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

N132844026

FACILITY: Rec Boat Holdings LLC - Cruiser Plant		**SRN / ID:** N1328
LOCATION: 609 13 TH. St., CADILLAC		**DISTRICT:** Gaylord
CITY: CADILLAC		**COUNTY:** WEXFORD
CONTACT: Trent Burch , Environmental/Safety Compliance		**ACTIVITY DATE:** 03/16/2018
STAFF: Sharon LeBlanc	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: Scheduled site inspection for Fiscal Year 2018. Facility was determined to be in general compliance of permit requirements. Supplemental information confirming organic HAP content of adhesives used onsite has been requested and will be reviewed independently as part of the FCE.		
RESOLVED COMPLAINTS:		

INTRODUCTION

On March 16, 2018, AQD Staff conducted a site inspection of Rec Boat Holdings, LLC-Cruiser Division (N1328). The referenced facility is located at 609 13th Street, Cadillac, Wexford County, Michigan. AQD Staff met with Mr. Trent Burch, Environmental/Safety Compliance for the facility.

The referenced facility operates under Renewable Operating Permit (ROP) MI-ROP-N1328-2016. The referenced ROP was issued on July 6, 2016.

The last two scheduled site inspections were conducted on June 14, 2016, and September 25, 2014. The facility was reported to be in compliance with their permit at the time of both inspections.

FACILITY

The facility is an ungated facility, located in an industrial park in Cadillac, Michigan. Located at the SW corner of the intersection of West 13th Street and 6th Avenue, the property is bounded to the north across 13th Street and east along 13th Street by residential properties. To the NW of the facility is St. Ann Elementary School. Properties to the south and west of the facility include other industrial facilities.

The Rec Boats LLC – Sport (N1470) (925 Frisbie Street, Cadillac) and Trailer Divisions (N1772) (1552 Miltner Street, Cadillac) are located within 0.5-mile and 1-mile radius of the Cruiser Division, respectively. With the downturn in the market a number of years ago, activities at the sport plant had been transferred to the cruiser plant. Based on discussions with Facility staff, they are in the process of transferring back production activities for the smaller "sport" boats back to the Frisbie Street plant. Hours of operation for the facility have ranged from 10-15 hours/day depending on orders but are anticipated to stabilize when activities move to the Sport location. The February average was a 12-hour day of operation.

Production onsite began in approximately 1985. The facility has expanded since that time and has purchased adjacent properties, including an adjacent cabinet shop in appx. 2005 and an adjacent building to the south in 2006-2007. The expansions allowed the facility to expand not only their production area, but to add pools to test their product in, as well as to expand shipping and storage space. In 2009, Rec Boat Holdings LLC shut down the sport Plant and transferred the production to the Cruiser Plant. Based on discussions during the March 16, 2018, site inspection, it was indicated that due to increasing sales, that production of the smaller boats may be returning to the nearby sport plant. Rec Boat Holdings LLC, was purchased in 2014 by Beneteau Group, a French company, but still is legally operating as Rec Boat Holdings LLC.

The facility manufactures boats for five different brands:

- **Four Winns,**
- **Wellcraft,**
- **Glastron,**
- **Scarab, and**
- **Jeanneau.**

Each boat constructed onsite is a custom/special order and uses one of over 70 different models/forms which with over 40 different modification choices results in over 100 different configurations.

Production begins in the lamination section of the facility and ends with finished boats in the pool for testing and others ready for wrapping prior to storage and shipping. The process begins with application of fiberglass (EULAMINATION) and gel coats (EUGELCOAT) onto molds (FGOPENMOLDING), the finished boat component is removed from the mold and is ground at the edges and cutouts completed (EUGRINDBOOTH) prior to assembly. All stages of production and assembly are conducted onsite, with each boat moving thru the various stages of production. The pace is dependent on the size, number of colors, and other components of the special order. At the time of the inspection 3 lines (#1-3) were being used to for production of the 16-28 foot "sport" boats, with the 3 remaining lines (#6-8) being used for production of "cruiser" boats. Cleanup activities utilize acetone (EUACETONECLEANUP). The facility also makes use of adhesives (EUADHESIVES) during boat assembly.

None of the process applications are atomized, materials are pumped with no air added. Materials used during the process included (but are not limited to) resin, gelcoat, flotation foams, adhesives and cleanup solvents. Curing occurs between each stage, and results from the chemical reaction occurs at ambient temperature. Cutting and grinding are conducted in special booths (EUGRINDCUTBOOTH).

Air collection devices (plenums) with filters to control any particulate generated and are vented out one of 5 stacks associated with the facility. Each plenum gets turned on when a work area is in use. Each fabric filter is monitored, with at least a weekly visual check. None of the 5 plenums and their associated fabric filters were reported to have a magnahelic gauge associated with them. A dust collection system is associated with each of the three grinding and cutout booths (EUGRINDCUTBOOTH) and a magnahelic gauge is associated with the dust collection system for one. The other two have electronic differential pressure readers, which are monitored via computer.

Gelcoat is received in 55-gallon drums weekly or biweekly, and resins by tanker on average twice per week. The onsite lab tests the materials for quality control, and maintains records documenting the chemical composition of all the materials. Every shipment of production resin (EULAMINATION, EUGELCOAT) includes a certificate of analysis indicating the chemical composition of the materials.

The ROP for the facility references tooling resins (EURTM), however based on discussions with facility staff, these materials are used to make the molds for the boats, and are created in the 925 Frisbie Street, engineering facility (N1470). The facility also reports that no filled resins are used at the "Cruiser" plant.

Heat is provided by natural gas fired heaters. The facility reports not having an emergency generator or other reciprocating internal combustion engine onsite.

