

DEC 28 2017

Mr. Mac McCullough  
Pacific Southwest Container  
4530 Leckron Road  
Tracy, CA 95357

**Re: Proposed ATC / Certificate of Conformity (Significant Mod)**  
**Facility Number: N-3606**  
**Project Number: N-1173600**

Dear Mr. McCullough:

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 is for the installation of a corrugated board containers manufacturing operation, and keep the facility-wide VOC emissions limit unchanged.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authority to Construct with a Certificate of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. 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. Nick Peirce, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet  
Director of Permit Services

Enclosures

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

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Executive Director/Air Pollution Control Officer

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## 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 4002 National Emissions Standards for Hazardous Air Pollutants (5/20/04)  
Rule 4101 Visible Emissions (2/17/05)  
Rule 4102 Nuisance (12/17/92)  
Rule 4653 Adhesives and Sealants (9/16/10)  
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

This facility is located at 4530 Leckron Road, Modesto in California. The equipment will not be located within 1,000 feet of the outer boundary of any 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

PSC is in the business of manufacturing corrugated cardboard and corrugated cardboard containers. The facility first produces corrugated cardboard and then cuts the cardboard into containers blanks with die-cutters and applies graphic with lithographic and/or flexographic printing presses. The proposed folder gluer folds die-cut corrugated cardboard and apply adhesives to make containers.

## V. Equipment Listing

N-3606-36-0: CORRUGATED BOARD CONTAINERS MANUFACTURING OPERATION CONSISTING OF A HEIDELBERG MODEL DIANA X 115 BOARD FOLDING GLUING MACHINE.

## VI. Emission Control Technology Evaluation

VOC is the only pollutant emitted from the proposed operation. The proposed corrugated board containers manufacturing operation generates VOC emissions from the containers gluing process. The applicant proposed to use low VOC content adhesives to minimize VOC emissions

from the gluing process. No PM<sub>10</sub> emissions from the gluing process because the adhesives are applied with the use of rollers.

## VII. General Calculations

### A. Assumptions

- Assumption will be stated when it is made.

### B. Emission Factors

PSC has proposed to establish mass emission rates in the permit along with VOC content (lb/gal, less water and exempt compounds) as required by Best Available Control Technology (BACT) under Rule 2201. Therefore, no separate EFs are being established.

### C. Calculations

#### 1. Pre-Project Potential to Emit (PE1)

Since this is a new emissions unit, PE1 = 0 for all pollutants.

#### 2. Post Project Potential to Emit (PE2)

The applicant has proposed daily VOC emissions limit of 10.0 pounds for this permit unit, and the annual VOC emissions would be calculated based on the worst-case operating scenario of 365 days per year. Therefore,

$$\begin{aligned}\text{Daily PE2} &= 10.0 \text{ lb-VOC/day} \\ \text{Annual PE2} &= 3,650 \text{ lb-VOC/year}\end{aligned}$$

The applicant has also proposed to keep the daily combined VOC emissions limit of 30 pounds for all corrugated cardboard containers manufacturing operations, as well as the facility-wide VOC emissions limit of 73,403 pounds on a rolling 12-month period, unchanged, with the installation of this new unit.

#### 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.

SSPE1 values are taken from engineering evaluation under project N-1170908.

SSPE1 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
N-3606-3-7	0	0	0	0	73,403
N-3606-4-6	0	0	183	0	
N-3606-11-9	0	0	0	0	
N-3606-13-7	0	0	0	0	
N-3606-14-7	0	0	0	0	
N-3606-15-7	0	0	0	0	
N-3606-16-7	0	0	0	0	
N-3606-19-5	0	0	0	0	
N-3606-21-5	0	0	0	0	
N-3606-23-6	0	0	0	0	
N-3606-24-5	0	0	0	0	
N-3606-25-3	0	0	0	0	
N-3606-26-6	0	0	0	0	
N-3606-27-4	0	0	0	0	
N-3606-29-1	0	0	0	0	
N-3606-30-1	1,430	509	1,358	6,612	
N-3606-31-2	0	0	0	0	
N-3606-32-1	0	0	0	0	
N-3606-33-0	0	0	0	0	
N-3606-34-0	0	0	0	0	
N-3606-35-0	0	0	0	0	
ERC	0	0	0	0	0
SSPE1	1,430	509	1,541	6,612	73,403

**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.

SSPE2 (lb/year)					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
N-3606-3-7	0	0	0	0	73,403
N-3606-4-6	0	0	183	0	
N-3606-11-9	0	0	0	0	
N-3606-13-7	0	0	0	0	
N-3606-14-7	0	0	0	0	
N-3606-15-7	0	0	0	0	
N-3606-16-7	0	0	0	0	
N-3606-19-5	0	0	0	0	
N-3606-21-5	0	0	0	0	
N-3606-23-6	0	0	0	0	
N-3606-24-5	0	0	0	0	
N-3606-25-3	0	0	0	0	

SSPE2 (lb/year) – continue...					
Permit Unit	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
N-3606-26-6	0	0	0	0	73,403
N-3606-27-4	0	0	0	0	
N-3606-29-1	0	0	0	0	
N-3606-30-1	1,430	509	1,358	6,612	
N-3606-31-2	0	0	0	0	
N-3606-32-1	0	0	0	0	
N-3606-33-0	0	0	0	0	
N-3606-34-0	0	0	0	0	
N-3606-35-0	0	0	0	0	
<b>N-3606-36-0 (project)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
ERC	0	0	0	0	
SSPE2	1,430	509	1,541	6,612	<b>73,403</b>

