

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT



JUL 07 2014

Mr. Mac McCullough
Pacific Southwest Container
4530 Leckron Road
Modesto, CA 95353

**Re: Notice of Preliminary Decision – ATC / Certificate of Conformity
District Facility # N-3606
Project # N-1141679**

Dear Mr. McCullough:

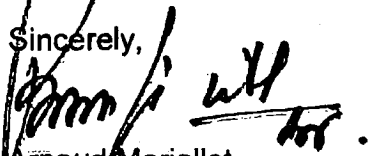
Enclosed for your review is the District's analysis of an application for Authority to Construct for the facility identified above. You requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. The modification is to install a printing press.

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. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,



Arnaud Marjollet
Director of Permit Services

Enclosures

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

Seyed Sadredin
Executive Director/Air Pollution Control Officer

Northern Region
4800 Enterprise Way
Modesto, CA 95356-8718
Tel: (209) 557-6400 FAX: (209) 557-6475

Central Region (Main Office)
1990 E. Gettysburg Avenue
Fresno, CA 93726-0244
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Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585

Authority to Construct Application Review

Facility Name: Pacific Southwest Container, LLC

Date: June 17, 2014

Mailing Address: 4530 Leckron Road
Modesto, CA 95353

Contact Person: Mac McCullough
Telephone: (209) 557-5270

Engineer: Mark Schonhoff
Application #: N-3606-32-0
Project #: N-1141679

Deemed Complete: May 29, 2014

I. Proposal

The applicant has proposed to receive an Authority to Construct Permit authorizing the installation of an offset lithographic printing press. The facility currently operates under a specific limiting condition for VOC and has proposed retain that limit.

II. Applicable Rules

2201 New and Modified Stationary Source Review Rule (4/21/11)
2410 Prevention of Significant Deterioration (6/16/11)
2520 Federally Mandated Operating Permits (6/21/01)
4001 New Source Performance Standards (4/14/99)
4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)
4101 Visible Emissions (2/17/05)
4102 Nuisance (12/17/92)
4607 Graphic Arts (12/18/08)
4661 Organic Solvents (9/20/07)
4663 Organic Solvent Cleaning, Storage and Disposal (9/20/07)
CH&SC 41700
CH&SC 42301.6
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

4530 Leckron Road
Modesto, CA

The equipment will not be located within 1,000 feet of a K-12 school.

IV. Process Description

Paper will be sheet fed into the press where inks and coatings will be applied lithographically. After ink/coating application, the sheets will be routed through a heater where drying of the ink/coating will be initiated. After exiting the heater, the ink/coating will dry over an approximately two hour period. Since the heater only initiates the drying process (but does not complete it), the press is not considered to be a heat set unit.

V. Equipment Listing

GRAPHIC ARTS PRINTING OPERATION CONSISTING OF A HEIDELBERG MODEL XL162-6+LX2 OFFSET LITHOGRAPHIC PRINTING PRESS WITH AN ELECTRICAL HEATER.

VI. Emission Control Technology Evaluation

Low VOC materials will be utilized to minimize VOC emissions.

VII. General Calculations

A. Assumptions

Assumptions will be stated as they are made.

B. Emission Factors

The emissions will be calculated utilizing the material VOC contents and their proposed usages. Emission factor calculations are not necessary.

C. Potential to Emit (PE)

1. Daily PE

Substrate Retention Factor:

The printed material will be routed through a hot air heater following the application of ink, however, it is not dry when it exits the heater. Drying occurs over an approximately two hour period following heater exit. Therefore, the ink does not meet the Rule 4607 definition of Heatset Ink and the 95% substrate retention factor specified in section 6.3 applies to the inks. Substrate retention factors do not apply the coatings, fountain solutions or other solvents.

