



JUL 21 2016

Mr. Sanford Campbell
Styrotek Inc
P O Box 1180
Delano, CA 93216

**Re: Proposed Authority to Construct/Certificate of Conformity (Minor Mod)
District Facility # S-1075
Project # S-1162485**

Dear Mr. Campbell:

Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project authorizes the replacement of 14 of the 38 presses with similar presses in the existing polystyrene molding operation under permit S-1075-6.

After addressing all comments made during the 45-day EPA comment period, the District intends to issue the Authority to Construct with a Certificate of Conformity. Prior to operating with modifications authorized by the Authority to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Errol Villegas, Permit Services Manager, at (559) 230-5900.

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Executive Director/Air Pollution Control Officer

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Mr. Sanford Campbell
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Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet
Director of Permit Services

Enclosures

cc: Gerardo C. Rios, EPA (w/enclosure) via email

San Joaquin Valley Air Pollution Control District
Authority to Construct Application Review
Replace 14 Presses from Polystyrene Molding Operation

Facility Name:	Styrotek Inc	Date:	July 6, 2016
Mailing Address:	P O Box 1180 Delano, CA 93216-1180	Engineer:	Jesse A. Garcia
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Application #:	S-1075-6-28		
Project #:	S-1162485		
Deemed Complete:	June 21, 2016		

I. Proposal

Styrotek, Inc. (Styrotek) operates an expanded polystyrene molding operation consisting of 38 presses. The facility is proposing to replace 14 of the 38 presses with similar presses.

No changes in plant throughput or emissions rates are proposed. Therefore, replacement of the presses is not expected to result in any emissions increases for the operation.

Styrotek received their Title V Permit on October 31, 2004. This modification can be classified as a Title V minor modification pursuant to Rule 2520, Section 3.20, and can be processed with a Certificate of Conformity (COC). Since the facility has specifically requested that this project be processed in that manner, the 45-day EPA comment period will be satisfied prior to the issuance of the Authority to Construct. Styrotek must apply to administratively amend their Title V Operating Permit to include the requirements of the ATC issued with this project.

Appendix A: Current Permit to Operate

II. Applicable Rules

Rule 2201	New and Modified Stationary Source Review Rule (2/18/16)
Rule 2410	Prevention of Significant Deterioration (6/16/11)
Rule 2520	Federally Mandated Operating Permits (6/21/01)
Rule 4001	New Source Performance Standards (4/14/99)
Rule 4101	Visible Emissions (2/17/05)
Rule 4102	Nuisance (12/17/92)
Rule 4201	Particulate Matter Concentration (12/17/92)
Rule 4682	Polystyrene, Polyethylene, and Polypropylene Products Manufacturing (12/15/11)
Rule 4801	Sulfur Compounds (12/17/92)

CH&SC 41700 Health Risk Assessment
CH&SC 42301.6 School Notice
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA
Guidelines

III. Project Location

Styrotek is located approximately 4 miles east of Delano near the intersection of Road 176 and Avenue 4, in Kern County. The District has confirmed that this operation is not located within 1,000 feet of the outer boundary of a K-12 school. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not applicable to this project.

IV. Process Description

The process description provided by Styrotek is as follows:

Step 1: Pre-Expansion

Raw material, consisting of expandable polystyrene beads with no more than 4.2% by weight pentane content, is supplied to the facility in lined supra-bags. The beads are stored at 70°F in the sealed bags to prevent pentane loss prior to use. Pentane is the blowing agent in this raw material that allows the beads to expand under steam pressure to fill a mold cavity and form a "Styrofoam" product. The facility's current PTO allows a maximum pentane content of 4.2%.

Raw material is moved to the pre-expansion room, as needed, where the bags are opened and the beads are vacuum transported to the pre-expander feed system. Pressurized steam is injected into the bottom of the pre-expander cylinder to provide sufficient heat to the beads so that they will soften and the expanding agent, pentane, injected into the beads during manufacture, expands the beads to 4-6 times the original diameter. The steam vent pipe from the pre-expander chamber extends into a shroud which is under negative pressure created by 1200-2000 scfm to collect steam, pentane, and air into the vapor collection line. The vapor collection system captures fugitive emissions at this point.

Step 2: Pre-Puff Aging

After pre-expansion, beads are dried and pneumatically transported to enclosed metal storage silos to cool down and stabilize. Depending on the production requirements, the allowed stabilization period varies from four to twenty-four hours. A small amount of pentane is released during aging. The silos are also vented to the vapor collection system through direct piping under negative pressure.

Step 3: Molding Process

Pre-expanded beads are pneumatically transferred from the intermediate storage silos to small enclosed receiving hopper silos above the molding machines. Pre-puff beads with a pentane content of 4.2% or less are loaded into a mold then pressurized steam is injected to soften, expand, and fuse together to form solid shapes of expanded polystyrene. The molded shapes

are then cooled with water to halt the expansion process and discharged to collection conveyors for packing, storage, and shipping.

The steam vent pipe from the molding machine extends into a shroud which is under negative pressure to draw steam, pentane and air into the vapor collection line. Each of these processing steps is under negative pressure generated by the vapor collection system; therefore, collection efficiency of >90% can be assumed at these collection points. All pentane vapors collected by the vapor control system are combusted in a Regenerative Thermal Oxidizer (RTO) supplemented by natural gas and propane.

V. Equipment Listing

Pre-Project Equipment Description:

PTO S-1075-6-26: EXPANDED POLYSTYRENE MOLDING OPERATION, INCLUDING PRE-EXPANDER AREA, PRODUCTION AREA, AND 3.0 MMBTU/HR NATURAL GAS/LPG-FIRED REGENERATIVE THERMAL OXIDIZER (RTO) SERVING PENTANE VAPOR CONTROL SYSTEM

Proposed Modification:

ATC S-1075-6-28: MODIFICATION OF EXPANDED POLYSTYRENE MOLDING OPERATION, INCLUDING PRE-EXPANDER AREA, PRODUCTION AREA, AND 3.0 MMBTU/HR NATURAL GAS/LPG-FIRED REGENERATIVE THERMAL OXIDIZER (RTO) SERVING PENTANE VAPOR CONTROL SYSTEM: REPLACE 14 OF THE 38 PRESSES WITH NEW PRESSES

Post-Project Equipment Description:

PTO S-1075-6-28: EXPANDED POLYSTYRENE MOLDING OPERATION, INCLUDING PRE-EXPANDER AREA, PRODUCTION AREA, AND 3.0 MMBTU/HR NATURAL GAS/LPG-FIRED REGENERATIVE THERMAL OXIDIZER (RTO) SERVING PENTANE VAPOR CONTROL SYSTEM

VI. Emission Control Technology Evaluation

The facility is equipped with a pentane vapor control system. The collected vapors are combusted in the existing RTO with a VOC destruction efficiency of 99%. No change to the existing control equipment is proposed.