### 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)						
Category	NO <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	CO	VOC
SSPE1	1,430	509	1,541	1,541	6,612	73,403
SSPE2	1,430	509	1,541	1,541	6,612	73,403
Major Source Threshold	20,000	140,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	No	Yes

Note: PM<sub>2.5</sub> assumed to be equal to PM<sub>10</sub>

This source is an existing Major Source for VOC emissions and will remain a Major Source for VOC. No change in other pollutants are proposed or expected 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)(iii). Therefore the PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

PSD Major Source Determination (tons/year)						
	NO <sub>2</sub>	VOC	SO <sub>2</sub>	CO	PM	PM <sub>10</sub>
Estimated Facility PE before Project Increase	0.7	36.7	0.3	3.3	0.8	0.8
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 PSD major source for any regulated NSR pollutant expected to be emitted at this facility.

**6. Baseline Emissions (BE)**

The BE calculation (in lb/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 = 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 = Historic Actual Emissions (HAE), calculated pursuant to District Rule 2201.

Since the current permits include a facility-wide limit for VOC emissions, a clean emission unit analysis for all of the existing units must be performed for VOC emissions.

The following table shows the applicable BACT guideline number, the Achieved-in-Practice BACT requirement and whether or not the unit is a Clean Emission Unit (Achieved-in-Practice BACT was met).

Permit	Description	BACT Guideline	Achieved-in-Practice BACT Requirement	Permit Limit	Clean Emission Unit
N-3606-3-7* N-3606-11-9** N-3606-19-5* N-3606-21-5* N-3606-25-3* N-3606-27-4* N-3606-31-2**	Corrugated Box*/Board** Manufacturing	4.9.12	Adhesive with 0.44 lb VOC/gal or less	VOC = 0.021 lb/gal VOC = 0.021 lb/gal VOC = 0.021 lb/gal VOC = 0.021 lb/gal VOC = 0.021 lb/gal VOC = 0.021 lb/gal VOC = 0.015 lb/gal	Yes Yes Yes Yes Yes Yes Yes
N-3606-4-6	Corrugated Board Manufacturing	4.9.12	Adhesive with 0.44 lb VOC/gal or less	VOC = 0.021 lb/gal	Yes
	And Corrugated Board Laminating	4.11.3	Adhesive with 0.021 lb VOC/gal or less	VOC = 0.021 lb/gal	
N-3606-13-7 N-3606-14-7 N-3606-15-7	Flexographic Printer (low-end graphics)	4.7.15	Ink with 0.3 lb VOC/gal or less	VOC = 0.3 lb/gal	Yes Yes Yes
	And Gluer	4.9.12	Adhesive with 0.44 lb VOC/gal or less	VOC = 0.021 lb/gal	
N-3606-35-0	Flexographic Printer (low-end graphics)	4.7.15	Ink with 0.3 lb VOC/gal or less	VOC = 0.3 lb/gal	Yes
	Flexographic Printer (high-end graphics)	4.7.4	Ink with 0.88 lb VOC/gal or less	VOC = 0.88 lb/gal	
	And Gluer	4.9.12	Adhesive with 0.44 lb VOC/gal or less	VOC = 0.021 lb/gal	
N-3606-16-7 N-3606-23-6 N-3606-26-6 N-3606-32-1	Offset lithographic printing operations	4.7.2	Inks: <5% by wt. or 30% by weight for high end graphics  Fountain Solution: <5% by vol. for coldest offset lithographic and sheet-fed lithographic greater than 11 x 17 inches Or 8% by volume for high end graphics	Inks with < 5% VOC by wt.  Fountain solutions with < 5% VOC by vol. for high-end graphics and < 5% by vol. for non-high-end graphics	Yes Yes Yes Yes



Permit	Description	BACT Guideline	Achieved-in-Practice BACT Requirement	Permit Limit	Clean Emission Unit
N-3606-24-5 N-3606-33-0	Offset lithographic printing operation	4.7.2	Inks: <5% by wt. or 30% by weight for high end graphics  Fountain Solution: <5% by vol. for coldest offset lithographic and sheet-fed lithographic greater than 11 x 17 inches Or 8% by volume for high end graphics	Inks with < 5% VOC by wt.  < 6% by volume for high-end graphics and <5% by volume for non-high-end graphics	Yes
N-3606-29-1	N/A. This unit does not emit VOC.				
N-3606-30-1	Boiler	--	Use of natural gas with LPG or propane as back fuel	Requires the use of natural gas	Yes
N-3606-34-0	Folder/Gluer	4.9.6	Adhesive with a VOC content of ≤ 5.7 lb/gal (excluding water and exempt compounds)	VOC content of 2% (or less) by wt., equivalent to 0.18 lb-VOC/gal, less water and exempt compounds	Yes

As shown above, all of the existing units at the facility are clean for VOC emissions.

### 7. SB 288 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	3,650	50,000	No

Since the SB 288 Major Modification Threshold is not 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 new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project. Therefore,

$$PE2 = 3,650 \text{ lb-VOC/yr}$$

Since there is an increase in VOC emissions, this project constitutes a Federal Major Modification. Federal Offset quantities are calculated below.

