serial No.	Control Method	SCC
A01	Spray Booth; Line 1	Custom Design		A07501	Preconcentrator and RTO	30800724
A02	Air Heater; Line 1; 6.3 MMBtu/hr	Hasting	SBD-233	47514-2		30890004
A04	Spray Booth; Line 1	Custom Design		A07504	Preconcentrator and RTO	30800724
A05	Spray Booth; Line 1	Custom Design		A07505	Preconcentrator and RTO	30800724
A06	Air Heater; Line 1; 4.8 MMBtu/hr	Hasting	SBD-227	47516-2		30890004
A07	Spray Booth; Line 1	Custom Design		A07507	Preconcentrator and RTO	30800724
A08	Grinding Booth;	Custom Design		A07508		30800701

EU	Description	Manufacturer	Model No.	Serial No.	Control Method	SCC
	Line 1					
A09	Spray Booth; Line 2	Custom Design		A07509	Preconcentrator and RT0	30800724
A10	Air Heater; Line 2; 6.3 MMBtu/hr	Hasting	SBD-233	48647		30890004
A11	Spray Booth; Line 2	Custom Design		A07511	Preconcentrator and RT0	30800724
A12	Air Heater; Line 2; 4.8 MMBtu/hr	Hasting	SBD-227	59325		30890004
A13	Spray Booth; Line 2	Custom Design		A07513	Preconcentrator and RT0	30800724
A14	Cure Tunnel Heaters (5); Line 2; 0.99 MMBtu/hr (each)	Eclipse	RM-100			30890004
A15	Spray Booth; Line 2	Custom Design		A07515	Preconcentrator and RT0	30800724
A17A	Trim Saws (2)			A07517	Dust Collector	30800701
A20	Air Heater; Line 1; 0.36 MMBtu/hr	Hastings	SBD-112 (EC-40)			30890004
A21	Mixer	Autocon/Myer		Las3	Preconcentrator and RT0	30501223
A22	Mixer	Myer		800A-20-1180	Preconcentrator and RT0	30501223
A23	Storage Silo (CaSO ₄)				Binvent	30501222
A24	Holding Tank Room (Lam 2 & 3)				Preconcentrator and RT0	30800799
A25	Holding Tank Room (BC and Lam 1)				Preconcentrator and RT0	30800799
A26	Gelcoat Room, Line 1				Preconcentrator and RT0	30800799
A27	Gelcoat Room, Line 2				Preconcentrator and RT0	30800799
A31	Mold Preparation, Line 1				Preconcentrator and RT0	30800799
A35	Mold Preparation, Line 2				Preconcentrator and RT0	30800799
A37	Part Repair					30800799
A38	Virgin Resin Storage Tank					30501222
A39	Putty Mixer	Myer			Preconcentrator and RT0	30501223
A40	Protective Coating Booth					30800703
A42	Preconcentrators and RTO Control Devices	AIREX Corporation		227825 ORTO2 064		30800799
B01	Fire Pump	Patterson		94FP07	Turbocharger and Aftercooler	20200102
	Diesel Engine; 341	Detroit Diesel	DDFPT6VT73	328-L8		

EU	Description	Manufacturer	Model No.	Serial No.	Control Method	SCC
	hp; DOM: 1994		63F			

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 Aquatic Co. 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 IV-C-2: Uncontrolled Emission Estimations for VOC Including HAP

Parameter	Value	Unit
HAP in Gelcoat (GC)	36	%
HAP in Barrier Coat (BC)	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 Bathware Unit	11.05	lbs
Average Barrier Coat per Bathware Unit	5.17	lbs
Average Laminate per Bathware Unit	40.55	lbs
Total Resin per Bathware 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

Parameter	Value	Unit
Uncontrolled Emissions per Hour	299.8	lbs
Average Number of Bathware Units per Day	1190	units