VII. General Calculations

A. Assumptions

- No change in emissions will result from the replacement of the presses
- Maximum pentane content of raw beads does not exceed 4.2% (current permit)

- 37% of the total pentane content is released during the softening and molding process (based on testing of expanded polystyrene molding operation)
- RTO destruction efficiency for VOC is 99% (current permit)
- Overall VOC capture and control efficiency is 93% (current permit)
- Raw beads processed do not exceed 128,310 lb/day nor 32,027,500 lb/yr (current permit)
- There will be no change in emissions due to combustion of natural gas in the RTO (no change in fuel rate is proposed)

B. Emission Factors

For the RTO, the emissions factors for NO_x, SO_x, PM₁₀, CO, and VOC from the combustion of natural gas/propane are listed on the current permit and summarized in the following table:

RTO Emission Factors		
	lb/MMBtu	Source
NO _x	0.142	Current Operating Permit
SO _x	0.0164	Current Operating Permit
PM ₁₀	0.0076	Current Operating Permit
CO	0.0737	Current Operating Permit
VOC	0.0054	Current Operating Permit

C. Calculations

1. Pre-Project Potential to Emit (PE1)

Emissions for the polystyrene molding operation are from the combustion of natural gas/propane in the RTO and from the fugitive and uncontrolled emissions from the molding operation.

The potential to emit for the combustion of natural gas/propane in the RTO is calculated as follows, and summarized in the table below:

$$PE1_{\text{daily}} = (3.0 \text{ MMBtu/hr}) * (\text{Emission Factor}) * (24 \text{ hours/day})$$

$$PE1_{\text{annual}} = (3.0 \text{ MMBtu/hr}) * (\text{Emission Factor}) * (8,760 \text{ hours/yr})$$

Pre-Project RTO Potential to Emit (PE1) from combustion of natural gas/propane		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	10.2	3,732
SO _x	1.2	431
PM ₁₀	0.5	200
CO	5.3	1,937
VOC	0.4	142

The potential to emit from the molding operation is calculated as follows, and summarized in the table below:

$$\frac{128,310 \text{ lb} \cdot \text{raw beads}}{\text{day}} \left(\frac{0.042 \text{ lb} \cdot \text{VOC}}{\text{lb} \cdot \text{raw beads}} \right) \frac{0.37 \text{ lb} \cdot \text{VOC}}{\text{lb} \cdot \text{raw beads}} (1 - 93\%) = 139.6 \frac{\text{lb} \cdot \text{VOC}}{\text{day}}$$

$$\frac{32,027,500 \text{ lb} \cdot \text{raw beads}}{\text{year}} \left(\frac{0.042 \text{ lb} \cdot \text{VOC}}{\text{lb} \cdot \text{raw beads}} \right) \frac{0.37 \text{ lb} \cdot \text{VOC}}{\text{lb} \cdot \text{raw beads}} (1 - 93\%) = 34,840 \frac{\text{lb} \cdot \text{VOC}}{\text{year}}$$

Pre-Project Potential to Emit (PE1) from fugitive pentane gas and uncontrolled pentane emissions		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
VOC	139.6	34,840

Total Pre-Project Potential to Emit (PE1)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	10.2	3,732
SO _x	1.2	431
PM ₁₀	0.5	200
CO	5.3	1,937
VOC	140.0	34,982

2. Post-Project Potential to Emit (PE2)

As previously stated, no change in emissions is expected from the proposed modification. Therefore, PE2 = PE1.

Post-Project Potential to Emit (PE2)		
	Daily Emissions (lb/day)	Annual Emissions (lb/year)
NO _x	10.2	3,732
SO _x	1.2	431
PM ₁₀	0.5	200
CO	5.3	1,937
VOC	140.0	34,982

3. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to District Rule 2201, the SSPE1 is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of Emission Reduction Credits (ERC) which have been banked

since September 19, 1991 for Actual Emissions Reductions (AER) that have occurred at the source, and which have not been used on-site.

Emissions from units S-1075-3 and -7 are taken from District project S-1121499. Further, the facility does not possess any unused ERCs.

Pre-Project Stationary Source Potential to Emit [SSPE1] (lb/year)					
Permit Unit/ERC	NO _x	SO _x	PM ₁₀	CO	VOC
S-1075-3-12	2,665	475	730	21,170	438
S-1075-6-26	3,732	431	200	1,937	34,982
S-1075-7-6	2,004	714	1,904	18,465	1,378
Pre-Project SSPE (SSPE1)	8,401	1,620	2,834	41,572	36,798

4. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to District Rule 2201, the SSPE2 is the PE from all units with valid ATCs or PTOs at the Stationary Source and the quantity of ERCs which have been banked since September 19, 1991 for AER that have occurred at the source, and which have not been used on-site.

Since there is no change in emissions from this project, SSPE1 = SSPE2.

Post-Project Stationary Source Potential to Emit [SSPE2] (lb/year)					
Permit Unit/ERC	NO _x	SO _x	PM ₁₀	CO	VOC
S-1075-3-12	2,665	475	730	21,170	438
S-1075-6-28	3,732	431	200	1,937	34,982
S-1075-7-6	2,004	714	1,904	18,465	1,378
Post-Project SSPE (SSPE2)	8,401	1,620	2,834	41,572	36,798

5. Major Source Determination

Rule 2201 Major Source Determination:

Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR 51.165

Rule 2201 Major Source Determination (lb/year)					
	NO _x	SO _x	PM ₁₀ /PM _{2.5}	CO	VOC
SSPE1	8,401	1,620	2,834	41,572	36,798
SSPE2	8,401	1,620	2,834	41,572	36,798
Major Source Threshold	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

Note: PM2.5 = PM10

As seen in the table above, the facility is an existing Major Source for VOC and will remain a Major Source for VOC as a result of this project.

Rule 2410 Major Source Determination:

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)						
	NO ₂	VOC	SO ₂	CO	PM	PM10
Estimated Facility PE before Project Increase	4.2	18.4	0.8	20.8	1.4	1.4
PSD Major Source Thresholds	250	250	250	250	250	250
PSD Major Source ? (Y/N)	N	N	N	N	N	N

As shown above, the facility is not an existing major source for PSD for at least one pollutant. Therefore the facility is not an existing major source for PSD.

6. Baseline Emissions (BE)

The BE calculation (in lbs/year) is performed pollutant-by-pollutant for each unit within the project, to calculate the QNEC and if applicable, to determine the amount of offsets required.

Pursuant to District Rule 2201, BE = Pre-project Potential to Emit for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, located at a Major Source.

otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

As shown above, the facility is a major source for VOC emissions. Pursuant to Rule 2201, a Clean Emissions Unit is defined as an emissions unit that is “equipped with an emissions control technology with a minimum control efficiency of at least 95% or is equipped with emission control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application.”

This emissions unit is equipped with a thermal oxidizer with a capture and control efficiency of 99%, which meets the requirements for achieved-in-practice BACT for VOC. Therefore, VOC Baseline Emissions (BE) are equal to the Pre-Project Potential to Emit (PE1).

As shown in Section VII.C.5 above, the facility is not a major source for NOx, SOx, PM10, and CO emissions.

Therefore BE=PE1 for these pollutants as well.

7. SB288 Major Modification

SB 288 Major Modification is defined in 40 CFR Part 51.165 as "any physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any pollutant subject to regulation under the Act."

Since this facility is a major source for VOC, the project's PE2 is compared to the SB 288 Major Modification Thresholds in the following table in order to determine if the SB 288 Major Modification calculation is required.