#### Federal Offset Quantities:

The Federal offset quantity is only calculated only for the pollutants for which the project is a Federal Major Modification. The Federal offset quantity is the sum of the annual emission changes for all new and modified emission units in a project calculated as the potential to emit after the modification (PE2) minus the actual emissions (AE) during the baseline period for each emission unit times the applicable federal offset ratio. There are no special calculations performed for units covered by an SLC.

VOC	Federal Offset Ratio		1.5
Permit No.	Actual Emissions (lb/year)	Potential Emissions (lb/year)	Emissions Change (lb/yr)
N-3606-36-0	0	3,650	3,650
Net Emission Change (lb/year):			3,650
Federal Offset Quantity: (NEC * 1.5)			5,475

### 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)

The equipment associated with this project emits only VOC.

**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)(iii). The PSD Major Source threshold is 250 tpy for any regulated NSR pollutant.

<b>PSD Major Source Determination: Potential to Emit (tons/year)</b>						
	<b>NO<sub>2</sub></b>	<b>VOC</b>	<b>SO<sub>2</sub></b>	<b>CO</b>	<b>PM</b>	<b>PM<sub>10</sub></b>
Total PE from New and Modified Units	0.0	1.8	0.0	0.0	0.0	0.0
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. No changes to the SLC of VOC emissions are proposed. Therefore, QNEC is equal to zero for each quarter.

**VIII. Compliance Determination**

**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 Adjusted Increase in Permitted Emissions (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, the applicant is proposing to install a new folder gluer with a PE greater than 2.0 lb/day for VOC. Therefore, BACT for new units with PE > 2 lb/day purposes is 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 under this project; therefore BACT is not triggered.

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

As discussed in Section I above, there are no modified emissions units associated with this project. Therefore BACT is not triggered.

**d. SB 288/Federal Major Modification**

As discussed in Section VII.C.8 above, this project does constitute a Federal Major Modification for VOC emissions. Therefore BACT is triggered for VOC for all emissions units in the project for which there is an emission increase.

**2. BACT Guideline**

BACT Guideline 4.9.12 applies to corrugated board gluer. (See Appendix B)

**3. Top-Down BACT Analysis**

Per Permit Services Policies and Procedures for BACT, a Top-Down BACT analysis shall be performed as a part of the application review for each application subject to the BACT requirements pursuant to the District's NSR Rule.

Pursuant to the attached Top-Down BACT Analysis (see Appendix C), BACT has been satisfied with the following:

VOC: use of adhesives with a VOC content not exceeding 0.021 lb/gal (less water & exempt compounds)

## B. Offsets

### 1. Offset Applicability

Offset requirements shall be triggered on a pollutant by pollutant basis and shall be required if the SSPE2 equals 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 <sub>x</sub>	SO <sub>x</sub>	PM <sub>10</sub>	CO	VOC
SSPE2	1,430	509	1,541	6,612	73,403
Offset Thresholds	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 facility is an existing Major Source for VOC and the SSPE2 is greater than the offset thresholds. 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 = 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)

Pursuant to District Policy APR 1420, *NSR Calculations for Units with Specific Limiting Conditions (3/12/07)*, the quantity of ERCs for a project will be determined by comparing the post project PE, which is the SLC, to the pre project BE for the SLC.

Additionally, the policy states that if the SLC is for a pollutant exceeding the Major Source threshold and any single unit under the SLC is not a Highly-Utilized, Fully-Offset, or Clean Emissions Units, then the sum of the actual emissions from all units in SLC will be used to determine the pre project BE.

PSC has no cargo carries equipment onsite; therefore, there are no increases in Cargo Carrier emissions as a result of this project. Thus,

$$\text{Offsets Required} = \Sigma (\text{PE}_2 - \text{BE}) \times \text{DOR}$$

For projects with unit in an SLC, the equation becomes:

$$\text{Offsets Required} = \Sigma (\text{PE}_{2\text{SLC}} - \text{BE}_{\text{SLC}}) \times \text{DOR}$$

As shown in Section VII.C.6 of this document, all permit units at this facility meet the District's determination of achieved-in-practice BACT (and are thus Clean Emission Units). Therefore the pre project BE emissions are equal to the pre project PE emissions ( $\text{BE}_{\text{SLC}} = \text{PE}_{1\text{SLC}}$ ).

For this project,  $\text{PE}_{2\text{SLC}}$  is equal to  $\text{PE}_{1\text{SLC}}$ . Thus,

$$\begin{aligned} \text{Offsets Required} &= (\text{PE}_{2\text{SLC}} - \text{PE}_{1\text{SLC}}) \times \text{DOR} \\ &= (73,403 \text{ lb-VOC/yr} - 73,403 \text{ lb-VOC/yr}) \times \text{DOR} \\ &= 0 \text{ lb-VOC/yr} \end{aligned}$$

Offsets are not required for this project.

## C. Public Notification

### 1. Applicability

Public noticing is required for:

- New Major Sources, Federal Major Modifications, and SB 288 Major Modifications,
- Any new emissions unit with a Potential to Emit greater than 100 pounds during any one day for any one pollutant,
- Any project which results in the offset thresholds being surpassed,
- Any project with an SSIPE of greater than 20,000 lb/year for any pollutant, and/or
- 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 Section VII.C.8, this project is a Federal Major Modification. Therefore, public noticing for Federal Major Modification purposes is 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. As seen in Section VII.C.2 above, this project does not include a new emissions unit which has daily emissions greater than 100 lb/day for any pollutant, therefore public noticing for PE > 100 lb/day purposes is not required.