Type	Daily Usage (gal)	VOC Content (lb/gal)	Substrate Retention Factor	PE (lb/day)
INX OSF Ecotech Black Ink	2.5	0.18	95%	0.023
INX OSF Ecotech Cyan Ink	1.5	0.3	95%	0.023
INX OSF Ecotech Magenta Ink	4.7	0.1	95%	0.024
INX OSF Ecotech Yellow Ink	20.5	0.1	95%	0.10
Coatings & Adhesives Corp Coatings	27	0.080	N/A	2.2
Starfont SF-6110 Fountain Soln.	10	1.92	N/A	19.2
Zeta Wash	10.5	0.82	N/A	8.6
Total				30.2

Type	Annual Usage (gal)	VOC Content (lb/gal)	Substrate Retention Factor	PE (lb/yr)
INX OSF Ecotech Black Ink	627	0.18	95%	5.6
INX OSF Ecotech Cyan Ink	376	0.3	95%	5.6
INX OSF Ecotech Magenta Ink	1,170	0.1	95%	5.9
INX OSF Ecotech Yellow Ink	512	0.1	95%	2.6
Coatings & Adhesives Corp Coatings	6,466	0.080	N/A	517.3
Starfont SF-6110 Fountain Soln.	2,423	1.92	N/A	4,652.2
Zeta Wash	2,421	0.82	N/A	1,985.2
Total				7,174

D. Increase in Permitted Emissions (IPE)

1. Quarterly IPE

Premodification $SLC_{VOC} = 73,403 \text{ lb/yr}$

Postmodification $SLC_{VOC} = 73,403 \text{ lb/yr}$

$IPE_{VOC} = 73,403 \text{ lb/yr} - 73,403 \text{ lb/yr} = 0 \text{ lb/yr} (0.0 \text{ lb/quarter})$

The emission profile will include the following:

	NOx (lb)	SOx (lb)	PM10 (lb)	CO(lb)	VOC (lb)
Annual PE	0	0	0	0	7,174
Daily PE	0	0	0	0	30.2
Δ PE (Qtr 1)	0	0	0	0	0
Δ PE (Qtr 2)	0	0	0	0	0
Δ PE (Qtr 3)	0	0	0	0	0
Δ PE (Qtr 4)	0	0	0	0	0

2. Adjusted Increase in Permitted Emissions (AIPE)

AIPE is used to determine whether or not Best Available Control Technology (BACT) is required for modified units. The unit currently under consideration is new, therefore AIPE calculations are not necessary.

E. Facility Emissions

1. Pre Project Stationary Source Potential to Emit (SSPE1)

The following SSPE1 contributions are from the Application Review document for Project N-1133573.

SSPE1 (lb/yr)						
	NOx	CO	VOC	SOx	PM10	
N-3606-3-6	0	0	73,403	0	0	
N-3606-4-5	0	0		0	183	
N-3606-9-7	0	0		0	0	
N-3606-11-8	0	0		0	0	
N-3606-13-6	0	0		0	0	
N-3606-14-6	0	0		0	0	
N-3606-15-6	0	0		0	0	
N-3606-16-6	0	0		0	0	
N-3606-19-4	0	0		0	0	
N-3606-21-4	0	0		0	0	
N-3606-23-5	0	0		0	0	
N-3606-24-4	0	0		0	0	
N-2306-25-2	0	0		0	0	
N-2306-26-5	0	0		0	0	
N-3606-27-3	0	0		0	0	
N-3606-29-0	0	0		0	0	
ATCN-3606-30-1	1,430	6,612		509	1,358	
N-3606-31-0	0	0		0	0	
Total w/o ERC	1,430	6,612		73,403	509	1,541
ERC	0	0		0	0	0
Total	1,430	6,612	73,403	509	1,541	