SB 288 Major Modification Thresholds			
Pollutant	Project PE2 (lb/year)	Threshold (lb/year)	SB 288 Major Modification Calculation Required?
VOC	34,982	50,000	No

Since none of the SB 288 Major Modification Thresholds are surpassed with this project, this project does not constitute an SB 288 Major Modification.

8. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a “Major Modification” as defined in 40 CFR 51.165 and part D of Title I of the CAA.

The determination of Federal Major Modification is based on a two-step test. For the first step, only the emission *increases* are counted. Emission decreases may not cancel out the increases for this determination.

Step 1

For existing emissions units, the increase in emissions is calculated as follows.

$$\text{Emission Increase} = \text{PAE} - \text{BAE} - \text{UBC}$$

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation. If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period. The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete.

UBC: Since this project does not result in an increase in design capacity or potential to emit, and it does not impact the ability of the emission unit to operate at a higher utilization rate, the UBC is the portion of PAE that the emission units could have accommodated during the baseline period.

Therefore, $\text{UBC} = \text{PAE} - \text{BAE}$. Thus, the emission increase is 0 lb/yr and the proposed modification will not result in a Federal Major Modification.

9. Rule 2410 – Prevention of Significant Deterioration (PSD) Applicability Determination

Rule 2410 applies to any pollutant regulated under the Clean Air Act, except those for which the District has been classified nonattainment. The pollutants which must be addressed in the PSD applicability determination for sources located in the SJV and which are emitted in this project are: (See 52.21 (b) (23) definition of significant)

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)
- CO
- PM
- PM₁₀

I. Project Emissions Increase - New Major Source Determination

The post-project potentials to emit from all new and modified units are compared to the PSD major source thresholds to determine if the project constitutes a new major source subject to PSD requirements.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination: Potential to Emit (tons/year)						
	NO2	VOC	SO2	CO	PM	PM10
Total PE from New and Modified Units	1.9	17.5	0.2	1.0	0.1	0.1
PSD Major Source threshold	250	250	250	250	250	250
New PSD Major Source?	N	N	N	N	N	N

As shown in the table above, the potential to emit for the project, by itself, does not exceed any PSD major source threshold. Therefore Rule 2410 is not applicable and no further analysis is required.

10. Quarterly Net Emissions Change (QNEC)

The QNEC is calculated solely to establish emissions that are used to complete the District's PAS emissions profile screen. Detailed QNEC calculations are included in Appendix C.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. Best Available Control Technology (BACT)

1. BACT Applicability

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless specifically exempted by Rule 2201, BACT shall be required for the following actions*:

- a. Any new emissions unit with a potential to emit exceeding two pounds per day,
- b. The relocation from one Stationary Source to another of an existing emissions unit with a potential to emit exceeding two pounds per day,
- c. Modifications to an existing emissions unit with a valid Permit to Operate resulting in an AIPE exceeding two pounds per day, and/or
- d. Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined by the rule.

*Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

a. New emissions units – PE > 2 lb/day

As discussed in Section I above, there are no new emissions units associated with this project; therefore, BACT for new units with PE > 2 lb/day purposes is not triggered.

b. Relocation of emissions units – PE > 2 lb/day

As discussed in Section I above, there are no emissions units being relocated from one stationary source to another; therefore, BACT is not triggered.

c. Modification of emissions units – AIPE > 2 lb/day

$$\text{AIPE} = \text{PE2} - \text{HAPE}$$

Where,

AIPE = Adjusted Increase in Permitted Emissions, (lb/day)

PE2 = Post-Project Potential to Emit, (lb/day)

HAPE = Historically Adjusted Potential to Emit, (lb/day)

$$\text{HAPE} = \text{PE1} \times (\text{EF2}/\text{EF1})$$

Where,

PE1 = The emissions unit's PE prior to modification or relocation, (lb/day)

EF2 = The emissions unit's permitted emission factor for the pollutant after modification or relocation. If EF2 is greater than EF1 then EF2/EF1 shall be set to 1

EF1 = The emissions unit's permitted emission factor for the pollutant before the modification or relocation

$$\text{AIPE} = \text{PE2} - (\text{PE1} * (\text{EF2} / \text{EF1}))$$

Since PE1 = PE2 and EF1 = EF2, the AIPE for all pollutants is 0.0 lb/day.

d. SB288/Federal Major Modification

As discussed in Sections VII.C.7 and VII.C.8 above, this project does not constitute an SB 288 or Federal Major Modification. Therefore BACT is not triggered for any pollutant.

B. Offsets

1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals to or exceeds the offset threshold levels in Table 4-1 of Rule 2201.

The SSPE2 is compared to the offset thresholds in the following table.

Offset Determination (lb/year)					
	NO _x	SO _x	PM ₁₀	CO	VOC
Post Project SSPE (SSPE2)	8,401	1,620	2,834	41,572	36,798
Offset Threshold	20,000	54,750	29,200	200,000	20,000
Offsets triggered?	No	No	No	No	Yes

2. Quantity of Offsets Required

As seen above, the SSPE2 is greater than the offset thresholds for VOC only. Therefore offset calculations will be required for this project.

The quantity of offsets in pounds per year for VOC is calculated as follows for sources with an SSPE1 greater than the offset threshold levels before implementing the project being evaluated.

Offsets Required (lb/year) = $(\Sigma[PE2 - BE] + ICCE) \times DOR$, for all new or modified emissions units in the project,

Where,

PE2 = Post Project Potential to Emit, (lb/year)

BE = Baseline Emissions, (lb/year)

ICCE = Increase in Cargo Carrier Emissions, (lb/year)

DOR = Distance Offset Ratio, determined pursuant to Section 4.8

BE = PE1 for:

- Any unit located at a non-Major Source,
- Any Highly-Utilized Emissions Unit, located at a Major Source,
- Any Fully-Offset Emissions Unit, located at a Major Source, or
- Any Clean Emissions Unit, Located at a Major Source.

otherwise,

BE = HAE

As discussed in Section VII.C.6 above, BE = PE1 because the modified unit is a clean emissions unit. Additionally, as previously calculated, PE2 = PE1 for this project. Also, there is only one emissions unit associated with this project and there are no increases in cargo carrier emissions; therefore offsets can be determined as follows:

$$\begin{aligned}
 \text{Offsets Required (lb/year)} &= ([PE2 - BE] + ICCE) \times DOR \\
 &= ([PE2 - PE1] + 0 \text{ lb/yr}) \times DOR \\
 &= 0 \text{ lb/yr} \times DOR \\
 &= 0 \text{ lb/yr}
 \end{aligned}$$

Therefore, the amount of offsets required for this project is 0 lb/yr.

C. Public Notification

1. Applicability

Public noticing is required for:

- a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- b. Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- c. Any project which results in the offset thresholds being surpassed,
- d. Any project with an SSPE of greater than 20,000 lb/year for any pollutant, and/or
- e. Any project which results in a Title V significant permit modification.

a. New Major Sources, Federal Major Modifications, and SB 288 Major Modifications

New Major Sources are new facilities, which are also Major Sources. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

As demonstrated in Sections VII.C.7 and VII.C.8, this project does not constitute an SB 288 or Federal Major Modification; therefore, public noticing for SB 288 or Federal Major Modification purposes is not required.

b. PE > 100 lb/day

Applications which include a new emissions unit with a PE greater than 100 pounds during any one day for any pollutant will trigger public noticing requirements. There are no new emissions units associated with this project. Therefore public noticing is not required for this project for PE > 100 lb/day.

c. Offset Threshold

The SSPE1 and SSPE2 are compared to the offset thresholds in the following table.

