

**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NO. 35743**

I. INTRODUCTION

This Class I Major Source Air Quality Control Permit is for the operation of a fiberglass boat manufacturing facility owned by NAS Manufacturing, which is a stationary source located in Lake Havasu City, Mohave County, Arizona.

A. Company Information

Facility Name: NAS Manufacturing

Facility Address: 1100 N. Lake Havasu Ave.
Lake Havasu City, AZ 86403

B. Attainment Classification (Source: 40 CFR §81.303)

The NAS Boat manufacturing site is located in an area which is in attainment or unclassified for all criteria pollutants.

II. PROCESS DESCRIPTION

The boat manufacturing process starts with applying a gel coat into an open mold. The equipment used for this is a spray gun. The process catalyst is Methyl Ethyl Ketone Peroxide (MEKP).

After the gel coat is applied, the next step is to apply the resin. The resin is applied by hand using various layers of fiberglass covered with resin. This is an open mold operation. Once again MEKP is used as a process catalyst.

After resin is applied, it is pulled from the mold and continues through the factory to be assembled.

III. EMISSIONS

The facility is classified as a Class I Title V Source subject to the Code of Federal Regulations Title 40 Part 63 (40 CFR 63) subpart VVVV. Pursuant to this subpart the source has elected to use Maximum Available control Technology (MACT) compliant materials with specific Hazardous Air Pollutant (HAP) content limits. If the weighted-average organic HAP content as calculated in the equation listed in Condition II.C.1.d of Attachment "B" in the permit does not exceed the HAP content limit specified in Table 1 of the same condition, then the Permittee is in compliance with the emission limit.

IV. APPLICABLE REGULATIONS

The following table summarizes the findings of the Department with respect to the regulations that are applicable to fiberglass boat manufacturing facilities.

Table 2: Applicable Regulations

Unit	Control Device	Rule	Verification
Facility Wide	None	40 CFR 63 Subpart VVVV	MACT Requirement For Fiberglass Boat Manufacturing
		A.A.C. R18-2-730(D)	Limits on emissions of gaseous or odorous materials
		A.A.C. R18-2-730(F)	Limits on storage and transport of volatile compounds.
Spray Booths	None	A.A.C. R18-2-727(A)	Control of 96% Overspray
		A.A.C. R18-2-702(B)	20 Percent Opacity Limit
		A.A.C. R18-2-727(B)	Limits on photochemically reactive solvents.
Lamination Room	None	A.A.C. R18-2-702(B)	20 Percent Opacity Limit
Mobile Sources	None	A.A.C. R18-2-801 through R18-2-805	Mobile source Requirements
Other Periodic Activities	None	A.A.C. R18-2-726	Sandblasting Operations

V. MONITORING AND RECORD KEEPING REQUIREMENTS

A. Material Usage

1. The Permittee must keep records of all Material Safety Data Sheets (MSDS) sheets which show the hazardous air pollutant content for all resin and gel coats. If the HAP content is given as a range the higher value must be used.
2. The Permittee must record the material used per month in units of pounds. This record is not required if all materials used for the operation comply with the organic HAP content requirements.
3. The Permittee must keep records of the calculation performed which demonstrate compliance of the weighted organic HAP limit as described in Condition II.C.1.d of Attachment "B" in the permit.

B. Opacity

A certified EPA Reference Method 9 observer must conduct a monthly survey of visible emissions emanating from the stack of the spray booth. If the opacity of the emissions observed appears to exceed the standard, the observer must conduct a certified EPA Reference Method 9 observation. The Permittee must keep records of the name of the observer, date and time of the observation, and result of the observation.

VI. IMPACTS TO AMBIENT AIR QUALITY

A. Introduction

The SCREEN3 model was used to complete the air dispersion modeling analysis. The SCREEN3 model was run using screening meteorology, rural dispersion coefficients, and flat terrain. The modeling for this source is based on a hourly emission rate which was determined by dividing the totally yearly emissions with the number of hours the source operates on average in a year. As a result, modeling the source at 8,760 operating hours per year would result in a much less conservative value than using more realistic operating hours. In order to use a more conservative approach the facility modeled the source on an assumed operating schedule of ten hours per day and 3,650 hours per year.

SCREEN3 is a steady state, single source, Gaussian dispersion model developed to provide an easy to use method of obtaining pollutant concentration estimates. SCREEN3 is a USEPA approved screening model for estimating impacts at receptors located in simple terrain and complex terrain due to emissions from simple sources. The model is capable of calculating downwind ground level concentrations due to point, area, and volume sources. In addition, SCREEN3 incorporates algorithms for the simulation of aerodynamic downwash induced by buildings. All hazardous air pollutants (HAPs) meet the Arizona Ambient Air Quality Guidelines (AAAQG).

B. Modeling Analysis Overview

1. Source Release Parameters

Table 3 on the following page displays the sources release parameters used in the modeling analysis. Modeled emissions for the facility are based on 3,650 hours of operation per year.

Table 3. Modeled Source Parameters

Equipment	Equipment Type	Stack Ht. (m)	Stack Dia. (m)	Exit Temp. (deg K)	Exit Vel. (m/s)
Lamination Room Stack	Lamination Room Stack	6.7	0.91	273	14
Spray Booth Stack	Spray Booth	5.48	0.91	293	14.84

2. AAAQG Analysis

Table 4 on the following page shows the AAAQG analysis for styrene. Based on the modeling results the facility is not expected to exceed ADEQ's guideline concentration for Styrene.

Table 4. AAAQG Combined Modeling Analysis Results for Lamination Room and Spray Booth

Pollutant	Emissions (lb/hr)*	Averaging Time	Max. Conc. (ug/m3)	AAAQG (ug/m3)	Pass/Fail?
Styrene	4.93 lb/hour	1-Hr	982	3500	Pass
		24-Hrs	164	1700	Pass
		Annual		na	

*Numbers are based on permit limits

VII. LIST OF ABBREVIATIONS

AAAQG	Arizona Ambient Air Quality Guideline
A.A.C.	Arizona Administrative Code
ACFM.	Actual Cubic Feet per Minute
CO	Carbon Monoxide
HAP	Hazardous Air Pollutant
Lb/hr	Pound per Hour
NAAQS	National Ambient Air Quality Standards
NO _x	Nitrogen Oxide
ppmv	Parts per Million by Volume
SCFM	Standard Cubic Feet per Minute
TPY	Tons per Year
µg/m ³	Microgram per Cubic Meter
VOC	Volatile Organic Compound