



**TECHNICAL REVIEW AND EVALUATION FOR SIGNIFICANT REVISION #63545 TO
OPERATING AIR QUALITY PERMIT #54735
STARRFOAM MANUFACTURING INC.**

I. INTRODUCTION

A. This Significant Permit Revision No. 63545 to Operating Permit No. 54735 authorizes StarRFoam to increase the material usage cap of expanded polystyrene (EPS) beads from 10,000,000 to 22,400,000 pounds in any rolling twelve-month period. This revision also updates the Equipment List, Attachment C of the Operating Permit #54735.

B. Attainment Classification

The facility of StarRFoam is located in an area which is attainment for all criteria pollutants.

II. EMISSIONS

StarRFoam is installing a new block mold machine, replacing the existing thermal oxidizer with a new regenerative thermal oxidizer, adding a new boiler of 6.3 MMBtu per hour rating, replacing the existing boiler of 4.4 MMBtu per hour with a new boiler of 6.3 MMBtu per hour, and increasing the material usage cap from 10 million to 22.4 million pounds of ESP in any rolling twelve-month period. The addition of new block molding machine does not increase the handling capacity of EPS beads since the down stream sections are not being changed.

As part of this revision, the facility has changed the following parameters of operation:

Item	Operating Permit 54735	SPR 53545
EPS Beads-VOC content	7%	10%
Total Enclosure Capture Efficiency ¹	90%	100%
Air Pollution Control Efficiency	98%	97.4%
VOC in final product ²	10%	15%

1. EPA Document on Total Enclosure gives capture efficiency as 100%
<http://www3.epa.gov/ttnchie1/mkb/documents/fpte.pdf>

2. There is a document of Foam production which lists 15% as the VOC content after 48 hours in the final product (Page 5-4).
http://www3.epa.gov/ozonepollution/SIPToolkit/ctg_act/199009_voc_epa450_3-90-020_polystyrene_foam_manufacturing.pdf

With the increase in material usage cap, the increase in PTE for volatile organic components is less than the permitting exemption threshold; therefore the permit is not subject to minor NSR requirements.

The following table lists the facility wide emissions before and after this revision.

Table : Facility wide PTE

Pollutants	Operating Permit #54735	After SPR #63545	Increase	Permit Exemption Threshold
	tons per year			
PM	0.32	0.54	0.22	-
PM ₁₀	0.32	0.54	0.22	7.50
PM _{2.5}	0.32	0.54	0.22	5.00
NO _x	4.20	6.23	2.03	20.00
SO ₂	0.03	0.04	0.01	20.00
CO	3.53	5.95	1.42	50.00
VOC	5.63	25.14	19.51	20.00

III. APPLICABLE REQUIREMENTS

There are no new applicable requirements. NESHAP, Subpart JJJJJJ is not applicable to natural gas fired boilers [40 CFR 63.11195(e)].

IV. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

There are no new requirements for monitoring, recordkeeping, and reporting.

V. TESTING REQUIREMENTS

- A. There was a requirement of testing the destruction efficiency of the thermal oxidizer during the 2nd and 4th year of the permit term. With the replacement of existing thermal oxidizer with a new RTO, the facility will be testing the destruction efficiency of the Regenerative Thermal Oxidizer (RTO) within 60 days of achieving the full load operation on sustained basis but no later than 180 days after issuance of this significant revision to operating permit.
- B. The facility will conduct subsequent test on the RTO every two years.