It is assumed that the permanent total enclosures for Line 1 and Line 2 capture the VOC emissions from all spray booths, mixers, holding tanks, the gelcoat room, laminate roll, cure and trim areas, 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 (EU: A37) and Protective Coating Booth (EU: A40). VOC emissions from Part Repairs and Protective Coatings 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 Line 1 (EU: A02 - 6.3 MMBtu per hour and EU: A06 - 4.8 MMBtu per hour), two air heaters for Line 2 (EU: A10 - 6.3 MMBtu per hour and EU: A12 - 4.8 MMBtu per hour), five cure tunnel air heaters (EU: A14) for Line 2 (total of 5 MMBtu/hr) and the RTO (EU: 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 PTE for RTO emissions is based on the propane usage and other operating parameters established in ATC/OP Modification 4. The PTE is 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. ($22,688 \text{ ft}^3/\text{min} * 60 \text{ min/hr} * 7,200 \text{ hr/yr} * 3.6 \text{ Btu/ft}^3 / 1,000 \text{ Btu/ft}^3 \text{ of natural gas} = 35.28 \text{ MMft}^3$). 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 and May 2010 source tests also verified the VOC destruction efficiency and VOC actual emissions for RTO.

Table IV-C-3: Emission Unit and PTE

EU	Control ¹	Operation (hrs/yr)	PM ₁₀	PM _{2.5}	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	0.00	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	0.00	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	0.00
A09	Precon+RTO	8,760	Included in Emissions from RTO						
A10	None	2,200	0.03	0.00	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	0.00	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	0.00	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	0.00
A20	None	2,200	0.01	0.00	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	0.00
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	0.00
A31	Precon+RTO	8,760	Included in Emissions from RTO						
A35	Precon+RTO	8,760	Included in Emissions from RTO						
A37	None	8,760	0.00	0.00	0.00	0.00	0.00	1.00	1.00
A38	None	8,760	0.00	0.00	0.00	0.00	0.00	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	0.00	3.30	0.00
A42	RTO	8,760	0.20	0.00	2.22	1.98	0.01	44.63	44.48
B01		500	0.19	0.19	2.64	0.57	0.17	0.21	0.01
Totals			0.69	0.19	9.47	3.18	0.24	49.42	45.67

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

Table IV-C-4: Production 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

EU	Rating (MMBtu/hr)	PM ₁₀	NO _x	CO	SO ₂	VOC incl. HAP	HAP
A42	(RTO) ²	0.05	0.78	0.47	0.01	14.84	14.83
Totals		0.18	4.99	1.04	0.07	15.00	14.91

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

²RTO 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 IV-C-5: PTE of Production 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
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
Totals		0.92	0.00	0.00	0.00	1.50	0.37

Table IV-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

¹Emissions 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 the RTO were 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.

Aquatic Co. is required to conduct the above tests every five years. The source is in compliance with the performance test requirements. Performance testing requirements are included in Section III-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 III-C of the Part 70 OP. Compliance demonstration is further ensured by recordkeeping requirements.

Other parameters monitored based on the requirements of 40 CFR 64 - Compliance Assurance Monitoring are discussed in Section IV-B of this document.

V. REGULATORY REVIEW

A. Local Regulatory Requirements

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

Clean Air Act, as amended (CAAA), Authority: 42 U.S.C. § 7401, et seq.;

Title 40 of the Code of Federal Regulations (CFR);

Nevada Revised Statutes (NRS), Chapter 445B;

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 Part 70 Operating Permits issued by Air Quality 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 Air Quality 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 12.5 - Part 70 Operating Permit Requirements details the Clark County Part 70 Operating Permit Program. These regulations may be accessed on the Internet at:

http://www.clarkcountynv.gov/depts/AirQuality/Pages/Rules_CurrentRulesandRegulations.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 Summary Table for Aquatic Co.

	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)	0.69	9.47	3.18	0.24	49.42	45.67
Major Source	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 100 tpy	≥ 10 tpy for each HAP, or ≥ 25 tpy for combined HAPs

Discussion: Aquatic Co. is a major source of HAPS and minor for all the other regulated pollutants.

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 Aquatic Co. was required. As modeled using ISCST3, the post-baseline increment assigned to Aquatic Co. is outlined in Table IV-A-3. Following is the present increment consumption by the source.