Weather conditions at the time of the inspection were sunny with partially cloudy skies and light winds.

EQUIPMENT/MATERIAL DESCRIPTION

In comparison with other facilities which operate specific pieces of equipment (ex. turbines, boilers, dehydrators) that require permitting the Rec Boat LLC – Cruiser Division consists of work stations along production lines utilizing materials which are sources of emissions. Discussions with permit staff, and a review of historic files indicated that to allow the facility the maximum flexibility, the number of independent stations under each emission unit is open, as is the location of those work stations within the facility.

PERMITTING

At the time of the inspection, all permits associated with the facility have been rolled into MI-ROP-N1328-2016.

REGULATORY

The facility is a Major for VOCs, with the potential to emit of over 100 tons/yr. The source is also considered major for HAPs (>10 tons/yr). There are no control devices onsite for VOCs, therefore CAM is not applicable. In 2004, the facility took a source -wide limit of 225 ton/yr VOC, which resulted in the source becoming a non- Potential for Significant Deterioration (PSD) source.

Classifications based on Potential to Emit (PTE):

PARAMETER	CLASSIFICATION	COMMENT
NOx	Minor	
SO2	Minor	
CO	Minor	
Pb	Minor	
PM	Minor	
VOC	Major	Synthetic Minor for PSD (source wide limit of 225 tpy)
HAPs	Major	

Applicable Federal Requirements:

EMISSION UNIT	40 CFR SUBPART	TITLE
Source	Part 70	State Operating Permit Program
Source	52.21	PSD
Source	Part 63, Subpart A and WWWW	National Emission Standards for HAPs (NESHAP) Reinforced Plastic Composites Production*
FGOPENMOLDING (EULAMINATION & EUGELCOAT), EUVOCCLEANUP, EUADHESIVE, FGMIXING (EURESINMIXING & EUGELCOATING)	Part 63, Subpart A and VVVV	NESHAP for Boat Manufacturing (compliance date August 23, 2004)

*Limited to manufacture of fiberglass reinforced parts for boats manufactured outside of the stationary source. At the time of the inspection, this this federal requirement was not applicable.

COMPLIANCE

Since the June 14, 2016, and September 25, 2014, scheduled inspections no complaints were received or Violation Notices (VNs) were issued. No Consent Orders are of record for the facility.

Compliance status for the facility had been based on information provided during the March 16, 2018, site inspection, as well as on supplemental data and reports submitted upon request or to meet permit requirements identified in MI-ROP-N1328-2016.

The facility reports that no Resin Transfer Molding (EURTM) has been conducted onsite since September 2013. As the activities are not presently being conducted onsite, the EU has not been evaluated with reference to compliance.

Permit conditions for all EUs in the ROP include: prompt reporting for deviations pursuant to General Conditions 21 and 22 of Part A of the ROP. (SC VII.1) As well as annual and semi-annual reporting of monitoring and deviations (SC VI.2 & VI.3). In addition to the referenced reporting, the facility is also required to submit quarterly reports of daily material usages, hours of operation, total monthly emissions and 12-month rolling total emissions, as well as semi-annual compliance reports under Subpart VVVV. A review of documents indicated that the facility has reported in a timely manner. These reporting requirements are summarized below:

EU/FG	QUARTERLY SUBMITTAL	SEMI-ANNUAL SUBMITTAL	ANNUAL SUBMITTAL	NESHAP REPORTING
SOURCEWIDE		Y	Y	

EULAMINATION	Y	Y	Y	
EUGELCOAT	Y	Y	Y	
EUVOCCLEANUP	Y	Y	Y	Y
EUADHESIVE	Y	Y	Y	Y
EUACETONECLEANUP	Y	Y	Y	
EUGRINDCUTBOOTH		Y	Y	
EURTM		Y	Y	
FGOPENMOLDING		Y	Y	Y
FGMIXING		Y	Y	Y

With respect to annual emissions monitoring, Facility representatives report that historically annual emissions have been conservatively based on the highest concentration of parameters of concern being used for all/total materials for an emission unit, and over reporting actual emissions. As a result of more recent internal discussions and audits, the facility is in the process of modifying their emissions calculations to reflect the emissions for each material used individually. Emissions are based on chemical content of the materials, material usage and hours of operation. No verification testing is required under the permit.

Conditions in EULAMINATION (SC VI.3) and EUGELCOAT (SC VI.3) reference usage of a dated version of the Unified Emission Factors (UEF) Table for open Molding of Composites. The facility reports using the July 23, 2001 table, which is the most recent version found in an online search. The referenced table provides emission rates in pounds of styrene emitted per ton of resin or gelcoat processed.

Five stacks are associated with the facility and the following EUs: EULAMINATION, EUGELCOAT, EUVOCCLEANUP, EUADHESIVE, EUACETONECLEANUP and EURTM. The referenced stacks are in compliance with the permit conditions with respect to maximum exhaust dimensions and minimum height dimensions (S.C.VIII.1 through 5). Airflow thru the stack and associated plenum creates a negative pressure working environment and helps to seat the filters, which are reported to be replaced on an approximately weekly basis. At the time of the site inspection, the filters appeared to be maintained in general compliance with permit conditions.

Styrene is a pollutant of interest at this facility, it is identified both as a VOC as well as being included as a Hazardous Air Pollutant (HAP). Acetone is another pollutant of interest but is not a HAP.