**c. Offset Threshold**

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

Offset Thresholds				
Pollutant	SSPE1 (lb/year)	SSPE2 (lb/year)	Offset Threshold	Public Notice Required?
NO <sub>x</sub>	1,430	1,430	20,000 lb/year	No
SO <sub>x</sub>	509	509	54,750 lb/year	No
PM <sub>10</sub>	1,541	1,541	29,200 lb/year	No
CO	6,612	6,612	200,000 lb/year	No
VOC	73,403	73,403	20,000 lb/year	No

As detailed above, there were new 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.

SSIPE Public Notice Thresholds					
Pollutant	SSPE2 (lb/year)	SSPE1 (lb/year)	SSIPE (lb/year)	SSIPE Public Notice Threshold	Public Notice Required?
NO <sub>x</sub>	1,430	1,430	0	20,000 lb/year	No
SO <sub>x</sub>	509	509	0	20,000 lb/year	No
PM <sub>10</sub>	1,541	1,541	0	20,000 lb/year	No
CO	6,612	6,612	0	20,000 lb/year	No
VOC	73,403	73,403	0	20,000 lb/year	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 constitutes a Title V significant modification. Therefore, public noticing for Title V significant modifications is required for this project.

**2. Public Notice Action**

As discussed above, public notice is required for this project for triggering Federal Major Modification. Therefore, public notice documents will be submitted to the California Air Resources Board (CARB) and US Environmental Protection Agency (US EPA) and a public notice will be published in a local newspaper of general circulation prior to the issuance of the ATC for the equipment.

**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.

**Proposed Rule 2201 (DEL) Conditions:**

- VOC emissions from this permit unit shall not exceed 10.0 pounds in any one day. [District Rule 2201]
- Total VOC emission from all corrugated board containers manufacturing operations permitted under N-3606-3, N-3606-19, N-3606-21, N-3606-25, N-3606-27, and this unit shall not exceed 30.0 pounds in any one day. [District Rule 2201]



- VOC content of the adhesives used for this operation shall not exceed 0.021 lb/gal (less water and exempt compounds). [District Rule 2201]

## **E. Compliance Assurance**

### **1. Source Testing**

Pursuant to District Policy APR 1705, source testing is not required to demonstrate compliance with Rule 2201.

### **2. Monitoring**

No monitoring is required to demonstrate compliance with Rule 2201.

### **3. Recordkeeping**

Recordkeeping is required to demonstrate compliance with the offset, public notification and daily emission limit requirements of Rule 2201. The following conditions will be included in the permit:

- Monthly records shall be maintained and contain the following information: (a) quantity, and safety data sheet (SDS) or product data sheet showing the material name, manufacturer's name, VOC content (as applied, and less water and exempt compounds) of all adhesive, primer, solvent, and cleaning material used on the corrugated board containers manufacturing operations; (b) the combined total amount of VOC's emitted from the use of all VOC containing material (in pounds) on the corrugated board containers manufacturing operations; and (c) the dates of operation of this permit unit. [District Rules 2201]
- Records of the daily VOC emissions from this unit shall be kept. Daily VOC emissions may be calculated from the monthly materials (adhesive, primer, solvent, cleaning material, etc.) usage records and the number of days per calendar month this unit was operated. [District Rule 2201]
- Record of the total daily VOC emissions from all permitted corrugated containers manufacturing operations in the facility shall be kept. Daily VOC emissions may be calculated from the monthly materials (adhesive, primer, solvent, cleaning material, etc.) usage records and the number of days per calendar month this unit was operated. [District Rule 2201]
- Record of the facility-wide VOC emissions, on a rolling 12-month basis, shall be kept. The record shall be updated at least monthly. [District Rule 2201]
- All records shall be maintained for a period of at least five years and shall be made available to the District, ARB and EPA inspection upon request. [District Rule 2201]

#### **4. Reporting**

No reporting is required to demonstrate compliance with Rule 2201.

#### **F. Ambient Air Quality Analysis (AAQA)**

An AAQA shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse a violation of an air quality standard. Since this project only results in VOC emissions and there is no ambient air quality standard for VOC emissions, an ambient air quality analysis is not required for this project.

#### **G. Compliance Certification**

Section 4.15.2 of this Rule requires the owner of a new Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. As discussed in Section VIII above, this project does constitute a Federal Major Modification, therefore this requirement is applicable. PSC's compliance certification is included in Appendix D.

#### **H. Alternate Siting Analysis**

The current project occurs at PSC's existing facility. The applicant proposes to install a corrugated board containers manufacturing operation. Since the current project involves only install a corrugated board folder gluer and no change to any other facets of the operation, the existing site will result in the least possible impact from the project. Alternative sites would involve the relocation and/or construction of various support structures and facilities on a much greater scale, and would therefore result in a much greater impact.

Compliance with the requirements of this Rule is expected.

#### **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. A significant permit modification is defined as a "permit amendment that does not qualify as a minor permit modification or administrative amendment." As discussed in section VII.D.8 above, this project triggers a Federal Major Modification, so the project does not qualify as a minor permit modification or administrative amendment; therefore, this project is a Significant Modification to the Title V permit.

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. The facility shall not implement the changes requested until the final permit is issued. Compliance with the requirements of this Rule is expected.