2. Post Project Stationary Source Potential to Emit (SSPE2)

SSPE2 (lb/yr)					
	NOx	CO	VOC	SOx	PM10
N-3606-3-6	0	0	73,403	0	0
N-3606-4-5	0	0		0	183
N-3606-9-7	0	0		0	0
N-3606-11-8	0	0		0	0
N-3606-13-6	0	0		0	0
N-3606-14-6	0	0		0	0
N-3606-15-6	0	0		0	0
N-3606-16-6	0	0		0	0
N-3606-19-4	0	0		0	0
N-3606-21-4	0	0		0	0
N-3606-23-5	0	0		0	0
N-3606-24-4	0	0		0	0
N-2306-25-2	0	0		0	0
N-2306-26-5	0	0		0	0
N-3606-27-3	0	0		0	0
N-3606-29-0	0	0		0	0
ATC N-3606-30-1	1,430	6,612		509	1,358
N-3606-31-0	0	0		0	0
ATC N-3606-32-0	0	0		0	0
Total w/o ERC	1,430	6,612		73,403	509
ERC	0	0	0	0	0
Total	1,430	6,612	73,403	509	1,541

3. Stationary Source Increase in Permitted Emissions (SSIPE)

$$\text{SSIPE} = \text{SSPE2} - \text{SSPE1}$$

The SSPE1 and SSPE2 balances are from sections VII.E.1 and VII.E.2 of this document.

	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)
NOx	1,430	1,430	0
CO	6,612	6,612	0
VOC	73,403	73,403	0
SOx	509	509	0
PM10	1,541	1,541	0

4. Baseline Emissions

The proposed equipment will have only VOC emissions, therefore, it is necessary to determine the Baseline Emissions only for VOC.

The facility is a Major Source for VOC. Section 3.8.1.4 of Rule 2201 states that for Major Source pollutants, the Baseline Emissions are equal to the premodification potential to emit if all units in the SLC are Highly Utilized Emission Units, Clean Emission Units or Fully Offset Emission Units. A unit is a Clean Emission Unit if it meets the Achieved-in-Practice requirement.

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-3306-3-7 N-3306-11-9 N-3306-19-5 N-3306-21-5 N-3306-25-3 N-3306-27-4 N-3306-31-1	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 = 0.15 lb/gal	Yes Yes Yes Yes Yes Yes Yes
N-3306-4-6	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-3306-13-7 N-3306-14-7 N-3306-15-7	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 Yes
	And Gluer	4.9.12	Adhesive with 0.44 lb VOC/gal or less	VOC = 0.021 lb/gal	
Continued – Next Page					

Permit	Description	BACT Guideline	Achieved-in-Practice BACT Requirement	Permit Limit	Clean Emission Unit
N-3306-9-8 N-3306-16-7 N-3306-23-6 N-3306-26-6	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 volume Fountain solutions with < 5% VOC by volume for high-end graphics and < 5% by volume for non-high-end graphics	Yes Yes Yes Yes
N-3306-24-5		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 volume < 6% by volume for high-end graphics and <5% by volume for non-high-end graphics	Yes
N-3306-29-1	N/A. This unit does not emit VOC.				

All of the units included in the SLC for VOC are Clean Emission Units for VOC, therefore, the Baseline Emissions for VOC are equal to the SLC.

$$BE_{VOC} = 73,403 \text{ lb/yr}$$

F. Major Source Determination

Rule 2201 Major Source Determination:

The Major Source thresholds, the facility potentials to emit and whether or not the facility will be a Major Source are shown on the following table. The Major Source thresholds are from Section 3.24.1 of Rule 2201 and the facility PE's are from section VII.E.2 of this document.

Pollutant	Threshold (lb/yr)	Facility PE (lb/yr)	Major Source
NOx	20,000	1,430	No
CO	200,000	6,612	No
VOC	20,000	73,403	Yes
SOx	140,000	509	No
PM10	140,000	1,541	No

Rule 2410 Major Source Determination:

The Major Source thresholds, the facility potentials to emit and whether or not the facility is currently a Major Source are shown on the following table.

Pollutant	Threshold (tons/yr)	Current Facility PE (tons/yr)	Major Source
NOx	250	0.72	No
CO	250	3.3	No
VOC	250	36.7	No
SOx	250	0.25	No
PM10	250	0.77	No
PM	250	0.77	No
CO ₂ e	100,000	10,424 – see below	No

The facility has an Authority-to-Construct permit (N-3606-30-1) for a 20.4 MMBtu/hr boiler. The potential GHG emissions from that unit are as follows.