SOURCEWIDE –

Source wide conditions are conditions that apply to all permitted, and exempt equipment or processes onsite. Source wide conditions are limited to the following:

EMISSION LIMITS - Source wide emission limits include VOC limits for the calendar day and 12-month rolling totals. Random totals reported are summarized below:

DATE	VOC (lb/calendar day)
December 31, 2016	0*
June 30 2017	595.23
December 31, 2017	0*
February 28, 2018	1,193
LIMIT	5,267.0 (SC 1.1)

*Facility was not operating on that date.

DATE	VOC (TPY)
December 31, 2016	120.99
September 30 2017	114.92
December 31, 2017	117.84
February 28, 2018	119.96
LIMIT	<225 (SC 1.2)

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MONITORING/RECORDKEEPING – Permit conditions, include maintenance of manufacturer chemical composition data (including the weight percent) of each component (SC VI.1). Records were found to be maintained both in the facilities QA/QC lab as well as with the environmental staff and were readily available for review upon request.

In addition, the facility is required to maintain the following monthly records, and to have records for the previous month available by the 15th day of the month (SC VI.2):

- Gallons or pounds of each material used on a daily basis, (SC VI.2a)
- Where applicable, gallons or pounds of each material reclaimed on a daily basis, (SC VI.2b)
- VOC content (weight percent) of each material determined by manufacturer's formulation or other approved method. (SC VI.2c)
- VOC emission calculation in lbs per calendar day, (SC VI.2d)
- VOC emission calculations in tons per calendar month, (SC VI.2e)
- VOC emission calculations in tons per 12-month rolling time period. (SC VI.2f)

A review of records indicate that the facility is maintaining the records required to be in compliance with the ROP. In general, the facility operates 5 days per week, with operations ranging from 10-15 hours per day.

OTHER REQUIREMENTS- If the facility manufactures fiberglass reinforced plastic composite small parts for used in the construction of boats offsite, the facility is subject to requirements under 40 CFR Part 63, Subpart WWWW, except as described in 40 CFR 63.5787(d). Based on information the facility only produces components for onsite use and the referenced Federal regulations do not apply at this time. (SC IX.1)

EULAMINATION –

This EU includes the fiberglass lamination of boat parts using open molds using resins to encapsulate and bind together reinforcement fibers. Composite lamination requires catalysts or hardeners to activate the resin. Additive resins may be activators/catalysts or may be used for the unique characteristics (hardness, shine, etc.) they bring to the lamination process. Discussions with permit engineers indicated that the additive resins as well as paste waxes, et al materials not used in significant quantities as would be needed to produce boats were not considered production resins for purposes of permitting, but would have been evaluated as a miscellaneous toxic, and not included in material restrictions for production resins.

Facility records indicate that they track usage of seven different production resins and five additive resins for EULAMINATION. Conservatively they include catalysts as part of their production resins, and Patch-aid as part of the additive resins.

The facility reports that tooling resins (used to make the molds) are not used at the Cruiser Plant, and as such the styrene monomer content limits of SC II.5 are not applicable at this time. In addition, vinyl toluene is not a reported component of any resins used onsite.

Emission controls for this process are limited to dry filters, which per the Facility are changed out on an approximately weekly basis based on visual inspection. Materials associated with open molding have a relatively limited shelf life, and shipments are received on a regular basis. It should also be noted that vinyl toluene is reported to be phasing out industry wise and is no longer a chemical component for materials used in the cruiser plant.

EMISSION LIMITS - Emission limits for EULAMINATION include VOC (including styrene and vinyl toluene) limits in pounds per hour based on a calendar day average and 12-month rolling totals. Totals reported for random dates from December 31, 2016 through February 28, 2018 are summarized below:

DATE	VOC (including styrene and vinyl toluene)
July 11, 2017	46.18 pph

Sept. 14, 2017	54.31 pph
December 31, 2017	0*
Jan. 26, 2018	47.23 pph
LIMIT	127.3 pph (SC 1.1)

*Facility was not operating on that date.

DATE	VOC (including styrene and vinyl toluene) (TPY)
December 30, 2016	51.5
September 30, 2017	55.28
January 31, 2018	57.05
February 28, 2018	57.10
LIMIT	158.2 TPY (SC 1.2)

In addition, EULAMINATION is limited to 0.0385 pounds VOC (including styrene and vinyl toluene) per pound of resin applied. (SC I.3). This value is calculated using the equation in Appendix 7 (SC VI.2). A review of records indicated the following:

DATE	VOC (including styrene and vinyl toluene)	LIMIT VOC (including styrene and vinyl toluene)
July 10, 2017	0.0357 lb/lb	0.0385 lb/lb
Sept. 14, 2017	0.0353 lb/lb	0.0385 lb/lb
Jan. 26, 2018	0.0312 lb/lb	0.0385 lb/lb
February 28, 2018	0.0312 lb/lb	0.0385 lb/lb

MATERIAL LIMITS- Material limits associated with EULAMINATION include both total usage per calendar day as well as limits for maximum styrene monomer and vinyl toluene content in different types of resins used. The daily use limits and reported use are presented below:

MONTH	RESIN USAGE (LBS/CALENDAR DAY)	RESIN CONTAINING UP TO 12% VINYL CHLORIDE (LBS/CALENDAR DAY)
December 2016	6,753.02 – 19884.12 lbs	None
July 2017	9,402.92 – 15,600.68 lbs	None
September 2017	8,655.16 – 22,015.08 lbs	None
January 2018	13,596 – 18,125 lbs	None
LIMIT	45,489 lbs (SC II.1)	3,600 lbs (SC II.2)

With respect to chemical content, material limits for EULAMINATION include limits for both production resins with respect to maximum styrene monomer content (35% by weight) (SC II.3), as well as maximum vinyl toluene content (12% by weight) (SC II.4). Based on records for January 2018, approximately 94% of the production resin use was for one product with reported styrene content of 29% by weight. The highest styrene concentration for production resins used was reported to be 35% by weight (black barrier resin, a vinylester blend resin) and reflected approximately 2% of the production resin usage for January 2018. A review of the latest certificate of analysis (February 26. 2018) indicated that the specification for the project is 34.0 – 36.0 percent VOC (HAP). Actual VOC content for the batch was 35.2%. Facility records indicate their typical production resin is reported to be approximately 29% styrene by weight.

