



Company Name:	Foam Fabricators Inc	Permit Writer:	Utpal Patel
Agency Air Number:	0200-0135	Date:	DRAFT
Permit Number:	TV-0200-0135 v2.0		

DATE APPLICATION RECEIVED: April 01, 2024

DATE OF LAST INSPECTION: January 10, 2024
No violations of permit conditions or applicable state and federal requirements

PROJECT DESCRIPTION
The facility is applying for a TV renewal.

FACILITY DESCRIPTION
Custom molder of Expandable Resins. The facility mechanically alters the density of the expandable resin and molds it into shapes.

SIC CODE: 3086 (Plastic Foam Products)
NAICS CODE: 326140 (Polystyrene Foam Product Manufacturing)

CHANGES SINCE LAST OP ISSUANCE
There is no change.

The facility has a total of 30 bags as listed in their previous TV permit issued on October 15, 2019. 25 are in the bag room and used to store fresh expanded bead. The other 5 are outside bag room and are used for storage of regrind/recycled material.

On July 28, 2020, the facility submitted AA to add one additional bead storage silo and on November 4, 2020, the facility submitted 502(b)(10) to add one additional bead storage silo. Both the bead storage silos were never installed, and the facility still has the same number of 30 bags.

EMISSIONS

FACILITY WIDE EMISSIONS			
Pollutant	Uncontrolled	Controlled	PTE
	TPY	TPY	TPY
PM	0.68	--	0.68
PM ₁₀	0.68	--	0.68
PM _{2.5}	0.68	--	0.68
SO ₂	0.06	--	0.06
NO _x	8.94	--	8.94
CO	7.50	--	7.50
VOC	547.74	--	<250.0
Total HAP	0.168	--	0.168

HAP emissions are from fuel combustion only.

SOURCE TEST REQUIREMENTS
No source testing.



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REGULATIONS

Applicable - Section II(E) (Synthetic Minor)

The facility emits PM, PM_{2.5}, PM₁₀, SO₂, CO, NO_x and VOC which are PSD pollutants. Uncontrolled facility-wide emissions of these pollutants are each less than 250.0 tpy except for VOC.

The facility's uncontrolled VOC emissions are greater than 250.0 tpy and this facility has taken a federally enforceable limit of 250.0 tpy to limit its potential to emit to less than 250.0 tpy for PSD avoidance. This limit was public noticed which made it federally enforceable. This facility's potential to emit considering the federally enforceable limit is less than 250.0 tpy for this pollutant.

Compliance with the VOC limit is demonstrated by calculating 12-month rolling sum of VOC emissions.

Synthetic Minor Limits					
Permit ID	Equipment ID	Permit Issue Date	Pollutant	Emission Limit (TPY)	Explanation
0200-0135-CF	Facility-Wide	August 20, 2018	VOC	<250.0	PSD Avoidance

The algorithms, explaining the method used to determine twelve month rolling sum of VOC are provided below. The results of these algorithms are used to calculate the twelve-month rolling sum.

Algorithm:

Polystyrene Bead Storage Emissions

$$X \text{ pounds } \frac{\text{beads}}{\text{hour}} * (\text{percent pentane in beads}) * 42.8\% \text{ of total potential Pentane Emissions} = \text{pounds VOC/hr}$$

Pre-Expanders

$$X \text{ pounds } \frac{\text{beads}}{\text{hour}} * (\text{percent pentane in beads}) * 20\% \text{ of total potential Pentane Emissions} = \text{pounds VOC/hr}$$

Molding Presses

$$X \text{ pounds } \frac{\text{beads}}{\text{hour}} * (\text{percent pentane in beads}) * 22.9\% \text{ of total potential Pentane Emissions} = \text{pounds VOC/hr}$$

Warehouse

$$X \text{ pounds } \frac{\text{beads}}{\text{hour}} * (\text{percent pentane in beads}) * 14.3\% \text{ of total potential Pentane Emissions} = \text{pounds VOC/hr}$$

Natural Gas Fired Boiler (B-1, B-2) = AP-42 Section 1.4 = 5.5 lb VOC/million SCF

Applicable - Standard No. 1 (Emissions from Fuel Burning Operations)

Boilers B-1 and B-2 meet the definition of a fuel burning operation as specified by SC Regulation 61-62.1.



STATEMENT OF BASIS
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BAQ Air Permitting Division

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Each boiler is subject to Section I(B), Section I(C), Section II(A) and Section III.

No periodic monitoring of each boiler is required by this standard.

ID	PM Allowable (lb/hr)	SO ₂ Allowable (lb/hr)	Uncontrolled Emissions		Controlled Emissions	
			PM (lb/hr)	SO ₂ (lb/hr)	PM (lb/hr)	SO ₂ (lb/hr)
B-1	6.12	23.46	0.155	0.014	--	--
B-2	6.12	23.46	0.155	0.014	--	--

Not Applicable - Standard No. 3 (state only) (Waste Combustion and Reduction)

This facility does not have any waste combustion/reduction processes.

