

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Scheduled Inspection

N147030525

FACILITY: Rec Boat Holdings LLC - Sport and Engineering		SRN / ID: N1470
LOCATION: 925 Frisbie St., CADILLAC		DISTRICT: Cadillac
CITY: CADILLAC		COUNTY: WEXFORD
CONTACT: Rick Videan , Vice President, Operations and Manufacturing		ACTIVITY DATE: 07/14/2015
STAFF: Shane Nixon	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: On site inspection and records review		
RESOLVED COMPLAINTS:		

AQD staff met with Mr. Trent Burch, Compliance Technician, at Rec Boat Holdings to perform an inspection of the Sport and Engineering Plant. The purpose of the inspection was to determine the facility's compliance with Renewable Operating Permit No. MI-ROP-N1470-2011 and applicable state and federal air pollution control regulations. Mr. Burch was provided a brochure titled "Environmental Inspections: Rights and Responsibilities" and a brief explanation of its contents.

**A. SOURCE-WIDE CONDITIONS - Source-wide terms and conditions that apply to the stationary source.**

1. Emission Limits - VOC emissions are limited to 5,127.1 pounds per calendar day and less than 225.0 tons per 12 month rolling time period. Quarterly records submitted by Rec Boat Holdings demonstrate compliance with the emission limits. Records reviewed by AQD staff determined the highest calendar day emissions occurred on June 23, 2015 and 279.2 pounds were emitted. The highest 12 month rolling time period emissions, occurring in October 2014, was 12.7 tons per 12 month rolling time period.
2. Material Limits - There are no source-wide material limits associated with this stationary source; therefore, this section is not applicable.
3. Process/Operational Restrictions - There are no source-wide process or operational restrictions associated with this stationary source; therefore, this section is not applicable.
4. Design/Equipment Parameters - There are no source-wide design or equipment conditions associated with this stationary source; therefore, this section is not applicable.
5. Testing/Sampling - There are no source-wide testing or sampling requirements associated with this stationary source; therefore, this section is not applicable.
6. Monitoring/Recordkeeping - Records of material usage, VOC content, and VOC emission calculations were available for AQD review upon request.
7. Reporting - All reports submitted pursuant to conditions of the permit were previously reviewed and documented.
8. Stack/Vent Restrictions - There are no source-wide stack or vent restrictions associated with the stationary source; therefore, this section is not applicable.
9. Other Requirements - The stationary source is subject to 40 CFR 63 Subpart VVVV (National Emission Standards for Hazardous Air Pollutants for Boat Manufacturing). The fiberglass reinforced small parts produced at the stationary source are used on boats produced at the Cruiser Plant (a separate Rec Boat Holding stationary source) and this factor would cause the Sport and Engineering Plant to be subject to 40 CFR 63 Subpart WWWW (National Emission Standards for Hazardous Air Pollutants: Reinforced Plastics Composites Production). However, Subpart VVVV allows a stationary source to comply with the subpart in lieu of Subpart WWWW provided the facility can demonstrate that there will not be an increase in organic HAP emissions by complying with Subpart VVVV. Rec Boat Holdings has previously submitted AQD staff documentation demonstrating that there is not an increase in HAP emissions and have opted to comply with Subpart VVVV.

**B. EULAMINATION1** - Sport Plant fiberglass lamination of boat parts including hulls, decks, swim platforms, showers, etc.

1. Emission Limits - VOC emissions, including styrene and vinyl toluene, are limited to 92.4 pounds per hour, 163.4 tons per 12 month rolling time period, and 0.0385 pounds per pound of resin applied (from the use of production resins). Calculations previously submitted by Rec Boat Holdings indicate compliance with the emission limits. The highest VOC emissions in the past year and specific dates are as follows:

5.6 pounds per hour; June 26, 2015

1.6 tons per 12 month rolling time period; ending August, September, October, November, December 2014

0.0348 pounds VOC per pound of resin applied for the month ending July 2015.

2. Material Limits - Total resin usage, including resins containing vinyl toluene, is limited to 32,620 pounds per day. Records previously submitted by Rec Boat Holdings indicate the highest daily resin amount used was 1,937.5 pounds on June 26, 2015. This daily high resin usage is also less than 4,400 pound per day limit for resin containing up to 12% vinyl toluene.