Public Notification for Surpassing Offset Thresholds					
	NO_x	SO_x	PM₁₀	CO	VOC
SSPE1 (lb/year)	8,401	1,620	2,834	41,572	36,798
SSPE2 (lb/year)	8,401	1,620	2,834	41,572	36,798
Offset Threshold (lb/year)	20,000	54,750	29,200	200,000	20,000
Public Notice Required?	No	No	No	No	No

As detailed above, there were no thresholds surpassed with this project; therefore, public noticing is not required for offset purposes.

d. SSIPE > 20,000 lb/year

Public notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/year of any affected pollutant. According to District policy, the SSIPE = SSPE2 – SSPE1. The SSIPE is compared to the SSIPE Public Notice thresholds in the following table.

Public Notification for SSIPE > 20,000 lb/year					
	NO_x	SO_x	PM₁₀	CO	VOC
SSPE1 (lb/year)	8,401	1,620	2,834	41,572	36,798
SSPE2 (lb/year)	8,401	1,620	2,834	41,572	36,798
SSIPE (lb/year)	0	0	0	0	0
SSIPE Public Notice Threshold	20,000 lb/year				
Public Notice Required?	No	No	No	No	No

As demonstrated above, the SSIPEs for all pollutants were less than 20,000 lb/year; therefore public noticing for SSIPE purposes is not required.

e. Title V Significant Permit Modification

As shown in the Discussion of Rule 2520 below, this project does not constitute a Title V significant modification. Therefore, public noticing for Title V significant modifications is not required for this project.

2. Public Notice Action

As discussed above, this project will not result in emissions, for any pollutant, which would subject the project to any of the noticing requirements listed above. Therefore, public notice will not be required for this project.

D. Daily Emission Limits (DELs)

DELs and other enforceable conditions are required by Rule 2201 to restrict a unit's maximum daily emissions, to a level at or below the emissions associated with the maximum design capacity. The DEL must be contained in the latest ATC and contained in or enforced by the latest PTO and enforceable, in a practicable manner, on a daily basis. DELs are also required to enforce the applicability of BACT.

The following conditions on the current PTO will be carried over to the proposed ATC to ensure compliance with this rule:

- RTO shall incinerate VOCs recovered from the pre-expander(s), bead storage silo(s), or molding machine(s) at any time these units are in operation. [District Rules 2201 and 4682]
- Pentane content of raw bead supply shall not exceed 4.2% by weight on an annual average basis. [District Rules 2201 and 4682]
- Raw beads processed shall not exceed 128,310 pounds/day or 32,027,500 pounds/year. [District Rule 2201]
- Only natural gas and propane shall be used as auxiliary fuel for the combustion of VOC. [District Rule 2201]
- The minimum volatile organic compound control efficiency across the RTO shall be 99% by weight. [District Rules 2201 and 4682]
- The minimum VOC (pentane) capture and control efficiency, calculated as VOC vapor capture efficiency multiplied by RTO control efficiency divided by 100, shall be 93% by weight. [District Rules 2201 and 4682]
- The total VOC emissions from the EPS molding operation including fugitive and RTO combustion emissions shall not exceed 140.0 pounds/day or 34,982 pounds/year. [District Rule 2201]
- The minimum operating temperature for the combustion chamber of the RTO shall be maintained at or above 1400 degrees F. [District Rule 2201]
- Combustion emission rates from the RTO shall not exceed any of the following: NO_x (as NO₂): 117.0 ppmv @ 3% O₂ or 0.142 lb/MMBTU, CO: 100 ppmv @ 3% O₂ or 0.0737 lb/MMBTU, SO_x (as SO₂) 0.0164 lb/MMBtu, PM₁₀: 0.0076 lb/MMBtu, or VOC: 0.0054 lb/MMBTU. [District Rule 2201]

E. Compliance Assurance

1. Source Testing

Source testing requirements are stated on the current permit and will be carried over to the proposed ATC. No new source testing is required as a result of this project. The following conditions will be added to the ATC:

- Source testing shall be conducted annually to measure the following: 1) VOC emissions from the RTO and 2) RTO control efficiency. [District Rule 2201]
- For demonstration of vapor control system capture efficiency through source testing, at least three test runs covering at least one production cycle and at least 3 hours and no more than 24 hours in duration shall be conducted to determine

capture efficiency. Protocols for data analysis must either meet the data quality objective (DQO) or lower confidence limit (LCL) approaches as described in EPA "Guidelines for Determining Capture Efficiency." January 9, 1995 and 40 CFR 51 Appendix M, Methods 204-204F, as applicable. [District Rules 2201 and 4682]

2. Monitoring

Monitoring requirements are stated on the current permit and will be carried over to the proposed ATC. No new monitoring is required as a result of this project.

The following conditions will be added to the ATC:

- The RTO shall be equipped with an operational temperature gauge to indicate the temperature of the combustion chamber. A continuous recording device shall be utilized to indicate the combustion chamber temperature during operation. [District Rule 2201]
- Permittee shall monitor and record the pressure upstream of the condenser (water knockout box) on a daily basis to document that the system is under vacuum. [District Rules 2201 and 4682]

3. Recordkeeping

Recordkeeping requirements are stated on the current permit and will be carried over to the proposed ATC. No new recordkeeping is required as a result of this project.

The following conditions will be added to the ATC:

- Permittee shall maintain daily records of RTO temperature, raw bead pentane content, and pounds of raw beads processed. [District Rules 1070 and 4682]
- Permittee shall maintain records of vapor control system capture efficiency and RTO control efficiency. [District Rules 1070 and 4682]
- Permittee shall maintain a record of all periods of non-operation of the RTO, including the dates, duration and reason(s) for the unit not being operated. [District Rule 2201]
- All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 2201 and 4682]

4. Reporting

No reporting is required to demonstrate compliance with Rule 2201.

Rule 2410 Prevention of Significant Deterioration

As shown in Section VII. C. 9. above, this project does not result in a new PSD major source or PSD major modification. No further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is subject to this Rule, and has received their Title V Operating Permit. The proposed modification is a Minor Modification to the Title V Permit.

In accordance with Rule 2520, these modifications:

1. Do not violate requirements of any applicable federally enforceable local or federal requirement;
2. Do not relax monitoring, reporting, or recordkeeping requirements in the permit and are not significant changes in existing monitoring permit terms or conditions;
3. Do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
4. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:
 - a. A federally enforceable emission cap assumed to avoid classification as a modification under any provisions of Title I of the Federal Clean Air Act; and
 - b. An alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Federal Clean Air Act; and
5. Are not Title I modifications as defined in District Rule 2520 or modifications as defined in section 111 or 112 of the Federal Clean Air Act; and
6. Do not seek to consolidate overlapping applicable requirements.

As discussed above, the facility has applied for a Certificate of Conformity (COC). Therefore, the facility must apply to modify their Title V permit with an administrative amendment, prior to operating with the proposed modifications. Continued compliance with this rule is expected. The facility may operate under the ATC upon submittal of the Title V administrative amendment application.

