

STATEMENT OF BASIS

For the issuance of Draft Air Permit # 1642-AOP-R3 AFIN: 03-00081

1. PERMITTING AUTHORITY:

Arkansas Department of Environmental Quality
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. APPLICANT:

Challenger, Inc. dba Bass Cat Boats
Highway 126 Industrial Park
Mountain Home, Arkansas 72653

3. PERMIT WRITER:

Kimberly O'Guinn

4. PROCESS DESCRIPTION AND NAICS CODE:

NAICS Description: Boat Building
NAICS Code: 336612

5. SUBMITTALS:

3/25/08

6. REVIEWER'S NOTES:

Challenger, Inc. dba Bass Cat Boats operates a fiberglass boat manufacturing facility at Highway 126 Industrial Park, Mountain Home, Arkansas 72653. This modification is to renew the facility's existing permit. There are no changes in permitted emission limits with this modification.

7. COMPLIANCE STATUS:

The following summarizes the current compliance of the facility including active/pending enforcement actions and recent compliance activities and issues.

There are currently no enforcement issues or actions against the facility at this time.

8. PSD APPLICABILITY:

- a. Did the facility undergo PSD review in this permit (i.e., BACT, Modeling, etc.)? N

- b. Is the facility categorized as a major source for PSD? N
Single pollutant ≥ 100 tpy and on the list of 28 or single pollutant ≥ 250 tpy and not on list?

If yes, explain why this permit modification not PSD?

9. SOURCE AND POLLUTANT SPECIFIC REGULATORY APPLICABILITY:

Source	Pollutant	Regulation (NSPS, NESHAP or PSD)
Facility	HAPS	NESHAP Subpart VVVV
Facility	HAPS	NESHAP Subpart MMMM

10. EMISSION CHANGES AND FEE CALCULATION:

See emission change and fee calculation spreadsheet in Appendix A.

11. MODELING:

Criteria Pollutants

Examination of the source type, location, plot plan, land use, emission parameters, and other available information indicate that modeling is not warranted at this time.

Pollutant	Emission Rate (lb/hr)	NAAQS Standard ($\mu\text{g}/\text{m}^3$)	Averaging Time	Highest Concentration ($\mu\text{g}/\text{m}^3$)	% of NAAQS
PM ₁₀	0.2	50	Annual	0.47	0.94
		150	24-Hour	5.29	3.53

Non-Criteria Pollutants:

This permit contains a TLV table for non-criteria pollutants. Modeling was used to determine the permitted emission rates for ranges of non-criteria pollutants (grouped by TLV) that pass the PAER or PAIL. Therefore, modeling of specific non-criteria pollutants was not performed.

1st Tier Screening (PAER)

Estimated hourly emissions from the following sources were compared to the Presumptively Acceptable Emission Rate (PAER) for each compound. The Department has deemed the PAER to be the product, in lb/hr, of 0.11 and the Threshold Limit Value (mg/m³), as listed by the American Conference of Governmental Industrial Hygienists (ACGIH).

Pollutant	TLV (mg/m ³)	PAER (lb/hr) = 0.11 × TLV	Proposed lb/hr	Pass?
Acetone	1187.11	130.58	55.07	Y
MMA	204.76	22.53	1.0	Y
MDI	0.0512	0.0056	0.00005	Y
Styrene*	85.2025	9.372	76.79	N

2nd Tier Screening (PAIL)

AERMOD air dispersion modeling was performed on the estimated hourly emissions from the following sources, in order to predict ambient concentrations beyond the property boundary. The Presumptively Acceptable Impact Level (PAIL) for each compound has been deemed by the Department to be one one-hundredth of the Threshold Limit Value as listed by the ACGIH.

Pollutant	PAIL (µg/m ³) = 1/100 of Threshold Limit Value	Modeled Concentration (µg/m ³)	Pass?
Styrene*	852.02	3741.72	N

The 76.79 lb/hr emission rate is based on 24 hour throughput using the worst case coating. However, the permit limits the number of boats to four boats per day. Since the amount of styrene is directly related to the number of boats a less conservative but still valid emission rate can be derived. The following table lists the information used to derive an alternate emission rate.