Table V-A-3: 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)
SO ₂	3-hour	31.48 ¹	712450	4062743
SO ₂	24-hour	15.27 ¹	712450	4062743
SO ₂	Annual	3.87 ¹	712450	4062743
PM ₁₀	24-hour	16.95 ¹	712450	4062743
PM ₁₀	Annual	4.19	712450	4062743
NO _x	Annual	5.40	712450	4062743

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

Air Quality 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, Aquatic Co. is subject to this section. Air Quality 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 III-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. Air Quality requirements for initial performance testing are identical to § 63.7. Air Quality 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 Air Quality 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 III-E and III-F. Air Quality 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: Aquatic Co. shall demonstrate continuous compliance with all organic HAP emission limits in Subpart WWWW that the facility meets using add-on controls, except during start-up, shut-down and malfunction. Aquatic Co. 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 were required to comply with the standard by April 21, 2006.

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

Discussion: The source is required to meet the organic HAP emissions limits in Table 3 to 40 CFR 63 Subpart WWWW for all the open molding operations at the source, regardless of the quantity of HAP emitted. The applicable emission limits from Table 3 based on the operation types at the source is provided in Table V-B-1.

Table V-B-1: Emission Standards from Subpart WWWW

Line Item # From Table 3 to 40 CFR 63 Subpart WWW	Operation Type	Application Type	Organic HAP Emissions Limit
2.a	open molding—non-corrosion-resistant and/or high strength (CR/HS)	mechanical resin application	88 lb/ton
3.a	open molding—tooling	mechanical resin application	254 lb/ton
6.a	open molding—gel coat	tooling gel coating	440 lb/ton
6.b	open molding—gel coat	white/off white pigmented gel	267 lb/ton
6.c	open molding—gel coat	all other pigmented gel coating	377 lb/ton

The source is also required to meet the applicable work practice standards in Table 4 to the subpart. The applicable work practice standards based on the operation types at Aquatic Co. are listed in line items 2, 3, 6, 7, and 8 of Table 4 to the subpart and are described in detail in Section III-B-3 of the Part 70 OP.

40 CFR § 63.5810 - Options for meeting the standards for open molding and centrifugal casting operations at new and existing sources

Discussion: Aquatic Co. selected the option described in § 5810(c) of the subpart - Demonstrate compliance with a weighted average emission limit, for meeting the standards in Table 3 to the subpart. The procedural details calculation of HAP emission limits and actual emissions are provided in the Part 70 OP.

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

Discussion: Aquatic Co. 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. Aquatic Co. 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. Aquatic Co. is required to conduct the abovementioned tests annually. These requirements are found in the conditions for performance testing found in Section III-D of the Part 70 OP.

40 CFR § 63.5900 - Demonstration of continuous compliance with the standards

Discussion: Aquatic Co. 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 the Part 70 OP.

40 CFR § 63.5905 - Notifications

Discussion: Aquatic Co. is required to submit all of the applicable notifications in Table 13 to the subpart that by the dates specified in Table 13 to this subpart. The notifications are described in detail in 40 CFR Part 63 Subpart A, referenced in Table 13 to the subpart.

40 CFR § 63.5905 - Recordkeeping

Discussion: The records required by the subpart and 40 CFR 63 Subpart SS are listed in the Part 70 OP.

40 CFR §§ 60.49a, 5910 - Reporting Requirements

Discussion: Under the subpart, the source is required to submit each applicable report in Table 14 to the subpart. These are discussed in Section III-F of the Part 70 OP.

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

40 CFR § 63.980 - Applicability

Discussion: The provisions of this subpart apply when another subpart references the use of this subpart for such air emission control. Here, 40 CFR 63 Subpart WWWW references Subpart SS for operational and monitoring requirements of the add-on control device.

40 CFR § 63.988 - Incinerators, boilers, and process heaters

Discussion: The requirements for operation, performance tests, and a temperature monitoring device for the incinerator are specified in this section. Conditions are included in Section III-C of the Part 70 OP.

40 CFR § 63.996 - General monitoring requirements

Discussion: The general installation, operation and maintenance requirements for the CPMS are specified in this section. Associated conditions can be found in Section III-C of the Part 70 OP.