Rule 4001 New Source Performance Standards (NSPS)

40 CFR 64 Compliance Assurance Monitoring (CAM)

This rule incorporates NSPS from Part 60, Chapter 1, Title 40, Code of Federal Regulations (CFR); and applies to all new sources of air pollution and modifications of existing sources of air pollution listed in 40 CFR Part 60.

40 CFR Part 64.3 applies to Compliance Assurance Monitoring (CAM). The current permit addresses the applicability of CAM requirements. No additional requirements or modifications to

these conditions is proposed or expected as a result of this project. Therefore, the following conditions on the current PTO addressing CAM requirements will be added to the proposed ATC.

- During operation of the RTO, the permittee shall monitor and record combustion chamber temperatures at least once every 15 minutes. The temperature readings shall be at or above 1,400 F during which the pentane vapors are being combusted in the RTO. Upon detecting any excursion below the 1,400 F temperature reading, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 4682 and 40 CFR Part 64]
- The RTO's burner and its associated components and the vapor collection system shall be inspected thoroughly on an annual basis. The records of inspection shall at least contain date and time of inspection, identification of the person performing an inspection, parts replacement and repairs, and all maintenance actions taken. The records shall be kept and maintained for compliance inspection upon request. [40 CFR Part 64]
- The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64]
- The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64]
- If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64]

Rule 4101 Visible Emissions

Per Section 5.0, no person shall discharge into the atmosphere emissions of any air contaminant aggregating more than 3 minutes in any hour which is as dark as or darker than Ringelmann 1 (or 20% opacity).

The RTO is fired on pentane containing vapors, natural gas, and propane only. The proposed modifications are not expected to cause a violation of the visible emissions standard specified in the rule; therefore, continued compliance with this rule is expected.

Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations, provided the equipment is well maintained. Therefore, compliance with this rule is expected.

California Health & Safety Code 41700 (Health Risk Assessment)

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

As discussed above, there are no increases in emissions associated with this project. Therefore, a health risk assessment is not necessary and no further risk analysis is required.

Rule 4201 Particulate Matter Concentration

Section 3.1 prohibits discharge of dust, fumes, or total particulate matter into the atmosphere from any single source operation in excess of 0.1 grain per dry standard cubic foot. The following condition on the current PTO will be carried over to the ATC:

- Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Since there is no increase in PM10 emissions resulting from this project, continued compliance with this rule is expected.

Rule 4682 Polystyrene, Polyethylene, and Polypropylene Products Manufacturing

The purpose of this rule is to limit emissions of VOC and trichlorofluoromethane (CFC-11) and dichlorofluoromethane (CFC-12) from manufacturing and processing of products composed of polystyrene, polyethylene, or polypropylene and from the storage of VOC blowing agents.

The provisions of this rule shall apply to any manufacturing, processing, and storage of products composed of polystyrene, polyethylene, or polypropylene.

Section 5.1 states no operator shall place, hold, or store any VOC blowing agent in any stationary tank, reservoir or container having a capacity greater than 200 gallons unless one (1) of the following emission control systems is provided:

- 5.1.1 The container is a pressure vessel maintaining a working pressure at all times sufficient to prevent release of VOC emissions to the atmosphere under normal operating conditions; or
- 5.1.2 The container is equipped with an emission control device or system which collects and disposes of VOC emissions, and which achieves and maintains a vapor recovery/control efficiency of at least 95 percent by weight.

The unit is equipped with a regenerative thermal oxidizer (RTO) capable of achieving a control efficiency of at least 95 percent by weight. The following conditions on the current PTO ensure compliance, and will be added to the proposed ATC:

- RTO shall incinerate VOCs recovered from the pre-expander(s), bead storage silo(s), or molding machine(s) at any time these units are in operation. [District Rules 2201 and 4682]
- The minimum volatile organic compound control efficiency across the RTO shall be 99% by weight. [District Rules 2201 and 4682]

Section 5.2 lists seven emission reduction methods. The operator shall not conduct any manufacturing operations, as defined in Section 3.0, unless one of the seven emission reduction methods is met.

The facility complies with Section 5.2 by meeting the requirements of Subsection 5.2.7.

Section 5.2.7 requires a control system that meets the following requirements:

- 5.2.7.1 The beads used in manufacturing have an annual-average VOC content of less than 4.2% per weight; and
- 5.2.7.2 The manufacturing emissions (not including finished product storage emissions) are controlled with an overall capture and control efficiency of at least 93% by weight.

The following conditions on the current PTO ensure compliance with Section 5.2, and will be added to the proposed ATC:

- Pentane content of raw bead supply shall not exceed 4.2% by weight on an annual average basis. [District Rules 2201 and 4682]
- The minimum VOC (pentane) capture and control efficiency, calculated as VOC vapor capture efficiency multiplied by RTO control efficiency divided by 100, shall be 93% by weight. [District Rules 2201 and 4682]

Section 6.1.1 states any person subject to the provisions of this rule, including exempt facilities, shall maintain records of operation, including but not limited to the amount of material processed, the equipment used, and the type of the blowing agent used. Records shall be maintained with minimum monthly totals with the ability to calculate daily averages in any given month.

The following condition on the current PTO will be carried over to the ATC to ensure compliance:

- Permittee shall maintain daily records of RTO temperature, raw bead pentane content and pounds of raw beads processed. [District Rules 1070 and 4682]

Section 6.1.2 states any person using an emissions control system as a means of complying with this rule shall maintain daily records of key system operating and maintenance procedures which will demonstrate continuous operation and compliance of the emission control device.

Key system operating parameters are those necessary to ensure compliance with VOC emission requirements such as temperatures, pressures, and flow rates.

The following conditions on the current PTO will be carried over to the ATC to ensure compliance:

- Permittee shall monitor and record pressure upstream of the condenser (water knockout box) on a daily basis to document that the system is under vacuum. [District Rules 2201 and 4682]
- During operation of the RTO, the permittee shall monitor and record combustion chamber temperatures at least once every 15 minutes. The temperature readings shall be at or above 1,400 F during which the pentane vapors are being combusted in the RTO. Upon detecting any excursion below the 1,400 F temperature reading, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 4682 and 40 CFR Part 64]

Sections 6.1.3 and 6.1.4 apply to operators complying with Sections 5.2.1, 5.2.2, or 5.2.3. Therefore, these sections do not apply.

Section 6.1.5 states the operator shall keep in the facility all records to demonstrate compliance with the requirements of this rule for a minimum of five years.

The following condition on the current PTO will be carried over to the ATC to ensure compliance:

- All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 2201 and 4682]

Section 6.2 lists approved test methods for determining compliance with the capture and control efficiency of the emission control system.