Material Usage Per Boat				
Material	Amount (lb/boat)	Styrene Content in Coating wt%	Wt% of Styrene expected to Volatize	Total Styrene Emissions lb/boat
Resin	871	35	4	12.194
Pigmented Gel Coat	185.25	33	4	2.4453
Clear Gel Coat	61.75	48	6	1.7784
Totals	1118			16.4177

Since the facility is limited to four boats per day, the hourly emission limit based on a 24 hour period is 2.74 lb/hr. AERMOD air dispersion modeling passes PAIL with a predicted maximum offsite concentration of 133.32 micrograms per cubic meter.

Other Modeling:

Odor:

Odor modeling for sources emitting styrene.

Pollutant	Threshold value 1-hour average	Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Pass?
Styrene*	1361 $\mu\text{g}/\text{m}^3$	1973	N

Odor modeling was performed and the ISCST3 air dispersion modeling predicted a maximum offsite 1-hour concentration of 1973 micrograms per cubic meter. The model predicts an exceedance, but it is recommended that this not be an issue due to the following:

1. The facility is limited to 4 boats per day, and the material usage estimate per boat is conservative.
2. The facility is located in an industrial park.
3. At distances greater than 200 meters from the facility, the concentration of styrene is below the odor 1-hour limit.
4. The local air inspector reports there have been no complaints for odors against the facility.

12. CALCULATIONS:

SN	Emission Factor Source (AP-42, testing, etc.)	Emission Factor (lb/ton, lb/hr, etc.)	Control Equipment	Control Equipment Efficiency	Comments
01 02 03 06 07	AP-42	See Comment	N/A	N/A	This is the AP-42 for Polyester Resin products. The emission factors vary according to the specific process. Emission rates are based on maximum equipment capacity
04	AP-42 Chapter 13.2.6	13 lb PM_{10} /lb Abrasive	N/A	N/A	

13. TESTING REQUIREMENTS:

The permit requires testing of the following sources.

SN	Pollutants	Test Method	Test Interval	Justification
N/A				

14. MONITORING OR CEMS

The permittee must monitor the following parameters with CEMS or other monitoring equipment (temperature, pressure differential, etc.)

SN	Parameter or Pollutant to be Monitored	Method (CEM, Pressure Gauge, etc.)	Frequency	Report (Y/N)
N/A				

15. RECORDKEEPING REQUIREMENTS:

The following are items (such as throughput, fuel usage, VOC content, etc.) that must be tracked and recorded.

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
PW	Usage of paints primers and other solvent based products	VOC: 114.1 tpy Styrene: 56.68 tpy MMA: 3.60 tpy HAPs: 21.5 tpy Acetone: 55.18 tpy Tetraflouroethane: 9.00 tpy Pentafluoropropane: 9.00 tpy	Monthly	Y
PW	VOC content of coatings	6.50 lb/gal	When a new compound is used.	N
PW	Boat Production	4.0 boats/day	Daily	N
PW	Styrene Content of coatings and foam	48% by weight	When a new compound is used.	N
PW	MMA content of coatings and foam	10% by weight	When a new compound is used.	N
PW	Tetrafluoroethane	10% by weight	When a new compound is used	N
PW	Pentafluoropropane	10% by weight	When a new compound is used	N

SN	Recorded Item	Permit Limit	Frequency	Report (Y/N)
PW	TLV HAP Content	6.5 lb/gal	When a new compound is used	N
PW	HAP emissions	Varies	Monthly	N
PW	Open molding production resin pigmented gel coat, clear gel coat tooling resin, And tooling gel coat		Monthly	N
PW	Visible Inspection of Container Covers	N/A	Monthly	N
PW	Organic HAP content of cleaning solvent	5% by weight	When a new compound is used	N
04	Bags of Sand	18 tons	Monthly	N

16. OPACITY:

SN	Opacity	Justification for limit	Compliance Mechanism
04	5	SIP	Weekly Observations

17. DELETED CONDITIONS:

Former SC	Justification for removal
	N/A

18. GROUP A INSIGNIFICANT ACTIVITIES

Source Name	Group A Category	Emissions (tpy)						HAPs	
		PM/PM ₁₀	SO ₂	VOC	CO	NO _x	Single	Total	
									Welding Operation

19. VOIDED, SUPERSEDED, OR SUBSUMED PERMITS:

Permit #: 1642-AOP-R3

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List all active permits voided/superseded/subsumed by the issuance of this permit.

Permit #
1624-AOP-R2

20. CONCURRENCE BY:

The following supervisor concurs with the permitting decision.

Karen Cerney, P.E.

APPENDIX A – EMISSION CHANGES AND FEE CALCULATION