EF_{GHG}: 52.92 kg/MMBtu (CARB greenhouse gas emission factor)
 Rating: 20.4 MMBtu/hr
 Schedule: 8,760 hr/yr

$$PE_{GHG} = (52.92 \text{ kg/MMBtu})(20.4 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(\text{lb}/0.4536 \text{ kg}) \\ \times (\text{ton}/2000 \text{ lb}) = 10,424 \text{ tons/yr}$$

G. Major Modification Determination

SB-288 Major Modification:

The purpose of SB-288 Major Modification calculations is to determine the following:

If Best Available Control Technology (BACT) is required for a Major Source pollutant from a new or modified emission unit involved in a permitting action that is a Major Modification (District Rule 2201, §4.1.3); and

If a public notification is triggered (District Rule 2201, §5.4.1).

Per section 3.36 of Rule 2201 and the District's draft policy titled Implementation of Rule 2201 (as amended on 12/18/08 and effective on 6/10/10) for SB288 Major Modifications and Federal Major Modifications, a permitting action is an SB-288 Major Modification if the Net Emission Increase (NEI) for the new and modified units involved in the project exceed the thresholds shown on the following table. The equipment currently under consideration will emit only VOC, therefore, only VOC will be addressed.

Pollutant	Threshold (lb/yr)
VOC	50,000

As shown in section VII.C.1 of this document, the potential to emit of VOC is less than its SB-288 Major Modification threshold. Therefore, this permitting action is not an SB-288 Major Modification.

Federal Major Modification:

Per section 3.18 of Rule 2201 and the District’s draft policy titled Implementation of Rule 2201 (as amended on 12/18/08 and effective on 6/10/10) for SB288 Major Modifications and Federal Major Modifications, a permitting action is a Federal Major Modification if the Net Emission Increase (NEI) for the new and modified units involved in the project exceed the thresholds shown on the following table. The equipment currently under consideration will emit only VOC, therefore, only VOC will be addressed.

Pollutant	Threshold (lb/yr)
VOC	0

$$NEI = PE - BAE$$

Where: PE is the potential to emit (7,174 lb/yr – section VII.C.1 of this document)
BAE is zero for new units

$$NEI = 7,174 \text{ lb/yr} - 0 \text{ lb/yr} = 7,174 \text{ lb/yr}$$

As can be seen, the NEI of VOC is in excess of its Federal Major Modification threshold. Therefore, this permitting action is a Federal Major Modification.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

A. BACT

1. BACT Applicability

New or Relocated Units:

Except for CO, BACT is required for each pollutant with a PE of greater than 2.0 pounds per day. For CO, BACT is triggered if the PE of CO is greater than 2.0 pounds per day and the SSPE2 of CO is 200,000 pounds per year or greater.

Modified Units:

Except for CO, BACT is required for each pollutant with an AIPE of greater than 2.0 pounds per day. For CO, BACT is triggered if the AIPE of CO is greater than 2.0 pounds per day and the SSPE2 of CO is 200,000 pounds or greater.

Major Modifications:

BACT is required for each Major Source Pollutant for which the permitting action is an SB-288 or Federal Major Modification.

Applicability:

The proposed unit is new and as shown in section VII.G, the permitting action is a Federal Major Modification for VOC and as shown in section VII.C.1, the potential to emit of VOC will be greater than 2.0 lb/day. Therefore, BACT is required for VOC.

2. BACT Analysis

As shown in the Top-Down BACT analysis that is in appendix C of this document, BACT will be:

That control option is the use of inks and fountain solutions that meet the following:

Inks with less than 5% by weight VOC for non-high-end graphics
Inks with less than 30% by weight VOC for high-end graphics

Fountain solutions with less than 5% VOC by volume for coldset web offset lithographic presses and sheet-fed offset lithographic presses with maximum sheet size of greater than 11 x 17 inches

B. OFFSETS

1. Offset Applicability

Per Rule 2201, section 4.5.3, offsets are examined on a pollutant by pollutant basis and are triggered for any pollutant with an SSPE2 equal to or greater than the value on the following table:

Pollutant	SSPE2 (lb/yr)
NOx	20,000
CO (in CO attainment areas)	200,000
VOC	20,000
SOx	54,750
PM10	29,200

As shown in section VII.E.2 of this document, the SSPE2 of each pollutant is:

Pollutant	SSPE2 (lb/yr)	Offsets Triggered
NOx	1,430	No
CO	6,612	No
VOC	73,403	Yes
SOx	509	No
PM10	1,541	No

2. Quantity of Offsets Required

As shown above, offsets are triggered for VOC. For pollutants with a pre-project SSPE (SSPE1) of greater than the offset thresholds of Rule 2201 offsets must be provided for all increases in Stationary Source emissions, calculated as the sum of the difference between the post-project Potential to Emit and the Baseline Emissions of all new and modified emission units. The unit currently under consideration falls into this category. The Baseline Emissions are from section VII.E.4 of this document and the Potential to Emit of the new and modified units is equal to the SLC under which they operate (73,403 lb/yr).

BE (new & modified units): 73,403 lb/yr

PE (new & modified units): 73,403 lb/yr

Offset = 73,403 lb/yr – 73,403 lb/yr = 0 lb/yr

C. PUBLIC NOTIFICATION

1. Applicability

District Rule 2201 section 5.4 requires a public notification for the affected pollutants from the following types of projects:

- a. New Major Sources
- b. Major Modifications
- c. New emission units with a PE > 100 lb/day of any one pollutant (IPE Notifications)
- d. Modifications with SSPE1 below an offset threshold and SSPE 2 above an offset threshold on a pollutant by pollutant basis (Existing Facility Offset Threshold Exceedence Notification)
- e. New stationary sources with SSPE2 exceeding offset thresholds (New Facility Offset Threshold Exceedence Notification)
- f. Any permitting action with a SSIPE exceeding 20,000 lb/yr for any one pollutant. (SSIPE Notice)

a. New Major Source Notice Determination:

The facility is not new, therefore, a New Major Source Determination notice is not required.

b. Major Modification Notice:

The facility is a Major Source for VOC and as shown in section VII.G of this document, this permitting action is a Federal Major Modification. Therefore, a Major Modification Notice is required.

c. PE Notification:

As shown in section VII.C.1 of this document, the PE of each pollutant will be less than 100 pounds per day. Therefore, a notification is not required.

d. Existing Facility Offset Threshold Exceedence Notification

The SSPE of no pollutant will go from below to above an offset threshold. Therefore, a public notification is not required.

e. New Facility Offset Threshold Exceedence Notification

This is an existing facility. This section does not require a public notification.

f. SSIPE Notification:

A notification is required for any permitting action that results in a SSIPE of more than 20,000 lb/yr of any affected pollutant. As shown in section VII.E.3 of this document, the SSIPE of each pollutant will be less than 20,000 pounds per year. An SSIPE notification is not required.

2. Public Notice

As shown above, a public notification is required because the permitting action is a Federal Major Modification.

D. DAILY EMISSION LIMITS

The VOC emissions shall not exceed 30.2 lb/day.

E. Ambient Air Quality Impact Analysis

Section 4.14 of this rule requires that an ambient air quality analysis (AAQA) be conducted to determine whether the operation of the proposed equipment will cause or make worse a violation of an air quality standard. The only emissions from this operation will be VOC. Since there is not an air quality standard for VOC, an AAQA is not required.

F. Alternative Siting Analysis

Section 21002 of the Public Resources Code states that projects should not be approved as proposed if there are feasible alternatives or feasible mitigation measures that would substantially lessen the environmental impacts associated with that project. This section also states that in the event of specific economic, social or other conditions would make such a project infeasible then the project may be approved in spite of the significant effects. The proposed printing press is being combined with an existing stationary source, therefore, requiring it to be located at

an alternative location would require the relocation of the entire stationary source. Such a relocation would cause a significant financial hardship and per § 21002 of the Public Resources Code, locating the equipment at an alternative site will not be required.