As previously noted, the Facility tracks the use of additive resins. Additive resin usage for January 2018 (514 lbs) is 0.17% of the reported production resin usage. Usage records for the additive resins indicate

that one additive resin (styrene concentration of 53% by weight) consisted of approximately 89% of the total additive resin usage. Since not considered a production resin the material limits of EULAMINATION do not apply for these materials.

OPERATION LIMITS - Permit conditions for EULAMINATION include the capture and storage of waste resins in closed containers and appropriately disposed of (SC III.1). Discussions with facility staff and inspection of the hazmat storage area, indicated that the materials are properly captured and that records of proper disposal are kept in compliance with the permit.

Other operational limits associated with EULAMINATION include use of non-atomized application technology for 50% minimum of resins containing styrene (SC III.2) and all resins containing vinyl toluene (SC III.3). The facility reports that 100 % of resins associated with the EU are applied using non-atomized application technology, in compliance with the permit conditions.

In compliance with SC III.4, the facility does not operate EULAMINATION unless the exhaust filters are in place and are operated properly. As previously noted, the facility changes out filters on a regular basis, based on visual inspection. Air flow thru the plenums helps to properly seat the filters in place.

MONITORING/RECORDKEEPING – Per ROP requirements, the facility is required to maintain records of the chemical composition of each of the production and tooling resins (SC VI.1). The facility reports that copies of certificates of analysis are received for each shipment of resins and gelcoats, and copies were available for review, in compliance with the permit.

Additional records maintained by the facility for EULAMINATION included:

- **Records for each production resin used, of the pounds of VOC emitted per pound of material applied. (SC VI.1)**
- **Records of the appropriate emission factor, application method, applicable monomer content and dated version of the UEF table for each resin. (SC VI.2 & VI.3)**
- **Records of hours of operation per calendar day. (SC VI.4)**
- **Records of the total daily resin usage rate in pounds per calendar day. (SC VI.5)**
- **Calculated total daily records of the actual VOC (including styrene and vinyl toluene) emission rates in pounds per hour. (SC VI.7)**
- **Calculated monthly total and annual 12-month rolling total VOC (including styrene and vinyl toluene) emission rates determined at the end of each calendar month. (SC VI.8)**

As previously indicated, the facility reports that no vinyl toluene is present in materials used onsite, and is being phased out in the industry, so conditions SC VI.6 is not applicable.

REPORTING – Permit conditions for EULAMINATION require the following reporting requirements:

- **Semiannual and annual monitoring and deviations reports (SC VII.1, VII.2 and VII.3) and the associated certification forms,**
- **Quarterly submittal of monthly reports of:**
  - **o Daily resin usage rate. (SC VII.4)**
  - **o Hours of operation. (SC VII.4) and**
  - **o VOC (including styrene and vinyl toluene) hourly (based on calendar day average) and 12-month rolling total emission rate. (SC VII.4)**

As previously indicated, facility reports are submitted on a timely basis, and have been determined to be complete with reference to reporting requirements.

EUGELCOAT –

This EU is a type of production resin which does not contain reinforcing fibers and is applied to the mold surface or to the finished laminate. Facility usage records differentiate these from other production resins. Pigmented gel coat contains the boat color and it usually the first coat applied to the open boat mold in the fiberglass lamination process. No clear gelcoat is reported to be used at the Cruiser plant. Emission controls for this process are limited to dry filters.

EMISSION LIMITS - Emission limits for EUGELCOAT include VOC (including styrene) and styrene limits in pounds per hour based on a calendar day average and 12-month rolling totals. Totals reported for random dates are summarized in the tables below:

DATE	VOC (including styrene)
December 31, 2016	0*
July 21, 2017	52.34
September 14, 2017	58.88
January 31, 2018	47.31
LIMIT	98.9 pph (Calendar Day Average) (SC 1.1)(SC VI.5)

*Facility not operating on that date.

DATE	VOC (including styrene) (TPY)
December 31, 2016	0*
September 30, 2017	53.03
January 31, 2018	55.79
LIMIT	134.4 TPY (SC 1.2)

*Facility not operating on that date.

DATE	STYRENE EMISSIONS
December 31, 2016	0*
July 21, 2017	42.87
September 14, 2017	46.10
January 31, 2018	32.46
LIMIT	69.8 pph (Calendar Day Average) (SC 1.3) (SC VI.5)

*Facility not operating on that date.

DATE	STYRENE EMISSIONS
December 31, 2016	0*
September 30, 2017	41.62
January 31, 2018	42.82
LIMIT	94.8 TPY (SC 1.4)

*Facility not operating on that date.

MATERIAL LIMITS- The Facility records include the use of 18 pigmented gel coats. A review of records for the month of January 2018 indicated that the highest usage was for sport white, which reported 29,404.14 lbs (39.4% of total gel coat) of gel coat used has a reported styrene content of 20.5% by weight. Second in total usage was Cruiser white with total usage of 14,230 tons (19% of total usage) with a reported styrene content of 20.1% by weight. Cognac gel coat has the highest reported styrene content at 30.97% by weight but reflects only 0.11% of the total gel coat usage for the month of January 2018.