#### **Rule 4001 New Source Performance Standards (NSPS)**

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. However, no subparts of 40 CFR Part 60 apply to corrugated board containers manufacturing operation.

#### **Rule 4002 National Emission Standards for Hazardous Air Pollutants (NESHAPs)**

This rule incorporates NESHAPs from Part 61, Chapter I, Subchapter C, Title 40, CFR and the NESHAPs from Part 63, Chapter I, Subchapter C, Title 40, CFR; and applies to all sources of hazardous air pollution listed in 40 CFR Part 61 or 40 CFR Part 63. However, no subparts of 40 CFR Part 61 or 40 CFR Part 63 apply to corrugated board containers manufacturing operation.

#### **Rule 4101 Visible Emissions**

Rule 4101 states that 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 following condition will be included in the permit:

- {15} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity. [District Rule 4101]

#### **Rule 4102 Nuisance**

Rule 4102 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 this operation provided the equipment is well maintained. The following condition will be included in the permit:

- {98} No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]

### **Rule 4653 Adhesives and Sealants**

The purpose of this rule is to reduce emission of volatile organic compounds (VOCs) from the application of adhesive products, sealant products, and associated solvent cleaning operations.

Section 4.1.2 states the use of adhesive products or sealant products containing less than 20 grams VOC per liter (equivalent to 0.17 lb-VOC/gal) is exempt from the requirements of this rule.

The applicant has proposed to use adhesive with VOC content not greater than 0.021 lb/gal; and therefore, the proposed corrugated board folder gluer will be exempted from the requirements of this rule and no further discussion will be required.

### **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.

An HRA is not required for a project with a total facility prioritization score of less than or equal to one. According to the Technical Services Memo for this project (Appendix E), the total facility prioritization score including this project was less than or equal to one. Therefore, no future analysis is required to determine the impact from this project and compliance with the District's Risk Management Policy is expected.

Compliance with the requirements of this rule 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.

### **Greenhouse Gas (GHG) Significance Determination**

It is determined that no other agency has or will prepare an environmental review document for the project. Thus the District is the Lead Agency for this project.

The District's engineering evaluation (this document) demonstrates that the project would not result in an increase in project specific greenhouse gas emissions. The District therefore concludes that the project would have a less than cumulatively significant impact on global climate change.

### **District CEQA Findings**

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. Therefore, the District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15301 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

### **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 criteria pollutant emissions and toxic air contaminant emissions associated with the proposed project are not significant, and there is minimal potential for public concern for this particular type of facility/operation. Therefore, 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 NSR Public Noticing period, issue ATC N-3606-36-0 subject to the permit conditions on the attached draft ATC in Appendix A.

**X. Billing Information**

<b>Annual Permit Fees</b>			
<b>Permit Number</b>	<b>Fee Schedule</b>	<b>Fee Description</b>	<b>Annual Fee</b>
N-3606-36-0	3020-01-B	36.69 hp, electric motors horsepower	\$129

**Appendixes**

- A: Draft ATC
- B: BACT Guideline
- C: BACT Analysis
- D: Compliance Certification
- E: HRA Summary

**APPENDIX A**  
**Draft ATC**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT

PERMIT NO: N-3606-36-0

LEGAL OWNER OR OPERATOR: PACIFIC SOUTHWEST CONTAINER  
MAILING ADDRESS: ATTN: SR VICE PRESIDENT OF QUALITY & ENVIRONMENTAL MNGT  
4530 LECKRON RD  
MODESTO, CA 95357

LOCATION: 4530 LECKRON RD  
MODESTO, CA 95357

EQUIPMENT DESCRIPTION:  
CORRUGATED BOARD CONTAINERS MANUFACTURING OPERATION CONSISTING OF A HEIDELBERG MODEL  
DIANA X 115 BOARD FOLDING AND GLUING MACHINE

**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. {15} No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]
4. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
5. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201] Federally Enforceable Through Title V Permit
6. VOC content of the adhesives used for this operation shall not exceed 0.021 lb/gal (less water and exempt compounds). [District Rule 2201] Federally Enforceable Through Title V Permit
7. VOC emissions from this permit unit shall not exceed 10.0 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU **MUST** NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 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

N-3606-36-0 Dec 19 2017 2:05PM -- SDV Jctrl Inspection NOT Required



8. Total VOC emission from all corrugated board containers manufacturing operations permitted under N-3606-3, N-3606-19, N-3606-21, N-3606-25, N-3606-27, and this unit shall not exceed 30.0 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
9. Facility-wide VOC emissions shall not exceed 73,403 lb/year on a rolling 12-month basis. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Monthly records shall be maintained and contain the following information: (a) quantity, and safety data sheet (SDS) or product data sheet showing the material name, manufacture's name, VOC content (as applied, and less water and exempt compounds) of all adhesive, primer, solvent, and cleaning material used on the corrugated board containers manufacturing operations; (b) the combined total amount of VOC's emitted from the use of all VOC containing material (in pounds) on the corrugated board containers manufacturing operations; and (c) the dates of operation of this permit unit. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Records of the daily VOC emissions from this permit unit shall be kept. Daily VOC emissions may be calculated from the monthly materials (adhesive, primer, solvent, cleaning material, etc.) usage records and the number of days per calendar month this unit was operated. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Record of the total daily VOC emissions from all permitted corrugated containers manufacturing operations in the facility shall be kept. Daily VOC emissions may be calculated from the monthly materials (adhesive, primer, solvent, cleaning material, etc.) usage records and the number of days per calendar month this unit was operated. [District Rule 2201] Federally Enforceable Through Title V Permit
13. Record of the facility-wide VOC emissions, on a rolling 12-month basis, shall be kept. The record shall be updated at least monthly. [District Rule 2201] Federally Enforceable Through Title V Permit
14. All records shall be maintained for a period of at least five years and shall be made available to the District, ARB and EPA inspection upon request. [District Rule 2201] Federally Enforceable Through Title V Permit