The following conditions on the current PTO will be carried over to the ATC to ensure compliance:

- Vapor control system capture efficiency shall be demonstrated annually by using the following calculation procedure: $e \times f / (a \times b - c \times d)$ where a = pentane content of raw beads (lb/ton), b = raw bead input rate (tons/hr), c = pentane content of product (lb/ton), d = product output rate (tons/hr), e = pentane vapor concentration at RTO inlet (lb/scf), and f = flow rate into RTO (scf/hr). [District Rules 1070 and 4682]
- For demonstration of vapor control system capture efficiency through source testing, at least three test runs covering at least one production cycle and at least 3 hours and no more than 24 hours in duration shall be conducted to determine capture efficiency. Protocols for data analysis must either meet the data quality objective (DQO) or lower confidence limit (LCL) approaches as described in EPA "Guidelines for Determining

Capture Efficiency." January 9, 1995 and 40 CFR 51 Appendix M, Methods 204-204F, as applicable. [District Rules 2201 and 4682]

Rule 4801 Sulfur Compounds

A person shall not discharge into the atmosphere sulfur compounds, which would exist as a liquid or gas at standard conditions, exceeding in concentration at the point of discharge: 0.2 % by volume calculated as SO₂, on a dry basis averaged over 15 consecutive minutes.

Using the ideal gas equation and the emission factors presented in Section VII, the sulfur compound emissions are calculated as follows:

$$\text{Volume SO}_2 = \frac{n RT}{P}$$

Where:

n = moles SO₂

$$R \text{ (Universal Gas Constant)} = \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}}$$

T (Standard Temperature) = 60°F = 520°R

P (Standard Pressure) = 14.7 psi

EPA F-Factor for propane: 8,713 dscf/MM @ 60 deg F

$$\frac{0.0164 \text{ lb} - \text{SO}_x}{\text{MMBtu}} \times \frac{\text{MMBtu}}{8,713 \text{ dscf}} \times \frac{1 \text{ lb} \cdot \text{mol}}{64 \text{ lb}} \times \frac{10.73 \text{ psi} \cdot \text{ft}^3}{\text{lb} \cdot \text{mol} \cdot ^\circ\text{R}} \times \frac{520^\circ\text{R}}{14.7 \text{ psi}} \times \frac{1,000,000 \cdot \text{parts}}{\text{million}} = 11 \frac{\text{parts}}{\text{million}}$$

$$\text{Sulfur Concentration} = 11 \frac{\text{parts}}{\text{million}} < 2,000 \text{ ppmv (or 0.2\%)},$$

Therefore compliance with District Rule 4801 requirements is expected.

California Health & Safety Code 42301.6 (School Notice)

The District has verified that this site is not located within 1,000 feet of a school. Therefore, pursuant to California Health and Safety Code 42301.6, a school notice is not required.

California Environmental Quality Act (CEQA)

CEQA requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The District adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities;
- Identify the ways that environmental damage can be avoided or significantly reduced;

- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible; and
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

The District performed an Engineering Evaluation (this document) for the proposed project and determined that all project specific emission unit(s) do not trigger Best Available Control Technology (BACT) and do not trigger Toxic Best Available Control Technology (T-BACT) requirements.

Issuance of permits for emissions units not subject to BACT or T-BACT requirements is a matter of ensuring conformity with applicable District rules and regulations and does not require discretionary judgment or deliberation. Thus, the District concludes that this permitting action constitutes a ministerial approval. Section 21080 of the Public Resources Code exempts from the application of CEQA those projects over which a public agency exercises only ministerial approval. Therefore, the District finds that this project is exempt from the provisions of CEQA.

Indemnification Agreement/Letter of Credit Determination

According to District Policy APR 2010 (CEQA Implementation Policy), when the District is the Lead or Responsible Agency for CEQA purposes, an indemnification agreement and/or a letter of credit may be required. The decision to require an indemnity agreement and/or a letter of credit is based on a case-by-case analysis of a particular project's potential for litigation risk, which in turn may be based on a project's potential to generate public concern, its potential for significant impacts, and the project proponent's ability to pay for the costs of litigation without a letter of credit, among other factors.

The proposed project requires only ministerial approval, and is exempt from the provisions of CEQA. As such, an Indemnification Agreement and/or a Letter of Credit will not be required for this project in the absence of expressed public concern.

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Pending a successful COC noticing period, issue Authority to Construct S-1075-6-28 subject to the permit conditions on the attached draft Authority to Construct in Appendix C.

X. Billing Information

Annual Permit Fees			
Permit Number	Fee Schedule	Fee Description	Annual Fee
S-1075-6-28	3020-02-F	3.0 MMBtu/hr	\$666.00

Appendices

- A: Current Permit to Operate
- B: QNEC
- C: Draft ATC
- D: Emissions Profile
- E: Compliance Certification

Appendix A

Current Permit to Operate

San Joaquin Valley Air Pollution Control District

PERMIT UNIT: S-1075-6-26

EXPIRATION DATE: 06/30/2016

SECTION: NE32 TOWNSHIP: 24S RANGE: 26E

EQUIPMENT DESCRIPTION:

EXPANDED POLYSTYRENE MOLDING OPERATION, INCLUDING PRE-EXPANDER AREA, PRODUCTION AREA, AND 3.0 MMBTU/HR NATURAL GAS/LPG FIRED REGENERATIVE THERMAL OXIDIZER (RTO) SERVING PENTANE VAPOR CONTROL SYSTEM

PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801 and Tulare County 407] Federally Enforceable Through Title V Permit
3. Pre-expander area shall include two batch pre-expanders, and associated bead dryers, bin hoppers, blowers, screeners, screw conveyors, and twenty-eight 1,800 cubic foot capacity pre-expanded bead storage silos. [District Rule 2201] Federally Enforceable Through Title V Permit
4. Production area shall include thirty-eight presses, belt conveyors, vacuum pumps, vacuum blowers and exhaust blowers. [District Rule 2201] Federally Enforceable Through Title V Permit
5. Pentane control system shall include vapor collection piping network serving vacuum systems, molding machines and water drain vents and one regenerative thermal oxidizer (RTO). [District Rule 2201] Federally Enforceable Through Title V Permit
6. RTO shall incinerate VOCs recovered from the pre-expander(s), bead storage silo(s), or molding machine(s) at any time these units are in operation. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The RTO shall be equipped with an operational temperature gauge to indicate the temperature of the combustion chamber. A continuous recording device shall be utilized to indicate the combustion chamber temperature during operation. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
9. Sampling ports adequate for extraction of grab samples, measurement of gas flow rate, and use of an FID, PID, or other District-approved VOC detection device shall be provided for both the influent and the effluent gas streams. [District Rule 1081] Federally Enforceable Through Title V Permit
10. Pentane content of raw bead supply shall not exceed 4.2% by weight on an annual average basis. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
11. Raw beads processed shall not exceed 128,310 pounds/day or 32,027,500 pounds/year. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Only natural gas and propane shall be used as auxiliary fuel for the combustion of VOC. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