Material limits associated with EUGELCOAT include both total usage per calendar day as well as limits for maximum styrene monomer content in the gel coat used onsite. The daily use and maximum styrene monomer content for the gel coat are presented in the tables below:

DATE	GELCOAT USAGE (LBS/CALENDAR DAY)
December 31, 2016	0*
July 21, 2017	4,383.46
Sept. 14, 2017	4,869.45
January 31, 2018	4,253.51
LIMIT	10,000 lbs /calendar day (SC II.1)

*Facility not operating on that date.

DATE	TOTAL GELCOAT USAGE (lbs)	TOTAL STYRENE (lbs)	STYRENE MONTHLY AVERAGE (% BY WEIGHT)
July 2017	56,791	14,453.22	24.4%
January 2018	74,644.21	16,507.61	22.1%
February 2018	68,339	15,108	22.1%
LIMIT	NA	NA	30.7% (SC II.2)

OPERATION LIMITS - Permit conditions for EUGELCOAT include the capture and storage of waste resins in closed containers and appropriately disposed of (SC III.1). Discussions with facility staff and inspection of the hazmat storage area, indicated that the materials are properly captured and that records of proper disposal are kept in compliance with the permit.

In compliance with SC III.2, the facility does not operate EUGELCOAT unless the exhaust filters are in place and are operated properly. As previously noted, the facility changes out filters on a regular basis, based on visual inspection. Air flow thru the plenums helps to properly seat the filters in place.

MONITORING/RECORDKEEPING – Per ROP requirements, the facility is required to maintain records of the chemical composition of each of the gel coats (SC VI.2). The facility reports that copies of certificates of analysis are received for each shipment of resins and gelcoats, and copies were available for review, in compliance with the permit.

Additional records maintained by the facility for EUGELCOAT included:

- Records of the appropriate emission factor, application method, applicable monomer content and dated version of the UEF table for each resin. (SC VI.3)
- Records of hours of operation per calendar day. (SC VI.4)
- Records of the total daily gel coat usage rate in pounds per calendar day and pounds per month and the 12-month rolling total usage. (SC VI.1 & 7)
- Calculated total daily records of the Styrene and VOC (including styrene) emission rates in pounds per hour. (SC VI.5)
- Calculated monthly total and annual 12-month rolling total VOC (including styrene and vinyl toluene) emission rates determined at the end of each calendar month. (SC VI.6)

REPORTING – Permit conditions for EUGELCOAT require the following reporting requirements:

- Semiannual and annual monitoring and deviations reports (SC VII.1, VII.2 and VII.3) and the associated certification forms,
- Quarterly submittal of monthly reports of:
  - o Daily resin usage rate. (SC VII.4)
  - o Hours of operation. (SC VII.4) and
  - o VOC (including styrene) hourly (based on calendar day average) and 12-month rolling total emission rate. (SC VII.4)

As previously indicated, facility reports are submitted on a timely basis, and have been determined to be complete with reference to reporting requirements.

EUVOCCLEANUP –

This EU includes activities associated with VOC based cleanup solvent usage. The facility reports only using acetone and "3680 cleaner". Emission control associated with the activities is by dry fabric filters. No emission limits, operational limits or testing requirements exist for the referenced EU.

MATERIAL LIMITS – Permit conditions include VOC in lbs/yr and a maximum organic HAP content of cleaning solvent for routine flushing of resin and gel coat applications. A review of the manufacturer chemical data for solvents used indicated that the maximum organic HAP content of 5% by weight. (SC II.2) VOC content of the 3680 cleanser is 12.24% by weight. Total VOCs for February 2018 were reported to be 577.61 lbs.

DATE	VOC Emissions (lbs/year)

December 31, 2016	39,256 lbs
December 31, 2017	7,244.57 lbs
LIMITS	937,500 lbs (SC II.1)

In addition, the permittee is required to store organic HAP containing solvents (used for removing cured resin or gel coat) in covered containers, with no visible gaps at all times when equipment being cleaned is being placed in or removed from the container (SC III.3). Staff was able to confirm that containers with a capacity greater than 2 gallons, the distance from the top of the container must be no less than 0.75 times the diameter of the container. (SC III.4)

MONITORING/RECORDKEEPING –The organic HAP content of cleaning solvents in SC II.2 may be determined using the various methods identified in 40 CFR 63.5758 (SC VI.3). In addition to test Method 311, Method 24 or ASTM D1259-85, the permittee has chosen to use info from the supplier or manufacturer, as approved by the administrator (SC VI.3).

The permittee is required to visually inspect on a monthly basis any containers which contain an organic HAP containing solvent to verify that the covers have no visible gaps and document the inspections, any repairs and corrective actions. (SC VI.2) The required inspection is reported to be completed as part of the weekly safety inspection conducted onsite. In addition, the following monthly records are maintained by the Facility and are available for review (SC VI.1):

- Identity of each cleanup solvent used (SC VI.1a)
- Gallons or pounds of each cleanup solvent used, (SC VI.1c)
- Gallons or pounds of each cleanup solvent reclaimed, (SC VI.1d)
- VOC content of each cleanup solvent used (SC VI.1b)
- Calculations determining the percent by weight of all VOC-based cleanup solvent recovered and reclaimed per calendar month. (SC VI.1e)
- Calculations determining the cleanup solvent usage rate in pounds per calendar month, (SC VI.1f)
- Calculations determining the cleanup solvent usage rate in pounds per 12-month rolling time period at the end of each calendar month. (SC VI.1f)

REPORTING - In addition to the general semi-annual and annual reporting requirements under the ROP, the Facility is required to report compliance per 40 CFR 63.5764 (SC VII.5.) Reports are submitted in a timely manner.