The styrene monomer content limit for the production resin is 35%, by weight, and the styrene monomer content limit for tooling resin is 50%, by weight. Certificates of analysis for the resins indicates the highest styrene content for production resin is 34% and the highest for tooling resin is 46.26%.

3. Process/Operational Restrictions - As per the requirements of the ROP, the facility is using non-atomized flowcoaters for resin application. AQD staff observed that all waste was stored in closed containers.

4. Design/Equipment Parameters - There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.

5. Testing/Sampling - There are no sampling or testing requirements associated with this emission unit; therefore, this section is not applicable.

6. Monitoring/Recordkeeping - The chemical composition of production and tooling resins are maintained electronically at the facility.

Records of the hours of operation, daily resin usage, and VOC emission calculations were adequately maintained for demonstrating compliance with the requirements of the ROP.

7. Reporting - Monthly reports of material usage and emissions calculations are required to be submitted on a quarterly basis. These reports were previously reviewed and documented by AQD staff.

8. Stack/Vent Restrictions - The stack associated with the emission unit appeared to be constructed within the parameters specified in the ROP..

9. Other Requirements - There are no other requirements associated with this emission unit; therefore, this section is not applicable.

**C. EULAMINATION2** - Engineering Plant fiberglass lamination of boat parts, molds, and plugs.

1. Emission Limits - VOC emissions are limited to 12 pounds per hour, 15.5 tons per 12 month rolling time period, and 0.0385 pound per pound of resin applied. Monthly records submitted on a quarterly basis by Rec Boat Holdings indicate the highest hourly VOC emissions was 4.6 pounds per hour on November 6, 2014 and the highest 12 month rolling emissions was 2.4 tons for the 12 month period ending July 2014. The highest-pound per pound of resin applied was 0.0360 for the time period ending July 2015.

2. Material Limits - Total resin usage is limited to 4,000 pound per calendar day and resins containing up to 12% vinyl toluene is limited to 332 pounds per day. Maximum resin usage occurred on

November 6, 2014 in which 1,274.0 pounds was used. No resins containing vinyl toluene were used between May 2014 and June 2015.

The styrene monomer content limit for the production resin is 35%, by weight, and the styrene monomer content limit for tooling resin is 50%, by weight. Certificates of analysis for the resins indicates the highest styrene content for production resin is 34% and the highest for tooling resin is 46.26%.

3. **Process/Operational Restrictions** - all resin is applied using non-atomized applicators. The ROP requires that at least 50% of the resin be applied using non-atomized technology. All waste materials were stored in closed containers as observed during the inspection.

4. **Design/Equipment Parameters** - There are no design or equipment parameter associated with this emission unit; therefore, this section is not applicable.

5. **Testing/Sampling** - There are no testing or sampling requirements associated with this emission unit; therefore, this section is not applicable.

6. **Monitoring/Recordkeeping** - All material usage records, hours of operation, and emission calculations were maintained in sufficient detail to demonstrate compliance with the recordkeeping provisions of the ROP. Manufacturer's formulation data was available for review upon request and was consistent with the information contained in the emission calculations.

7. **Reporting** - Monthly reports of material usage and emissions calculations are required to be submitted on a quarterly basis. These reports were previously reviewed and documented by AQD staff.

8. **Stack/Vent Restrictions** - The stack associated with this emission unit appeared to be constructed within the parameters specified in the ROP.

9. **Other Requirements** - There are no other requirements associated with this emission unit; therefore, this section is not applicable.

#### **D. EURTM - Sport Plant Resin Transfer Molding (RTM) operations.**

1. **Emission Limits** - VOC emissions from the emission unit are limited to 21.9 tons per 12 month rolling time period. Emission records maintained by Rec Boat Holdings indicates emissions are consistently 0.1 tons per 12 month rolling time period, which is less than the permit limit.

2. **Material Limits** - The maximum styrene content and maximum VOC content of the resin are limited to 47%, by weight, and 50%, by weight, respectively. Records maintained by the facility indicates the styrene content is 47%, by weight, and the VOC content is 48%, by weight.

The styrene content of the adhesive/tackifier is limited to 0.6% by weight and the total VOC content is limited to 46.6%, by weight. The Material Safety Data Sheet for the adhesive/tackifier indicates the styrene content is 0.52% and the VOC content is 46.0%.