DRAFT

**APPENDIX B**  
**BACT Guideline 4.9.12**

San Joaquin Valley  
Unified Air Pollution Control District

**Best Available Control Technology (BACT) Guideline 4.9.12\***

Last Update: 09/22/2006

**Corrugated Box Gluer**

Pollutant	Achieved In Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	use of adhesives with a VOC content (less water and exempt compounds) not exceeding 0.044 lb/gal	1) capture of VOCs and thermal or catalytic oxidation  2) capture of VOCs and carbon absorption  3) capture of VOCs and regenerative thermal oxidizer  4) use of adhesives with a VOC content (less water and exempt compounds) not exceeding 0.021 lb/gal	

Replaces BACT 4.7.3

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

**\*This is a Summary Page for this Class of Source**

**APPENDIX C**  
**Top-Down BACT Analysis**

## Top-Down BACT Analysis for VOC emissions

The following VOC emission control technologies are listed in BACT guideline 4.9.12, corrugated box gluer:

### **Step 1 - Identify all control technologies**

#### Achieved in Practice or contained in the SIP:

- Use of adhesives with a VOC content (less water and exempt compounds) not exceeding 0.044 lb/gal

#### Technologically Feasible:

- VOC capture and thermal/catalytic incineration
- VOC capture and carbon absorption
- VOC capture and regenerative thermal oxidizer
- Use of adhesives with a VOC content (less water and exempt compounds) not exceeding 0.021 lb/gal

#### Alternate Basic Equipment:

None of any alternate basic equipment is identified in this option.

### **Step 2 - Eliminate technologically infeasible options**

There is no technologically infeasible option.

### **Step 3 - Rank remaining options by control effectiveness**

1. VOC capture and incineration (98% overall capture and control)
2. VOC capture and regenerative thermal oxidizer (98% overall capture and control)
3. VOC capture and carbon absorption (95% overall capture and control)
4. Use of adhesives with a VOC content (less water and exempt compounds) not exceeding 0.021 lb/gal

### **Step 4 - Cost Effectiveness Analysis**

A cost-effective analysis will now be performed for each control technology, since none of the control technologies have been eliminated.

#### Uncontrolled VOC emission from the operation:

The uncontrolled VOC emission from the proposed operation is 3,650 lb-VOC per year (equivalent to 1.825 ton-VOC per year).

For the 1<sup>st</sup> & 2<sup>nd</sup> most effective control options, with VOC capture and thermal/catalytic incineration, and VOC capture and regenerative thermal incineration (98% overall capture & control)

Equipment Cost

The entire folder gluer must be enclosed to capture 100% of the VOC emissions, and a permanent total enclosure (PTE) would be required to be built around the unit to ensure 100% capture. Per applicant, the size of the PTE would be at least 80 feet (L) x 9 feet (W) x 15 feet (H), equivalent to 10,800 cu ft. The unit cost of \$61/ft<sup>2</sup> (supplied by Dellabarca Design & Build Inc. on February 28, 2013 under project N-1130130) would be used to estimate the cost of the PTE. The estimated cost of the PTE would be \$49,432<sup>(1)</sup>.

Per EPA's Office of Air Quality Planning and Standards (OAQPS) document EPA/452/B-02-001, Section 2, Chapter 3, page 12, to ensure worker comfort and provide healthful working conditions, the recommended amount of ventilation in terms of room air changes per hour (RACs/hr) for a PTE is at least 10 to 15 RACs/hr, and therefore; 10 RACs/hr will be used to determine the minimum exhaust airflow rate for the PTE.

The minimum exhaust airflow rate of the PTE would be 1,800 cfm<sup>(2)</sup>. The cost of the RTO is estimated to be \$238,810<sup>(3)</sup>. This price does not include sales tax, freight expenses, operational and maintenance costs, site preparation, etc.

The direct and indirect costs, shown in the following table, are taken from EPA's Office of Air Quality Planning and Standards (OAQPS) document EPA/452/B-02-001, Section 3.2, Chapter 2, page 42; OAQPS numbers are based on 2000 dollar value. These number are not adjusted for inflation over the past 17-year period. The numbers are presumed be reasonably conservative for the cost-effectiveness analysis.

<b>Cost Item</b>	<b>Cost, \$</b>
<b>Direct Costs</b>	
Purchased equipment costs	
RTO & PTE cost, A	288,242
Sales tax, Modesto, 7.625%A	21,978
Freight, 0.05A	14,412
Purchased equipment cost, B	\$324,633
Direct installation costs	
Foundations & supports, 0.08B	25,971
Handling & erection, 0.14B	45,449
Electrical, 0.04B	12,985
Piping, 0.02B	6,493

<sup>(1)</sup> Using 3% inflation over the past four years, the cost of the PTE in 2017 dollars is estimated to be \$49,432 [(80 ft x 9 ft x \$61/ft<sup>2</sup>) x (1+0.03)<sup>4</sup>]

<sup>(2)</sup> The minimum exhaust airflow rate for the PTE is 1,800 cfm (10 RACs/hr x 10,800 ft<sup>3</sup> + 60 min/hr). Therefore, RTO is presumed to be designed to handle at least 1,800 cfm.