Applicable - Standard No. 4 (Emissions from Process Industries)

The facility does not have any processes that emit any PM; therefore, not subject to Section VIII. All the processes (other than boilers) are subject to 20% opacity limit (Section IX) from this regulation.

Not Applicable - Standard No. 5 (Volatile Organic Compounds)

This standard does not apply to existing processes in Anderson County as specified by Part B (1).

Applicable - Standard No. 5.2 (Control of Oxides of Nitrogen (NO_x))

This facility has the following sources that burn a fuel and emit NO_x:

(1) Boiler B-1 and Boiler B-2 – These sources were constructed in November 2004, which is after June 25, 2004, have NO_x emissions that have not undergone a BACT review, do not qualify for any of the exemptions specified by Section I(B) and are classified as new sources by Section I(A)(1).

These boilers only burn Natural Gas and are subject to the following requirements and limits as specified by Section III(A) and Table 1 for boilers with capacities between 10 MMBtu and 100 MMBtu:

- Low-NO_x Burners or equivalent technology are required, and the boiler is limited to 0.036 lb NO_x/MMBtu

Compliance with these limits is demonstrated by performing tune-ups as specified by Section VI (4).

Not Applicable - Standard No. 7 (Prevention of Significant Deterioration)

This facility is not specified as one of the 28 specific industry types for PSD applicability and is in the other PSD category with an applicability trigger of 250.0 tpy.

This facility emits PM, PM_{2.5}, PM₁₀, SO₂, CO, NO_x and VOC which are PSD pollutants. Uncontrolled facility-wide emissions of these pollutants are each less than 250.0 tpy except for VOC which makes this facility potentially major for PSD. This facility has taken a facility-wide limit of less than 250.0 tpy VOC which removes it from major source applicability under PSD.

Applicable - 61-62.6 (Control of Fugitive Particulate Matter)

The facility will be subject to Section III of this standard.



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40 CFR 60 and 61-62.60 (New Source Performance Standards (NSPS))

Applicable - Subparts A (General Provisions) and Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) were reviewed for applicability and found to be applicable to Boiler B-1 and Boiler B-2. This subpart is applicable to each boiler as specified by 60.40c(a) because they were installed after June 9, 1989, and the maximum design heat input capacity of each boiler is between 10 million Btu/hr and 100 million Btu/hr.

These boilers only burn Natural Gas and so no opacity, PM and SO₂ emissions limits contained in this subpart are applicable to each boiler because they do not meet the applicability requirements to be subject to these limits.

60.48c(g)(1) requires that records be kept and maintained of the amount of each fuel combusted during each operating day except as provided by the alternatives in 60.48c(g)(2) and 60.48c(g)(3). Because each boiler only combusts Natural Gas, they are eligible for the alternatives specified in 60.48c(g)(2) and 60.48c(g)(3). This facility may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to the property during each calendar month.

40 CFR 61 and 61-62.61 (National Emission Standards for Hazardous Air Pollutants (NESHAP))

Not Applicable - This facility does not emit the pollutants in a way that is subject to this standard (asbestos, benzene, beryllium, coke oven emissions, arsenic, mercury, radio nuclide, radon, or vinyl chloride).

40 CFR 63 and 61-62.63 (National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories)

Not Applicable

This facility's uncontrolled facility-wide individual HAP emissions are less than 10.0 tpy, its total uncontrolled combined HAP emissions are less than 25.0 tpy and so it is classified as an area source.

Boiler B-1 and Boiler B-2 are not subject to Subpart JJJJJ (National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources).

63.11193 states that a facility's boilers located at an area source are subject to this subpart except as specified in 63.11195.

63.11195(e) states that a gas-fired boiler as defined in 63.11237 is not subject. Boiler No.1 and Boiler No.2 only burn Natural Gas as fuel, meet the definition of a gas-fired boiler as defined in 63.11237 and so are not subject to this regulation.

Not Applicable - 61-62.68 (Chemical Accident Prevention Provisions)

This facility does not use or store any chemicals subject to 112(r) above threshold amounts.

Not Applicable - 40 CFR 64 (Compliance Assurance Monitoring)

The facility has a PSEU with pre-controlled PTE of VOC emissions greater than 100.0 tpy but does not have any control device; therefore, not subject to this regulation.



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AMBIENT AIR STANDARDS REVIEW

Applicable - Standard No. 2 (Ambient Air Quality Standards)

The facility showed compliance with this standard. See modeling summary dated May 13, 2024.

Applicable - Standard No. 8 (state only) (Toxic Air Pollutants)

The facility showed compliance with this standard. See modeling summary dated May 13, 2024.

PUBLIC NOTICE

This Title V Permit will undergo a 30-day public notice period and a 45-day EPA comment period in accordance with SC Regulation 61-62.1, Section II(N) and SC Regulation 61-62.70.7(h).

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.