13. Minimum volatile organic compound control efficiency across the RTO shall be 99% by weight. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
14. Minimum VOC (pentane) capture and control efficiency, calculated as VOC vapor capture efficiency multiplied by RTO control efficiency divided by 100, shall be 93% by weight. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
15. The total VOC emissions from the EPS molding operation including fugitive and RTO combustion emissions shall not exceed 140.0 pounds in any one day or 34,982 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
16. The minimum operating temperature for the combustion chamber of the RTO shall be maintained at or above 1400 degrees F. [District Rule 2201] Federally Enforceable Through Title V Permit
17. Combustion emission rates from RTO shall not exceed any of the following: NOx (as NO2): 117.0 ppmv @ 3% O2 or 0.142 lb/MMBTU, CO: 100 ppmv @ 3% O2 or 0.0737 lb/MMBTU, SOx (as SO2) 0.0164 lb/MMBTu, PM10: 0.0076 lb/MMBTu, or VOC: 0.0054 lb/MMBTU. [District Rule 2201] Federally Enforceable Through Title V Permit
18. RTO inlet ductwork and exhaust stack shall be equipped with adequate provisions facilitating the collection of samples from both the influent and the effluent gas stream sampling ports consistent with EPA test methods, i.e. capped sample port in accessible location of uniform flow. [District Rule 1081] Federally Enforceable Through Title V Permit
19. Permittee shall monitor and record the pressure upstream of the condenser (water knockout box) on a weekly basis to document that the system is under vacuum. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
20. Vapor control system capture efficiency shall be demonstrated annually by using the following calculation procedure: $e \times f / (a \times b - c \times d)$ where a = pentane content of raw beads (lb/ton), b = raw bead input rate (tons/hr), c = pentane content of product (lb/ton), and d = product output rate (tons/hr), e = pentane vapor concentration at RTO inlet (lb/scf), f = flow rate into RTO (scf/hr). [District Rules 1070 and 4682] Federally Enforceable Through Title V Permit
21. For demonstration of vapor control system capture efficiency through source testing, at least three test runs covering at least one production cycle and at least 3 hours and no more than 24 hours in duration shall be conducted to determine capture efficiency. Protocols for data analysis must either meet the data quality objective (DQO) or lower confidence limit (LCL) approaches as described in EPA "Guidelines for Determining Capture Efficiency." January 9, 1995 and 40 CFR 51 Appendix M, Methods 204-204F, as applicable. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
22. Source testing shall be conducted annually to measure the following: 1) VOC emissions from the RTO and 2) RTO control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
23. Source testing shall be by District witnessed, or authorized, sample collection by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
26. During operation of the RTO, the permittee shall monitor and record combustion chamber temperatures at least once every 15 minutes. The temperature readings shall be at or above 1,400 F during which the pentane vapors are being combusted in the RTO. Upon detecting any excursion below the 1,400 F temperature reading, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 4682 and 40 CFR Part 64] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

These terms and conditions are part of the Facility-wide Permit to Operate.

27. The RTO's burner and its associated components and the vapor collection system shall be inspected thoroughly on an annual basis. The records of inspection shall at least contain date and time of inspection, identification of the person performing an inspection, parts replacement and repairs, and all maintenance actions taken. The records shall be kept and maintained for compliance inspection upon request. [40 CFR Part 64] Federally Enforceable Through Title V Permit
28. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
29. Vapor control system shall be visually and audibly inspected for leaks weekly. [District Rule 2201] Federally Enforceable Through Title V Permit
30. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit
31. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
32. Permittee shall maintain daily records of RTO temperature, raw bead pentane content, and pounds of raw beads processed. [District Rules 1070 and 4682] Federally Enforceable Through Title V Permit
33. Permittee shall maintain records of vapor control system capture efficiency and RTO control efficiency. [District Rules 1070 and 4682] Federally Enforceable Through Title V Permit
34. Permittee shall maintain a record of all periods of non-operation of the RTO, including the dates, duration and reason(s) for the unit not being operated. [District Rule 2201] Federally Enforceable Through Title V Permit
35. All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
36. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: Tulare County Rule 407, SJVUAPCD Rules 1081, 4201, and 4682. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

These terms and conditions are part of the Facility-wide Permit to Operate.

Appendix B

QNEC

The Quarterly Net Emissions Change is used to complete the emission profile screen for the District's PAS database. The QNEC shall be calculated as follows:

QNEC = PE2 - PE1, where:

- QNEC = Quarterly Net Emissions Change for each emissions unit, lb/qtr.
- PE2 = Post Project Potential to Emit for each emissions unit, lb/qtr.
- PE1 = Pre-Project Potential to Emit for each emissions unit, lb/qtr.

Using the values in Sections VII.C.2 and VII.C.1 in the evaluation above, quarterly PE2 and quarterly PE1 can be calculated as follows:

$$PE2_{\text{quarterly}} = PE2_{\text{annual}} \div 4 \text{ quarters/year}$$

$$PE1_{\text{quarterly}} = PE1_{\text{annual}} \div 4 \text{ quarters/year}$$

Quarterly NEC [QNEC]			
	PE2 (lb/qtr)	PE1 (lb/qtr)	QNEC (lb/qtr)
NO _x	933	933	0
SO _x	108	108	0
PM ₁₀	50	50	0
CO	484	484	0
VOC	8,746	8,746	0

Appendix C

Draft Authority to Construct

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT
DRAFT

PERMIT NO: S-1075-6-28

LEGAL OWNER OR OPERATOR: STYROTEK INC
MAILING ADDRESS: PO BOX 1180
DELANO, CA 93216-1180

LOCATION: 545 ROAD 176
(ROAD 176 & AVENUE 4)
DELANO, CA 93215

SECTION: NE32 TOWNSHIP: 24S RANGE: 26E

EQUIPMENT DESCRIPTION:

MODIFICATION OF EXPANDED POLYSTYRENE MOLDING OPERATION, INCLUDING PRE-EXPANDER AREA, PRODUCTION AREA, AND 3.0 MMBTU/HR NATURAL GAS/LPG FIRED REGENERATIVE THERMAL OXIDIZER (RTO) SERVING PENTANE VAPOR CONTROL SYSTEM: REPLACE 14 OF THE 38 PRESSES WITH NEW PRESSES

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. Sulfur compound emissions shall not exceed 0.2% by volume, 2000 ppmv, on a dry basis averaged over 15 consecutive minutes. [District Rule 4801 and Tulare County 407] Federally Enforceable Through Title V Permit
5. Pre-expander area shall include two batch pre-expanders, and associated bead dryers, bin hoppers, blowers, screeners, screw conveyors, and twenty-eight 1,800 cubic foot capacity pre-expanded bead storage silos. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (661) 392-5500 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director, APCO