40 CFR § 63.997 - Performance test and compliance assessment requirements for control devices

Discussion: These requirements are referenced in Section III-D of the Part 70 OP.

40 CFR § 63.998 - Recordkeeping requirements

Discussion: Recordkeeping of the continuous data collected by CPMS, data averaging for records, data exclusions, record keeping during performance tests etc are discussed in this section. Section III-E of the Part 70 permit includes the associated recordkeeping requirements.

40 CFR Part 63 Subpart ZZZZ - National Emissions Standards for Hazardous Air Pollutants for Source Categories (NESHAP) - National Emission Standards for Stationary Reciprocating Internal Combustion Engines

40 CFR 63.6585 - Applicability

Discussion: Subpart ZZZZ applies to the diesel fire pump (EU: B01) and the Permittee shall limit the hours of testing and maintenance to 100 hours per year.

40 CFR 63.6602 – Operating Limitations

Discussion: The Permittee shall follow the operation requirements in Table 2c of the Subpart. These requirements are in the Part 70 OP.

40 CFR Part 64 - Compliance Assurance Monitoring

40 CFR § 64.2 - Applicability

Discussion: The CAM Rule is not applicable for a Pollutant-Specific Emission Unit (PSEU) for HAPs 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.

However, the CAM rule is applicable to a PSEU at Aquatic Co. (here, the PSEU refers to the units contained within the permanent total enclosure) for VOCs due to the fact that Aquatic Co. is a major source that is required to obtain a part 70 permit. The unit uses a control device and the potential pre-control VOC emissions are above the major source threshold of 100 tons.

The source submitted supplemental information to the previously submitted CAM plan on 11/19/2008. The source selected RTO operating temperature, preconcentrators desorption temperature, and Inlet air pressure to the concentrators as CAM indicators. The monitoring approach is summarized in Table V-B-2:

Table V-B-2: Compliance Assurance Monitoring Approach

Criteria	Indicator
Indicator and Measurement Approach	RTO operating temperature and rotary preconcentrator (Rotary Continuous Zeolite Adsorber) desorption temperature are continuously monitored as the indicators of VOC emissions compliance. An interlock is provided to stop the spray gun operation if the RTO temperature falls below 1600 °F. Inlet

Criteria	Indicator
	pressure to the concentrators is also monitored to assure the 100 percent capture of the permanent total enclosure (the building).
Indicator Range	Excursions trigger an investigation, corrective actions and a reporting requirement. More than 5 excursions within a 6-month period require a quality improvement plan (QIP).
Verification of Operational Status	The data recorder is checked on a daily basis for proper operation. The air inlet pressure to the preconcentrators is monitored and recorded once every 8-hour shifts.
QA/QC Practices and Criteria	Annual calibration of the monitoring device including the data chart recorder. The data recorder is checked on a daily basis for proper operation. The inlet pressure monitor to the preconcentrators is calibrated annually.
Monitoring Frequency	RTO operating temperature, and rotary preconcentrators (Rotary Continuous Zeolite Adsorber) desorption temperature are measured continuously and recorded using data chart recorders on a 10-minute average basis. The air inlet pressure to the preconcentrators is monitored and recorded once every 8-hour shifts.
Data Collection Procedures	Data chart recorders record RTO operating temperature and rotary preconcentrators (Rotary Continuous Zeolite Adsorber) desorption temperature measured by the temperature monitoring devices. The data recorder is checked on a daily basis for proper operation.
Averaging Period	A 10-minute fixed block averaging period is used for temperature recording.

40 CFR PART 72 - ACID RAIN PERMITS REGULATION

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

VI. COMPLIANCE

A. Compliance Certification

- (a) Regardless of the date of issuance of this Part 70 OP, the schedule for the submittal of reports to the Control Officer shall be as follows:

Required Report	Applicable Period	Due Date ¹
Semi-annual Report for 1st half of the year.	January, February, March, April, May, June	July 30 each year
Semi-annual Report for 2nd half of the year. Any additional annual records required.	July, August, September, October, November, December	January 30 each year
Semi-annual 40 CFR 63 Subpart WWWW Compliance Report for 1st half of the year	January, February, March, April, May, June	July 31 each year
Semi-annual 40 CFR 63 Subpart WWWW Compliance Report for 2nd half of the year	July, August, September, October, November, December	January 31 each year
Annual Compliance Certification Report	Calendar Year	January 30 each year
Annual Emission Inventory Report	Calendar Year	March 31 each year