OTHER REQUIREMENTS- The ROP contains a high-level citation, requiring the permittee to comply with all applicable provisions of 40 CFR Part 63, Subparts A and VVVV for Boat Manufacturing (SC IX.1). The facility reports compliance with respect to open molding through use of compliant materials (40 CFR 63.5713). Requirements under the referenced subpart have been incorporated into the ROP, therefore compliance with the ROP insures compliance with the subpart.

EUADHESIVE –

Adhesive application activities tracked by the facility include those for upholstery, carpet, vinyl and structural adhesives and additives. The facility tracks usage for a total of five different adhesive products (three of which are structural adhesives) and an activator for two of the adhesives.

Construction of cushions are conducted offline but are installed at the appropriate point during the later phases of fabrication. No pollution control is associated with the activities. The facility reports that they have switched to a water-based adhesive for carpeting and fabric.

EMISSION LIMITS – ROP conditions for EUADHESIVE consist of combined calendar day and 12-month rolling totals for VOC and acetone combined emissions. Data provided by the company for randomly selected days is presented below.

DATE	VOC and ACETONE COMBINED (LBS/DAY) *
December 31, 2016	0**
July 24, 2017	88.68 lbs/day

September 27, 2017	60.98 lbs/day
February 16, 2018	50.25 lbs/day
LIMIT	484 lbs/day(SC I.1)

*note the daily totals reflect the highest daily total reported for the month.

**Facility not operating on that date.

DATE	VOC and ACETONE COMBINED (TPY)
December 2016	2.47 tons
September 2017	2.74 tons
December 2017	3.31 tons
February 2018	3.42 tons
LIMIT	61.0 Tons (SC I.2)

MATERIAL LIMITS – Carpet and fabric adhesives under EUADHESIVE are limited to a maximum organic HAP content of 5% by weight. (SC II.1) A total of five different adhesives are reported to be used at the facility. A review of the facility records indicate that one carpet adhesive, had an acetone content of 31% by weight, however, as previously indicated acetone is not considered a HAP.

PRODUCT	HAP INFORMATION
SCA-438C Upholstery/carpet adhesive	0% - Acetone is exempt
Plexus structural adhesive	<50g/L VOC when mixed with the activator
Nitrile Adhesive	<=0.5% by weight
Sika Adhesive	61 g/L VOC Content

Quarterly reporting by the facility reports that the 5% organic HAP limit does not apply to materials in hand-held aerosol spray cans. Upon inquiry, the facility reported that the can spray adhesives are mostly used on the assembly line for making minor repairs. At most work stations a can will last weeks if not months. There are no production areas that use the spray cans for regular production activities.

At the time of report preparation, the Facility is in the process of obtaining further confirmation that the HAP for their adhesives are below the permit restrictions. The information will be evaluated upon receipt.

MONITORING/RECORDKEEPING – Under the ROP, the Facility maintains daily, monthly and 12-month rolling records of: adhesive usage, hours of operation (SC III.1) and combined VOC and acetone emissions (SC III.3). In addition, the facility maintains monthly records of adhesive VOC and acetone content using formulation data (SC III.3 and III.4).

Organic HAP content for the same materials are required to be determined per 40 CFR 63.5758. The facility determines organic HAP content by manufacturer Safety Data Sheets (SDS). Records reviewed indicated that organic HAPs are below the 5% organic HAP limit (SC II.1).

REPORTING – Permit conditions require the following reporting requirements:

- Semiannual and annual monitoring and deviations reports (SC VII.1 and VII.2) and the associated certification forms (SC VII.3),
- Semi-annual compliance reporting as required under 40 CFR 63.5764,
- Quarterly submittal of monthly reports of:
  - Daily adhesive usage rate (SC VII.4)
  - VOC and acetone content (SC VII.4)
  - VOC and acetone emissions in lbs/day and tons per 12-month rolling time period (SC VII.4)

As previously indicated, the facility reports are submitted on a timely basis, and have been determine to be complete with reference to reporting requirements.

EUACETONECLEANUP –

The facility uses an acetone based cleanup solvent. The facility reports the solvents used at the time of the March 16, 2018 site inspection to be 100% acetone. The material is shipped in bunged drums for use. No pollution control associated with the activities.

OPERATION RESTRICTIONS – Operational/process restrictions for EUACETONECLEANUP include the appropriate capture, storage and disposal all waste cleanup solvents, in compliance with applicable rules (SC III.2). Acetone for recycle/reclaim is stored in bunged drums with lidded capture funnels to control fugitive emissions to the atmosphere.

MATERIAL LIMITS – No material limits exist for EUACETONECLEANUP, however the permittee is required to recover and reclaim a minimum of 48% by weight of the acetone used (SC III.2). A review of quarterly reports for 2017 indicated the following recovery and reclaim values:

DATE RANGE	LOWEST ACETONE RECOVERY/RECLAIM FOR THE QUARTER	HIGHEST ACETONE RECOVERY/RECLAIM FOR THE QUARTER
January-March 2017	49.1%	50%
April – June 2017	49.8%	52.2%
July – September 2017	50.9%	55.2%
October – December 2017	48.7 %	61.3%

EMISSION LIMITS – Emission limits for EUACETONECLEANUP are limited to tons per year, based on a 12-month rolling time period, as determined at the end of each calendar month. (SC I.1)

DATE	ACETONE EMISSIONS (TPY)
December 31, 2016	19.55
September 30, 2017	17.10
December 31, 2017	18.02
February 28, 2018	19.11
LIMIT	125 TPY (SC I.1)

MONITORING/RECORDKEEPING – In compliance with the permit conditions the Facility records include:

- **Monthly and 12-month rolling totals for acetone used, recovered and reclaimed (SC VI.1).**
- **Monthly totals in pounds of acetone purchased and the amount sent off site for either recycling or disposal (SC VI.2)**
- **Monthly and 12-month rolling totals for the amount of acetone lost as fugitive to the atmosphere by the mass balance method in Appendix 4 of the ROP (SC VI.3)**

REPORTING – Quarterly reporting requirements for EUACETONECLEANUP includes reporting the total amount of acetone lost to the atmosphere on a monthly and 12-month rolling time period. (SC VII.4) Refer to above data.