Arnaud Marjolle, Director of Permit Services

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6. Production area shall include thirty-eight presses, belt conveyors, vacuum pumps, vacuum blowers and exhaust blowers. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Pentane control system shall include vapor collection piping network serving vacuum systems, molding machines and water drain vents and one regenerative thermal oxidizer (RTO). [District Rule 2201] Federally Enforceable Through Title V Permit
8. RTO shall incinerate VOCs recovered from the pre-expander(s), bead storage silo(s), or molding machine(s) at any time these units are in operation. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
9. The RTO shall be equipped with an operational temperature gauge to indicate the temperature of the combustion chamber. A continuous recording device shall be utilized to indicate the combustion chamber temperature during operation. [District Rule 2201] Federally Enforceable Through Title V Permit
10. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102]
11. Sampling ports adequate for extraction of grab samples, measurement of gas flow rate, and use of an FID, PID, or other District-approved VOC detection device shall be provided for both the influent and the effluent gas streams. [District Rule 1081] Federally Enforceable Through Title V Permit
12. Pentane content of raw bead supply shall not exceed 4.2% by weight on an annual average basis. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
13. Raw beads processed shall not exceed 128,310 pounds/day or 32,027,500 pounds/year. [District Rule 2201] Federally Enforceable Through Title V Permit
14. Only natural gas and propane shall be used as auxiliary fuel for the combustion of VOC. [District Rule 2201] Federally Enforceable Through Title V Permit
15. The minimum volatile organic compound control efficiency across the RTO shall be 99% by weight. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
16. The minimum VOC (pentane) capture and control efficiency, calculated as VOC vapor capture efficiency multiplied by RTO control efficiency divided by 100, shall be 93% by weight. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
17. The total VOC emissions from the EPS molding operation including fugitive and RTO combustion emissions shall not exceed 140.0 pounds/day or 34,982 pounds/year. [District Rule 2201] Federally Enforceable Through Title V Permit
18. The minimum operating temperature for the combustion chamber of the RTO shall be maintained at or above 1400 degrees F. [District Rule 2201] Federally Enforceable Through Title V Permit
19. Combustion emission rates from the RTO shall not exceed any of the following: NO_x (as NO₂): 117.0 ppmv @ 3% O₂ or 0.142 lb/MMBTU, CO: 100 ppmv @ 3% O₂ or 0.0737 lb/MMBTU, SO_x (as SO₂) 0.0164 lb/MMBTu, PM₁₀: 0.0076 lb/MMBTu, or VOC: 0.0054 lb/MMBTU. [District Rule 2201] Federally Enforceable Through Title V Permit
20. RTO inlet ductwork and exhaust stack shall be equipped with adequate provisions facilitating the collection of samples from both the influent and the effluent gas stream sampling ports consistent with EPA test methods, i.e. capped sample port in accessible location of uniform flow. [District Rule 1081] Federally Enforceable Through Title V Permit
21. Permittee shall monitor and record the pressure upstream of the condenser (water knockout box) on a daily basis to document that the system is under vacuum. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
22. Vapor control system capture efficiency shall be demonstrated annually by using the following calculation procedure: $e \times f / (a \times b - c \times d)$ where a = pentane content of raw beads (lb/ton), b = raw bead input rate (tons/hr), c = pentane content of product (lb/ton), d = product output rate (tons/hr), e = pentane vapor concentration at RTO inlet (lb/scf), and f = flow rate into RTO (scf/hr). [District Rules 1070 and 4682] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

23. For demonstration of vapor control system capture efficiency through source testing, at least three test runs covering at least one production cycle and at least 3 hours and no more than 24 hours in duration shall be conducted to determine capture efficiency. Protocols for data analysis must either meet the data quality objective (DQO) or lower confidence limit (LCL) approaches as described in EPA "Guidelines for Determining Capture Efficiency." January 9, 1995 and 40 CFR 51 Appendix M, Methods 204-204F, as applicable. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted annually to measure the following: 1) VOC emissions from the RTO and 2) RTO control efficiency. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Source testing shall be witnessed or authorized by District and sample collection shall be taken by ARB certified testing laboratory. [District Rule 1081] Federally Enforceable Through Title V Permit
26. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
27. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
28. During operation of the RTO, the permittee shall monitor and record combustion chamber temperatures at least once every 15 minutes. The temperature readings shall be at or above 1,400 F during which the pentane vapors are being combusted in the RTO. Upon detecting any excursion below the 1,400 F temperature reading, the permittee shall investigate the excursion and take corrective action to minimize excessive emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 4682 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
29. The RTO's burner and its associated components and the vapor collection system shall be inspected thoroughly on an annual basis. The records of inspection shall at least contain date and time of inspection, identification of the person performing an inspection, parts replacement and repairs, and all maintenance actions taken. The records shall be kept and maintained for compliance inspection upon request. [40 CFR Part 64] Federally Enforceable Through Title V Permit
30. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR Part 64.7. [40 CFR Part 64] Federally Enforceable Through Title V Permit
31. Vapor control system shall be visually and audibly inspected for leaks weekly. [District Rule 2201] Federally Enforceable Through Title V Permit
32. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR Part 64.9. [40 CFR Part 64] Federally Enforceable Through Title V Permit
33. If the District or EPA determine that a Quality Improvement Plan is required under 40 CFR 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
34. Permittee shall maintain daily records of RTO temperature, raw bead pentane content, and pounds of raw beads processed. [District Rules 1070 and 4682] Federally Enforceable Through Title V Permit
35. Permittee shall maintain records of vapor control system capture efficiency and RTO control efficiency. [District Rules 1070 and 4682] Federally Enforceable Through Title V Permit
36. Permittee shall maintain a record of all periods of non-operation of the RTO, including the dates, duration and reason(s) for the unit not being operated. [District Rule 2201] Federally Enforceable Through Title V Permit
37. All records shall be retained for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 2201 and 4682] Federally Enforceable Through Title V Permit
38. Compliance with permit conditions in the Title V permit shall be deemed compliance with the following requirements: Tulare County Rule 407, SJVUAPCD Rules 1081, 4201, and ~~4682~~. A permit shield is granted from these requirements. [District Rule 2520, 13.2] Federally Enforceable Through Title V Permit

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Appendix D

Emissions Profile

Permit #: S-1075-6-28	Last Updated
Facility: STYROTEK INC	07/06/2016 GARCIAJ

Equipment Pre-Baselined: NO

	<u>NOX</u>	<u>SOX</u>	<u>PM10</u>	<u>CO</u>	<u>VOC</u>
Potential to Emit (lb/Yr):	3732.0	431.0	200.0	1937.0	34982.0
Daily Emis. Limit (lb/Day)	10.2	1.2	0.5	5.3	140.0
Quarterly Net Emissions Change (lb/Qtr)					
Q1:	0.0	0.0	0.0	0.0	0.0
Q2:	0.0	0.0	0.0	0.0	0.0
Q3:	0.0	0.0	0.0	0.0	0.0
Q4:	0.0	0.0	0.0	0.0	0.0
Check if offsets are triggered but exemption applies	N	N	N	N	N
Offset Ratio					
Quarterly Offset Amounts (lb/Qtr)					
Q1:					
Q2:					
Q3:					
Q4:					

Appendix E

Compliance Certification

San Joaquin Valley
Unified Air Pollution Control District

RECEIVED
JUN 16 2016
SJVAPCD
Southern Region

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

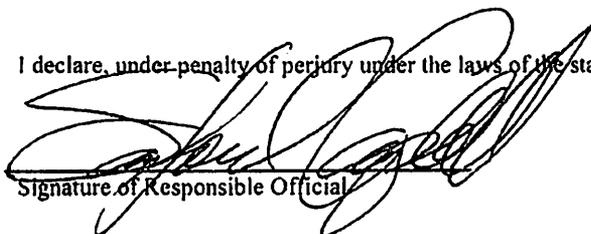
- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE AMENDMENT
 MINOR PERMIT MODIFICATION

COMPANY NAME: Styrotek, Inc.	FACILITY ID: S - 1075
1. Type of Organization: <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Sole Ownership <input type="checkbox"/> Government <input type="checkbox"/> Partnership <input type="checkbox"/> Utility	
2. Owner's Name:	
3. Agent to the Owner:	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

- Based on information and belief formed after reasonable inquiry, the source identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the source identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.
- Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
- Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:


Signature of Responsible Official

6-15-16
Date

Sanford Campbell
Name of Responsible Official (please print)

Operations Manager
Title of Responsible Official (please print)

Implement ATC #S-1075-6-26 into Title V Permit.