Required Report	Applicable Period	Due Date ¹
Excess Emission Notification	As Required	Within 24 hours of the time the Permittee first learns of the excess emissions
Excess Emission Report	As Required	Within 72 hours of the notification
Deviation Report	As Required	Along with semi-annual reports
Performance Testing	As Required	Within 60 days from the end of the test

¹If the due date falls on a Saturday, Sunday or a Federal or Nevada holiday, then the submittal are due on the next regularly scheduled business day.

- (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

Aquatic Company certified, through its renewal application and annual compliance certification, that the Permittee is in compliance with all permit conditions and applicable requirements.

Applicable Section - Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 0 - Definitions.	Applicable – Aquatic Co. will comply with all applicable definitions.	Aquatic Co. will meet all applicable test methods should new definitions apply.	Aquatic Co. complies with applicable requirements.
AQR Section 4 - Control Officer	Applicable – The Control Officer or his representative may enter into Aquatic Co. property, with or without prior notice, at any reasonable time for purpose of establishing compliance.	Aquatic Co. will allow Control Officer to enter property as required.	Aquatic Co. complies with applicable requirements.
AQR Section 11 - Ambient Air Quality Standards	Applicable – Aquatic Co. is a source of air pollutants.	Aquatic Co. demonstrated compliance in the ATC permit application with air dispersion modeling.	Aquatic Co. complies with applicable requirements using ISCST3.
AQR Section 12.5 - Part 70 Operating Permits	Applicable – Aquatic Co. is a major stationary source and under Part 70. Renewal applications are due between 6 and 18 months prior to expiration. Revision applications will be submitted within 12 months of commencing operation of the new emission unit.	Aquatic Co. submitted the initial Part 70 permit application within 12 months of startup.	Aquatic Co. complies with applicable requirements.

Applicable Section - Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 13.3(b)(1) - NESHAP - Subpart A - General Provisions	Applicable – Aquatic Co. is an affected facility under the regulations. Table 15 to 40 CFR 63 Subpart WWWW specifies which parts of the General Provisions in §§63.1 through 63.15 apply to the source	Applicable monitoring, recordkeeping and reporting requirements.	Aquatic Co. complies with applicable requirements.
AQR Section 13.3(b)(34) - NESHAP - Subpart SS	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. Continuous Parameter Monitoring is also required under the subpart.	Aquatic Co. 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. Aquatic Co. performs continuous operating temperature monitoring for the RTO and collects data in accordance with the subpart. Applicable monitoring, recordkeeping and reporting requirements	Aquatic Co. complies with applicable requirements.
AQR Section 13.3 (b)(79) - NESHAP - Subpart WWWW	Applicable – Aquatic Co. is an affected facility under the regulations. Compliance date for the subpart was March 21, 2006.	Aquatic Co. uses add-on controls to comply with the emission limits in Table 3 of the subpart. Aquatic Co. selected 63.5810 option c (compliance with a weighted average HAP limit) in demonstrating compliance with the applicable HAP limits. Aquatic Co. 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. Aquatic Co. 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.	Aquatic Co. complies with applicable requirements.
AQR Section 18 - Permit and Technical Service Fees	Applicable – Aquatic Co. will be required to pay all required/applicable permit and technical service fees.	Aquatic Co. is required to pay all required/applicable permit and technical service fees.	Aquatic Co. complies with applicable requirements.
AQR Section 25 - 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.	Aquatic Co. currently complies with applicable requirements.