<sup>(3)</sup> In 2011, Rick Cooley of Oxidation Technology provided a cost quote for RTOs at various flow rates. Based on this information, the cost of an RTO handling 1,800 cfm is \$200,000 (2011 dollar). Using 3% inflation over the past six years, the cost of an RTO in 2017 dollars is estimated to be \$238,810 [200,000 x (1+0.03)<sup>6</sup>]. Note that this cost does not include any taxes, freight or installation expenses.

Insulation for duct work, 0.01B	3,246
Painting, 0.01B	3,246
Direct installation costs	<u>\$97,390</u>
Site preparation	--
<b>Total Direct</b>	<u>\$422,022</u>
<b>Indirect Costs (installation)</b>	
Engineering, 0.1B	32,463
Construction & field expenses, 0.05B	16,232
Contractor fees, 0.1B	32,463
Start-up, 0.02B	6,493
<sup>4</sup> Performance test, 0.01B	--
Contingencies, 0.03B	<u>9,739</u>
<b>Total Indirect Costs</b>	<u>\$97,390</u>
<b>Total Capital Investment (TCI)</b>	<u>\$519,412</u>

The total capital investment is annualized over 10 years assuming 10% interest. The following formula is used to determine the annualized cost:

Annualized Capital Investment = Initial Capital Investment x Amortization Factor

$$\text{Amortization Factor} = \left[ \frac{0.1(1.1)^{10}}{(1.1)^{10} - 1} \right] = 0.163 \text{ per District policy, amortizing over 10 years at 10\%}$$

Therefore,

$$\text{Annualized Capital Investment} = \$519,412 \times 0.163 = \mathbf{\$84,664/\text{year}}$$

#### Fuel Cost

$$\text{Fuel Cost} = \{[Q \times C_{p\text{Air}} \times \Delta T \times (1-\text{HR}) \times O] - (\text{VOC} \times \text{HC})\} \times (\text{Natural gas cost})$$

Where,

Q: Airflow rate 1,800 CFM

C<sub>pAir</sub>: Specific heat of air (0.0194 Btu/scf - °F)

ΔT: Change in temperature required 1,342°F (1500°F - 158°F)

HR: Heat recovery (0.95)

O: Operational time, 525,600 min/yr (60 min/hr x 8,760 hr/yr)

VOC: Total amount of VOC 3,650 lb/yr

HC: Heat content of the VOCs in the contaminated air stream. The heat content of MEK, which is 13,729 Btu/lb, will be assumed.

Natural gas cost: \$7.45 /MMBtu (average) for both 2016 and 2017 per U.S. Energy Information Administration<sup>(5)</sup>.

<sup>4</sup> A performance test price is not included because it would have been required even if a company voluntarily proposes to install an RTO.

<sup>5</sup> <https://www.eia.gov/dnav/ng/hist/n3035ca3m.htm>

Fuel Cost = **\$8,802/year**

Electricity Cost:

$$\text{Power}_{\text{fan}} = \frac{(1.17 \times 10^{-4}) \times Q \times \Delta P}{\epsilon}$$

Where,

$\Delta P$ : Pressure drop across system = 4 in. H<sub>2</sub>O

$\epsilon$ : Efficiency for fan and motor = 0.6

Q: Exhaust flow rate = 1,800 cfm

$$\text{Power}_{\text{fan}} = 1.4 \text{ kW}$$

MID's electric rate schedule GS-3 (General Service industrial) for off-peak are \$0.0526/kWH<sup>6</sup>.

Thus,

$$\begin{aligned} \text{Electric cost} &= (\$0.0526/\text{kWH})(1.4 \text{ kW})(24 \text{ hr/day})(365 \text{ days/yr}) \\ &= \mathbf{\$645/\text{year}} \end{aligned}$$

$$\begin{aligned} \text{Total Cost} &= \$84,664/\text{yr} + \$8,802/\text{yr} + \$645/\text{yr} \\ &= \$94,111/\text{yr} \end{aligned}$$

For VOC capture and incineration with overall VOC control efficiency 98%, the amount of VOC emissions controlled is calculated as follow:

$$\begin{aligned} \text{Controlled VOC emissions} &= 3,650 \text{ lb-VOC/year} \times 1 \text{ tons-VOC}/2,000 \text{ lb-VOC} \times 0.98 \\ &= 1.8 \text{ ton-VOC/year} \end{aligned}$$

Cost of VOC reduction is calculated as follow:

$$\begin{aligned} \text{Cost of VOC reduction} &= \$94,111/\text{year} \div 1.8 \text{ ton-VOC/year} \\ &= \$52,284/\text{ton-VOC} \end{aligned}$$

Since the calculated cost of VOC reduction exceeds the VOC cost effective threshold of \$17,500/ton. Therefore, this control technology of utilize a RTO is deemed not cost effective and will be removed from consideration at this time. Please note that the equipment cost catalytic oxidizer is comparable to that of the RTO. However, the RTO fuel cost are found to be 45% less with an assumed heat recovery rate of 95% as opposed to the 70% heat recovery of catalytic oxidizer. Therefore, cost analysis for RTO is considered to be representative of catalytic oxidizer technology.