EUGRINDCUTBOOTH – Three approximately 30 ft X 60 ft grinding booths, used for grinding/cutout activities exist at the "cruiser" plant. Particulate emissions are controlled by a dust collection system, with particulate emissions remaining in plant. Differential pressures across the systems are monitored and recorded as required by permit.

OPERATION LIMITS – Operational restrictions for EUGRINDCUTBOOTH include the requirement for installation, maintenance and operation of the dust collection system (SC IV.1). Exhaust gases from EUCUTGRINDBOOTH are recirculated inside the plant. (SC VIII.1)

MONITORING/RECORDKEEPING – In compliance with the ROP, the dust collection system is equipped with a differential pressure gauge (SC IV.2) and is operated with the pressure drop across the dust collector filters between 2.20 and 3.20 inches. (SC III.1) The facility reports that the required weekly documentation (SC VI.1) is conducted in conjunction with the weekly safety inspections.

At the time of the March 16, 2018, site inspection the pressure drop for booth #1 was 3.1-3.2 inches. A review of the records indicated that in compliance with the permit, the facility records the pressure drop once per week (SC VI.1). Facility staff reported that they would be replacing the filter within the next day or two.

A random review of records indicated the following readings for the month of February 2018:

DATE	DIFFERENTIAL PRESSURE Booth #1 (inches)	DIFFERENTIAL PRESSURE Booth #2 (inches)	DIFFERENTIAL PRESSURE Booth #3 (inches)
February 6, 2018	2.8	3.06	2.64
February 13, 2018	3.0	3.0	2.8
February 20, 2018	3.0	3.0	2.7
February 27, 2018	2.9	3.1	2.8
RANGE	2.20 -3.20 inches		

FGOPENMOLDING –

This flexible group includes conditions pertaining to HAPs requirements for all open molding operations which utilize:

- **Production resin,**
- **Tooling resin,**
- **Pigmented gel coat,**
- **Clear gel coat, and**
- **Tooling gel coat, including the application of gel coat or skin coat layers (applied before lamination by closed molding)**

Materials associated with open molding have a relatively limited shelf life, and shipments are received on a regular basis. It should also be noted that vinyl toluene is reported to be phasing out industry wise, and none is used in the cruiser plant. A total of seven production resins are tracked by the facility. Thirty-one pigmented gelcoats were identified in reports for the facility.

Emission units associated with this flexible group include EULAMINATION and EUGELCOAT. Pollution controls associated with the flexible group are limited to fabric mat or panel filters, which are changed out on an approximately weekly basis.

EMISSION LIMITS - Emission limits (Kilograms/yr) for this flexible group are limited to 12-month rolling average organic HAP emissions as calculated via Appendix 7. (SC I.1) However, upon reviewing the referenced Appendix calculated emission limits are applicable only when compliance is determined by emissions averaging to comply with organic HAP limits. The Facility reports using the "compliant materials" method of showing compliance with organic HAP limits and is not required to use MACT MODEL POINT VALUES/emissions averaging to show compliance.

MATERIAL LIMITS – The facility reports demonstrating compliance with organic HAP content requirements under 40 CFR Part 63, Subpart VVVV by meeting the HAP content limits in Appendix 2 of the referenced Subpart. The referenced limits are time weighted averages by material type and application method. The Appendix 2 limits are outlined below:

MATERIAL	ORG. HAP LIMIT Atomized Application (% based on weighted average) *	ORG. HAP LIMIT Non-Atomized Application (% based on weighted average)
Production Resin	28% (SC II.1)	35% (SC II.2)
Pigmented Gel Coat	33% (SC II.3)	33% (SC II.3)
Clear Gel Coat	48% (SC II.4)	48% (SC II.4)
Tooling Resin	30% (SC II.5)	39% (SC II.6)
Tooling Gel Coat	40% (SC II.7)	40% (SC II.7)

*The facility does not use atomized application methods at the Cruisier Plant.

Chemical content data for all production resins and gel coats are provided to the facility in the form of a certificate of analysis and indicate the percent by weight of organic HAPs in compliance with SC VI.10. Semi-annual reporting of the facility reported the following weighted organic HAP concentrations (compliant materials option 63.5701(b)), for production resins and pigmented gelcoats used during the referenced periods:

12-MONTH ROLLING TIME PERIOD ENDING	WEIGHTED ORG. HAP IN PRODUCTION RESIN *	WEIGHTED ORG. HAP IN PIGMENTED GELCOAT *
July 2016	32.3%	27.75%
August 2016	32.3%	27.75%
September 2016	32.3%	27.75%
October 2016	32.3%	27.75%
November 2016	32.3%	27.72%
December 2016	32.3%	27.7%
July 2017	32.3%	27.81%
August 2017	32.28%	27.83%
September 2017	32.3%	27.84%
October 2017	32.27%	27.79%
November 2017	32.27%	27.71%
December 2017	32.27%	27.68%
Limit for Non-Atomized Application	35%	33%

*Values reported were calculated using the equation in Appendix 7 of the ROP and in compliance with (SC VI.11)

MONITORING/RECORDKEEPING – The following monitoring and recordkeeping conditions were determined to not be required for the following reasons:

- SC VI.9 & 14, all resins and gel coats used have organic HAP contents not greater than the applicable organic HAP content limits.
- SC VI.13, all production resins are applied with non-atomized methods.
- SC VI.16, no filled resins are used onsite.
- SC VI.1 through VI.8, SC VI.15, the Facility does not use emissions averaging to show compliance with the organic HAP limit.