Applicable Section - Title	Applicability	Applicable Test Method	Compliance Status
AQR Section 26 - Emissions of Visible Air Contaminants	Applicable – Opacity for the Aquatic Co. 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.	Aquatic Co. complies with applicable requirements.
AQR Section 27 - Particulate Matter from Process Weight Rate	Applicable – Aquatic Co. 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.	Aquatic Co. complies with applicable requirements.
AQR Section 28 - 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.	Aquatic Co. complies with applicable requirements.
AQR Section 40 - 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.	Aquatic Co. air contaminant emissions controlled by pollution control devices or good combustion in order not to cause a nuisance.	Aquatic Co. complies with applicable requirements.
AQR Section 41 - Fugitive Dust	Applicable – Aquatic Co. shall take necessary actions to abate fugitive dust from becoming airborne.	Aquatic Co. utilizes appropriate best practices to not allow airborne fugitive dust.	Aquatic Co. complies with applicable requirements.
AQR Section 42 - Open Burning	Applicable – In event Aquatic Co. 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.	Aquatic Co. will contact the Air Quality and obtain approval in advance for applicable burning activities as identified in the rule.	Aquatic Co. complies with applicable requirements.
AQR Section 43 - Odors in the Ambient Air	Applicable – Aquatic Co. shall take necessary actions to abate fugitive dust from becoming airborne.	Aquatic Co. utilizes appropriate best practices to not allow airborne fugitive dust.	Aquatic Co. complies with applicable requirements.
AQR Section 70.4 - Emergency Procedures	Applicable – Aquatic Co. submitted an emergency standby plan for reducing or eliminating air pollutant emissions in the Operating Permit Application.	Aquatic Co. submitted an emergency standby plan and received Operating Permit.	Aquatic Co. complies with applicable requirements.
40 CFR Part 52.1470 - SIP Rules	Applicable – Aquatic Co. is classified as a Title V source, and SIP rules apply.	Applicable monitoring and record keeping of emissions data.	Aquatic Co. is in compliance with applicable state SIP requirements including monitoring and record keeping of emissions data.
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.	Aquatic Co. complies with applicable requirements.

Applicable Section - Title	Applicability	Applicable Test Method	Compliance Status
40 CFR Part 51 - Appendix M Method 204 or equivalent	Applicable - AQUATIC CO. 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.	Aquatic Co. complies with applicable requirements.
40 CFR Part 64 - Compliance Assurance Monitoring	Applicable for VOCs – AQUATIC CO. is a major source that is required to obtain a part 70 permit. The PSEU at AQUATIC CO. is subject an emission limitation for VOCs which is not proposed by the Administrator after November 15, 1990 pursuant to section 111 or 112 of the Act. The unit uses a control device and the potential pre-control VOC emissions are above the major source threshold of 100 tons.	RTO operating temperature and rotary preconcentrator (Rotary Continuous Zeolite Adsorber) desorption temperature are continuously monitored and recorded as the indicators of VOC emissions compliance. An interlock is provided to stop the spray gun operation if the RTO temperature falls below 1600 °F. Inlet pressure to the concentrators is also monitored to assure the 100 percent capture of the permanent total enclosure. Excursions are defined; tracked and corrective actions are taken to avoid possible permit deviations. Annual calibration and daily check of the monitoring device are performed for QA/QC purposes. Applicable recordkeeping and reporting requirements are also included.	Aquatic Co. complies with applicable requirements.
40 CFR Part 68 - Chemical Accident Prevention Provisions	Not Applicable – Aquatic Co. 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 Aquatic Co.	Aquatic Co. 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 12.5 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 12.5 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 12.5	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.

Emission Unit	Process Description	Monitored Pollutants/ Parameter	Applicable Subsection Title	Requirements	Compliance Monitoring
A17A	Trim Saw	PM ₁₀	Section 12.5	Annual and short term limits	Daily observation of the dust collector. Recording is required for compliance demonstration.
A23	Storage Silo (CaCO ₃)	PM ₁₀	Section 12.5	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.

VII. EMISSION REDUCTION CREDITS (OFFSETS)

The source is subject to offset requirements in accordance with AQR 12.7. Offset requirements and associated mitigation are pollutant-specific.

VIII. ADMINISTRATIVE REQUIREMENTS

AQR Section 12.5 requires that Air Quality 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.

Air Quality 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:

Aquatic Co. has supplied all the necessary information for Air Quality to draft Part 70 Operating Permit conditions encompassing all applicable requirements and corresponding compliance.

Conclusion:

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