For the 3<sup>rd</sup> effective control option, with VOC capture and carbon adsorption (95% overall capture & control)

The carbon bed replacement cost normally exceeds the cost effectiveness threshold by itself, so the capital cost is not being included in this analysis.

<sup>6</sup> [http://www.mid.org/tariffs/Rates/GS-3\\_INDUSTRIAL.pdf](http://www.mid.org/tariffs/Rates/GS-3_INDUSTRIAL.pdf)



Annual Operating Costs:

Assuming the carbon would be able to capture 20% of its weight in VOC, the annual carbon requirement would be 18,250 pounds (3,650/0.2).

According to the cost information provided by Calgon under project N-1170908, the cost is \$2.03/lb-carbon. Therefore, the cost of carbon is calculated to:

The cost of carbon = 18,250 lb-carbon/year x \$2.03/lb-carbon = **\$37,048/year**

For carbon adsorption system with overall VOC control efficiency 95%, the amount of VOC emissions controlled is calculated as follow:

Controlled VOC emissions = 3,650 lb-VOC/yr x 1 tons-VOC/2,000 lb-VOC x 0.95  
= 1.7 ton-VOC/yr

Cost of VOC reduction is calculated as follow:

Cost of VOC reduction = \$37,048/year ÷ 1.7 ton-VOC/year  
= \$21,793/ton-VOC

As demonstrated above, the cost of disposing or replacing the carbon for the carbon adsorption system alone would exceed the VOC cost effectiveness threshold of \$17,500/ton. Therefore, this control technology of utilize a carbon adsorption system is deemed not cost effective and will be removed from consideration at this time.

For the 4<sup>th</sup> effective control option, use of adhesives with a VOC content (less water & exempt compounds) not exceeding 0.021 lb/gal

The applicant is proposing the use of this control option, therefore, a cost effectiveness analysis for this control option is not required.

**Step 5 - Select BACT**

BACT requirement of VOC emissions are satisfied by utilize adhesives with a VOC content (less water and exempt compounds) not exceeding 0.021 lb/gal. Therefore, BACT requirement is satisfied.

**APPENDIX D**  
**Compliance Certification**

November 9, 2017

Mr. Nick Peirce  
San Joaquin Valley Air Pollution Control District  
4800 Enterprise Way  
Modesto CA 95356-8718

**Subject: Compliance Statement for Pacific Southwest Container LLC**

Dear Mr. Peirce:

In accordance with Rule 2201, Section 4.15, "Additional Requirements for New Major Sources and Federal Major Modifications," Pacific Southwest Container, L.L.C. is pleased to provide this compliance statement regarding its Heidelberg Diana 115 Specialty Folder Gluer at stationary source N-3606. We are removing an almost identical folder gluer with the same capacity to our stationary source in Visalia.

All major stationary sources in California owned or operated by Pacific Southwest Container L.L.C., or by any entity controlling, controlled by, or under common control with Pacific Southwest Container L.L.C., and which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards. These sources include one or more of the following facilities:

Facility #1: Pacific Southwest Container L.L.C.- 4530 Leckron Road- Modesto, CA 95357

Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Please contact me if you have any questions regarding this certification.

Sincerely,



Mac McCullough, Senior Vice President Quality Engineering & Environmental Mgmt.  
Pacific Southwest Container L.L.C.

**APPENDIX E**  
**HRA Summary**

## San Joaquin Valley Air Pollution Control District Risk Management Review

To: Wai-Man So – Permit Services  
 From: Georgia Stewart – Technical Services  
 Date: December 1, 2017  
 Facility Name: Pacific Southwest Container, LLC  
 Location: 4530 Leckron Road, Modesto, CA  
 Application #(s): N-3606-36-0  
 Project #: N-1173600

### A. RMR SUMMARY

RMR Summary			
Categories	Corrugated Box Folder/Gluer (Unit 36-0)	Project Totals	Facility Totals
Prioritization Score	N/A*	N/A*	>1
Acute Hazard Index	N/A	N/A	N/A
Chronic Hazard Index	N/A	N/A	N/A
Maximum Individual Cancer Risk	N/A	N/A	N/A
T-BACT Required?	No		
Special Permit Conditions?	No		

\*A prioritization was not performed after determining no Toxic Air Contaminants (TACs) are associated with this project. No further analysis was required.

#### I. Project Description

Technical Services was asked to perform a Risk Management Review (RMR) on December 1, 2017, for the installation of a corrugated containers manufacturing operation consisting of a Heidelberg model Diana X 115 folder gluer.

Pacific Southwest Containers (PSC) has submitted an ATC application to relocate the existing Domino model 165/Matic corrugated box folder gluer (N-3606-3-7) from this facility to PSC's Visalia facility S-2651, under project S-1173648. The new Heidelberg model Diana X 115 folder gluer will be installed at the same location of the existing Domino 165 folder gluer, after it is removed.

#### II. Analysis

Technical Services reviewed the submitted SDS sheets (Aquence FB 0999 known as Velocity 56-0999TUV and Aquence FB 700MUV known as Adhesin 56-7007MUV) for toxic air contaminants (TACs) with risk factors. After reviewing the SDS sheets, it was determined that there are no TACs with risk factors present. Therefore, no further analysis or prioritization was required for this project.

### **III. Conclusion**

The proposed project will not contribute to the facility's risk. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

### **IV. Attachments**

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Facility Summary