3. **Process/Operational Restrictions** - There are no process or operational restrictions associated with this emission unit; therefore, this section is not applicable.

4. **Design/Equipment Parameters** - There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.

5. **Testing/Sampling** - There are no testing or sampling requirements associated with this emission unit; therefore, this section is not applicable.

6. **Monitoring/Recordkeeping** - Monthly calculations and VOC emissions records were available for AQD staff to review and were determined to be complete.

7. **Reporting** - All reports were previously submitted and reviewed/documentated by AQD staff.

8. **Stack/Vent** - The stacks associated with this emission unit appeared to be constructed in accordance with the parameters listed in the ROP.

9. Other Requirements - There are no other requirements associated with this emission unit; therefore, this section is not applicable.

**E. EUGELCOAT1 - Sport Plant application of gel coat to fiberglass boat parts.**

1. Emission Limits - VOC emissions are limited to 69.1 pounds per hour, based on a calendar day average and 122.1 tons per 12 month rolling time period. Records indicate the highest hourly emission over the past year was 9.1 pounds per hour on June 15, 2015. The highest 12 month rolling emissions occurred in October 2014 and was 3.7 tons.

Styrene emissions are limited to 49.8 pounds per hour, based on a calendar day average and 88 tons per 12 month rolling time period. The highest hourly styrene emissions occurred on June 25, 2015 which was 7.0 pounds per hour and the highest 12 month rolling emissions was 2.7 tons which occurred several times during the past 12 months.

2. Material Limits - Gelcoat usage is limited to 7,700 pounds per calendar day. Records maintained by the facility indicates that this limit has not been exceeded. In fact, the highest daily usage in the past 12 months was 630.85 pounds, which occurred on June 26, 2015.

The styrene content of the gel coats used are limited to 30.7%, by weight. Records indicate the highest styrene content was 30.42% per the certificate of analysis for Phantom Gray gelcoat.

3. Process/Operational Restrictions - AQD staff observed that all exhaust filters were installed in the spray booths at the time of the inspection.

4. Design/Equipment Parameters - There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.

5. Testing/Sampling - There are no testing or sampling requirements associated with this emission unit; therefore this section is not applicable.

6. Monitoring/Recordkeeping - All material usage records, hours of operation, and emission calculations were maintained and determined to be complete by AQD staff. These records are submitted on a quarterly basis to AQD for review.

7. Reporting - Monthly reports of material usage and emission calculations are required to be submitted on a quarterly basis. These reports were previously reviewed and documented by AQD staff and were considered to be timely.

8. Stack/Vent Restrictions - The stacks located on site appeared to be within the parameters listed in the ROP.

9. Other Requirements - There are no other requirements associated with this emission unit; therefore, this section is not applicable.

**F. EUGELCOAT2 - Engineering Plant application of gel coat to fiberglass boat parts.**

1. Emission Limits - VOC emissions are limited to 10 pounds per hour, based on a calendar day average and 10.6 tons per 12 month rolling time period. Records indicate the highest hourly emissions over the past 12 months was 7.8 pounds on August 8, 2014. The highest 12 month rolling emissions was 1.9 tons which occurred between July 2014 and October 2014.

Styrene emissions are limited to 7.0 pounds per hour, based on a calendar day average, and 6.4 tons per 12 month rolling time period. Records indicate the highest hourly emissions over the past 12 months was 6.5 pounds on April 23, 2015 and the highest 12 month rolling emissions was 1.5 tons occurring in June 2015.

Acetone emissions are limited to 15.8 tons per 12 month rolling time period and records indicate emissions determined at the end of each calendar month have been consistently 0.2 tons per 12 month rolling time period.

2. **Material Limits - Gelcoat usage is limited to 1,726 pounds per calendar day. Records maintained by the facility indicates that this limit has not been exceeded. In fact, the highest usage in the past year was 1,274 pounds on November 6, 2014.**

The maximum styrene monomer content of white gelcoats used in the emission unit are limited to 27%, by weight. Records reviewed by AQD staff indicates that the Sport White gelcoat contained the highest styrene monomer content, which was 24%, by weight.