The Facility maintains the following records required for facilities using the compliant materials method of showing compliance:

- The permittee shall maintain records of the HAP content of each resin and gelcoat (SC VI.12)
- The permittee shall maintain records of the total amounts of open molding production resin, pigmented gel coat and clear gel coat used per month and the weighted average organic HAP content for each operation expressed as weight percent. (SC VI.18)
- The permittee shall record the amounts of each open molding production applied and whether by atomized or non-atomized methods (SC VI.19)
- The permittee is required to maintain copies of each notification and report pursuant to Subpart VVVV, and maintain all documentation supporting the documents (SC VI.17).

REPORTING – Permit conditions for FGOPENMOLDING require the following reporting requirements:

- Semiannual and annual monitoring and deviations reports (SC VII.1, VII.2 and VII.3) and the associated certification forms,
- Semiannual reporting of compliance with reference to requirements under 40 CFR Part 63, Subpart VVVV for boat manufacturing (SC VII.6)

As previously indicated a review of files indicate that reports are complete and received in a timely manner.

OTHER REQUIREMENTS- As previously indicated, this flexible group contains a high-level citation for 40 CFR Part 63, Subparts A and VVVV for Boat Manufacturing, (SC IX.1). Requirements under the referenced Subpart have been incorporated into the ROP, therefore compliance with the ROP insures compliance with the subpart.

FGMIXING –

Includes EURESINMIXING and EUGELCOATIMIXING. Note that neither of these EUs appear on the ROP EU summary table. This flexible group is defined as any operation in which resins, gelcoats, putties and poly-putties are combined with additives including but not limited to fillers, promoters or catalysts. No pollution control devices are associated with this flexible group.

OPERATION LIMITS - All resin and gelcoating mixing containers (including putties and poly-putties) of 208 liters or greater must have a well-fitting cover with no visible gaps in place at all times except when materials or equipment are being added or removed. (SC III.1) During the March 16, 2018, site inspection AQD Staff noted that the referenced materials are stored in sealed drums and/or tanks and that workstations utilizing putties that the putties were contained in a vinyl or membrane bag and were sealed in such a manner that the materials were not exposed to the atmosphere, in compliance with the permit conditions.

MONITORING/RECORDKEEPING – Condition SC VI.1 requires a monthly visual inspection of all mixing containers to ensure the covers have no visible gaps. Documentation of the inspections as well as a description of any repairs or corrective actions is required under SC VI.2. The facility documents weekly the status of the containers as part of their weekly safety inspection for the facility.

REPORTING - Permit conditions for FGMIXING require the following reporting requirements:

- **Semiannual and annual monitoring and deviations reports (SC VII.1, VII.2 and VII.3) and the associated certification forms,**
- **Semiannual reporting of compliance with referenced to requirements under 40 CFR Part 63, Subpart VVVV for boat manufacturing (SC VII.6)**

As previously indicated a review of files indicate that reports are complete and received in a timely manner.

OTHER REQUIREMENTS- This flexible group contains a high-level citation for 40 CFR Part 63, Subparts A and VVVV for Boat Manufacturing, (SC IX.1). Requirements under the referenced subpart have been incorporated into the ROP, therefore compliance with the ROP insures compliance with the subpart.

SUMMARY

On March 16, 2018, AQD Staff conducted a site inspection of Rec Boat Holdings, LLC-Cruiser Division (N1328). The referenced facility is located at 609 13th Street, Cadillac, Wexford County, Michigan. AQD Staff met with Mr. Trent Burch, Environmental/Safety Compliance for the facility.

The facility is an ungated facility, located in an industrial park in Cadillac, Michigan. Located at the SW corner of the intersection of West 13th Street and 6th Avenue, the property is bounded to the north across 13th Street and east along 13th Street by residential properties. To the NW of the facility is St. Ann Elementary School. Properties to the south and west of the facility include other industrial facilities.

The facility is a Major for VOCs, with the potential to emit of over 100 tons/yr. The source is also considered major for HAPs (>10 tons/yr). There are no control devices onsite for VOCs, therefore CAM is not applicable. In 2004, the facility took a source -wide limit of 225 ton/yr VOC, which resulted in the source becoming a non- Potential for Significant Deterioration (PSD) source.

The referenced facility operates under Renewable Operating Permit (ROP) MI-ROP-N1328-2016. The referenced ROP was issued on July 6, 2016.

The last two scheduled site inspections were conducted on June 14, 2016, and September 25, 2014. The facility was reported to be in compliance with their permit at the time of both inspections.

As a result of information reviewed in District files, during the March 16, 2018, site visit and supplemental information provided by the facility, it was determined that the Facility is in general compliance with the ROP. One compliance issue that remains to be addressed, is confirmation of a HAP contents for carpet and fabric adhesives under EUADHESIVE. As previously noted, the products are limited to a maximum organic HAP content of 5% by weight. (SC II.1) A total of five different adhesives are reported to be used at the facility. Further confirmation of the organic HAP content has been requested of the Facility. This information will be reviewed independently.

NAME Steven A. Gilbert DATE 4/10/2018 SUPERVISOR SN