3. **Process/Operational Restrictions - As observed during the inspection, all exhaust filters were installed in the gel spray booths during operation.**

4. **Design/Equipment Parameters - There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.**

5. **Testing/Sampling - There are no testing or sampling requirements associated with this emission unit; therefore, this section is not applicable.**

6. **Monitoring/Recordkeeping - All material usage records, hours of operation, emission calculations, and chemical composition were maintained and determined to be complete by AQD staff. These records are submitted on a quarterly basis to AQD for review.**

7. **Reporting - Monthly reports of material usage and emission calculations are required to be submitted on a quarterly basis. These reports were previously reviewed and documented by AQD staff and were determined to be timely.**

8. **Stack/Vent Restrictions - The stack located on site appeared to be within the parameters listed in the ROP.**

9. **Other Requirements - There are no other requirements associated with this emission unit; therefore, this section is not applicable.**

**G. EUADHESIVE - Application of adhesives during the boat manufacturing process at the Sport Plant.**

1. **Emission Limits - Combined VOC and acetone emissions are limited to 530.9 pounds per calendar day and 66.9 tons per 12 month rolling time period. Records maintained by the company indicates the highest daily emissions was 109.6 pounds per day on September 29, 2014 and the highest 12 month rolling emissions, which occurred in October 2014, was 4.6 tons.**

2. **Material Limits - The maximum organic hazardous air pollutant (HAP) content of the carpet and fabric adhesive used in the emission unit is 5%, by weight. AQD staff determined there were no organic HAPs in the adhesive based upon a review of the Material Safety Data Sheet.**

3. **Process/Operational Restrictions - There are no process or operational restrictions associated with this emission unit; therefore, this section is not applicable.**

4. **Design/Equipment Parameters - There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.**

5. **Testing/Sampling - There are no testing or sampling requirements associated with this emission unit; therefore, this section is not applicable.**

6. **Monitoring/Recordkeeping - Daily, monthly, and 12 month rolling adhesive usage records, hours of operation, and emission calculations were maintained by facility personnel and demonstrated compliance with the requirements of the ROP.**

7. **Reporting - Daily, monthly, and 12 month rolling adhesive usage and emission calculations are required to be submitted on a quarterly basis. The reports were submitted in a timely fashion and were previously reviewed and documented by AQD staff.**

8. **Stack/Vent Restrictions - The stack located on site appeared to be within the parameters listed in the ROP.**

9. Other Requirements - There are no other requirements associated with this emission unit; therefore, this section is not applicable.

#### **H. EUENGADHESIVE - Engineering Plant adhesive application.**

No adhesives were used at the Engineering Plant in the previous 12 months and records maintained by the facility indicates zero material usage and zero emissions from the emission unit.

#### **I. EUVOCLEANUP**

1. Emission Limits - There are no emission limits associated with this emission unit; therefore, this section is not applicable.

2. Material Limits - VOC based cleanup solvent usage is limited to 937,500 pounds per 12 month rolling time period. Based upon records reviewed by AQD staff, the usage rate of VOC solvent is approximately 1,000 pounds per year. The maximum hazardous air pollutant (HAP) content of the cleanup solvent is not allowed to exceed 5% by weight and AQD staff has determined there are no HAPs in the solvent.

3. Process/Operational Restrictions - Pursuant to the requirements of the ROP, AQD staff observed that waste solvents and wipe down cloths were stored in closed containers.

4. Design/Equipment Parameters - There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.

5. Testing/Sampling - There are no testing or sampling requirements associated with this emission unit; therefore, this section is not applicable.

6. Monitoring/Recordkeeping - Pursuant to conditions of the ROP, the facility is maintaining records of the amount of cleanup solvent used, the VOC content, and documentation containing the HAP content of the solvent. These records were reviewed by AQD staff and determined to be adequate.

7. Reporting - All reports submitted pursuant to conditions of the ROP were previously reviewed and documented.

8. Stack/Vent Restrictions - The stacks associated with this emission unit appeared to be constructed in accordance with the parameters listed in the ROP.

9. Other Requirements - Based upon the review of records and the on-site inspection, AQD staff determined the facility to be in compliance with 40 CFR 63 Subpart VVVV.

#### **J. EUACETONECLEANUP - Acetone based clean-up solvent usage.**

1. Emission Limits - Acetone emissions are limited to 150 tons per 12 month rolling time period. Records submitted on a quarterly basis indicate the highest 12 month rolling acetone emissions was 4.9 tons for the period ending in June 2015.

2. Material Limits - There are no material limits associated with this emission unit; therefore, this section is not applicable.

3. Process/Operational Restrictions - The facility is required to recover and reclaim at least 48%, by weight, of the acetone used. Reports submitted to the AQD on a quarterly basis indicate that the minimum recovery has been met for the previous 12 months.

4. Design/Equipment Parameters - There are no design or equipment parameters associated with this emission unit; therefore, this section is not applicable.

5. Testing/Sampling - There are no testing or sampling requirements associated with this emission unit; therefore, this section is not applicable.

6. **Monitoring/Recordkeeping** - Records of acetone usage, recovery, and emissions are maintained and made available to AQD staff.

7. **Reporting** - Acetone emissions and reclamation are required to be submitted on a quarterly basis and were previously reviewed and documented by AQD staff.

8. **Stack/Vent Restrictions** - The stacks associated with this emission unit appeared to be constructed within the parameters specified in the ROP.

9. **Other Requirements** - There are no other requirements associated with this emission unit; therefore, this section is not applicable.

**K. FGOPENMOLDING** - All open molding operations utilizing production resin, tooling resin, pigmented gel coat, clear gel coat, and tooling get coat including the application of gel coat or skin coat layers that are applied before lamination by closed molding for the purpose of compliance with 40 CFR 63 Subpart VVVV.

1. **Emission Limits** - Since the facility is using the Emissions Averaging compliance option, the 12 month rolling organic HAP limit is calculated based on an equation contain in the MACT. Semiannual reports submitted by the company indicates compliance with the emission limits. These reports were previously reviewed and documented.

2. **Material Limits** - There are no material limits that apply to this flexible group since the facility is using the Emissions Averaging compliance option.

3. **Process/Operational Restrictions** - There are no process or operational restrictions associated with this flexible group; therefore, this section is not applicable.

4. **Design/Equipment Parameters** - There are no design or equipment parameters associated with this flexible group; therefore, this section is not applicable.

5. **Testing/Sampling** - There are no testing or sampling requirements associated with this flexible group; therefore, this section is not applicable.

6. **Monitoring/Recordkeeping** - Records pertaining to the calculation of the organic HAP emission limit and emissions were previously submitted and were reviewed and documented by AQD staff. The organic HAP contents of the material used in the flexible group were maintained in sufficient detail to demonstrate compliance with the recordkeeping provisions of the ROP.

7. **Reporting** - All reports were previously submitted and documented by AQD staff.

8. **Stack/Vent Restrictions** - The stacks associated with the flexible group appeared to be constructed in accordance with the parameters listed in the ROP.

9. **Other Requirements** - Based upon the review of records and the on-site inspection, AQD staff determined the facility to be in compliance with 40 CFR 63 Subpart VVVV.

**L. FGMIXING** - All resin and gelcoat mixing operations.

1. **Emission Limits** - There are no emission limits associated with this flexible group; therefore, this section is not applicable.

2. **Material Limits** - There are no material limits associated with this flexible group; therefore, this section is not applicable.

3. **Process/Operational Restrictions** - Containers used for mixing resins and gelcoats had capacities less than 208 liters (55.94 gallons) and are not subject to the requirements of this section.

4. **Design/Equipment Parameters** - There are no design or equipment parameters associated with this flexible group; therefore, this section is not applicable.

5. **Testing/Sampling** - There are no testing or sampling requirements associated with this flexible group; therefore, this section is not applicable.

6. **Monitoring/Recordkeeping** - Containers used for mixing resins and gelcoats had capacities less than 208 liters (55.94 gallons) and are not subject to the requirements of this section.

7. **Reporting** - All reporting required pursuant to conditions of the ROP were previously reviewed and documented.

8. **Stack/Vent Restrictions** - There are no stack or vent restrictions associated with this flexible group; therefore, this section is not applicable.

9. **Other Requirements** - Based upon the review of records and the on-site inspection, AQD staff determined the facility to be in compliance with 40 CFR 63 Subpart VVVV.

**Conclusion** - Based upon the on-site inspection and records review, AQD staff has determined the facility to be in compliance with ROP No. MI-ROP-N1470-2011 and 40 CFR 63 Subpart VVVV.

NAME Shane Nixon

DATE 9/30/15

SUPERVISOR 