G. Compliance by Other Owned, Operated or Controlled Sources

This section requires that the owner of a New Major Source or the owner of a facility undergoing a Federal Major Modification demonstrate, to the satisfaction of the District, that all Major Sources it owns, operates or controls, are located in California and are subject to emission limits be in compliance, or on schedule to be in compliance with all applicable emission limits or standards.

The current modification is a Federal Major Modification so these requirements apply. A copy of the compliance certification form from the facility is in Appendix D of this document.

H. Compliance Assurance

1. Source Testing

As they apply to the equipment currently under consideration, no District rule or policy requires source testing.

2. Monitoring

As they apply to the equipment currently under consideration, no District rule or policy requires monitoring.

3. Record Keeping

The material usage and VOC content records necessary to verify compliance with the emission limits of the Authority to Construct permit and Permit to Operate will be required. Refer to section VIII (Rule 4607 and Rule 4663 Compliance) for a discussion of the record keeping requirements for these rules.

4. Reporting

As they apply to the equipment currently under consideration, no District rule or policy requires reporting.

Rule 2410 Prevention of Significant Deterioration

Rule 2410 applies to pollutants for which the District is in attainment or for unclassified pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO₂ (as a primary pollutant)
- SO₂ (as a primary pollutant)

- CO
- PM
- PM10
- Greenhouse gases (GHG): CO2, N2O, CH4, HFCs, PFCs, and SF6

The first step of this PSD applicability evaluation consists of determining whether the facility is an existing PSD Major Source. This facility is not an existing PSD Major source (See Section VII.F of this document).

In the case that the facility is NOT an existing PSD Major Source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

Potential to Emit for All Emission Units at the Facility vs PSD Major Source Thresholds:

As a screening tool, the potential to emit from all new and modified units at the facility is compared to the PSD major source threshold and if the total potential to emit from all new and modified units at the facility is below this threshold, no further analysis will be needed.

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: Potential to Emit (tons/year)							
	NO ₂	VOC	SO ₂	CO	PM	PM ₁₀	CO _{2e}
Total PE from New and Modified Units	0	3.6	0	0	0	0	0
PSD Major Source threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	N	N	N	N	N	N	N

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

Rule 2520 Federally Mandated Operating Permits

Pacific Southwest Container is currently operating under a Title V permit and has requested that the ATCs be issued with a Certificate of Conformity. Therefore, the following conditions will be included on each ATC:

- *{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 NSR Rule]*

- *{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]*

This permitting action is a Federal Major Modification, therefore, it is a Significant Modification to the Title V permit (as defined in this rule).

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including:

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs and
- The source's suggested draft permit (Appendix A of this document) and
- Certification by a responsible official that the proposed modification meets the criteria for use of major permit modification procedures and a request that such procedures be used (Appendix D of this document)

Section 5.3.4 of this rule requires the permittee to file an application for administrative permit amendments prior to implementing the requested change except when allowed by the operational flexibility provisions of section 6.4 of this rule. The conditions above will enforce this requirement.

Therefore, compliance with the requirements of this Rule is expected.

Rule 4001 New Source Performance Standards

40 CFR Part 60 Subpart QQ (Standards of Performance for the Graphic Arts Industry: Publication Rotogravure printing)

This rule applies to each rotogravure printing press that commences construction, modification or reconstruction after October 28, 1980.

The press under consideration is not a rotogravure unit, therefore, this subpart does not apply.

Rule 4002 National Emission Standards for Hazardous Air Pollutants

40 CFR Part 60 Subpart KK (National Emission Standards for the Printing and Publishing Industry)

This rule applies to each new and existing facility that is a Major Source of hazardous air pollutants (HAP), as defined in 40 CFR 63.2, at which publication rotogravure, packaging rotogravure or wide-web flexographic printing presses are operated.

The press under consideration is not a publication rotogravure, packaging rotogravure or wide-web flexographic printing unit, therefore, this subpart does not apply.

Rule 4101 Visible Emissions

As long as the equipment is properly maintained and operated, the visible emissions are not expected to exceed 20% opacity for a period or periods aggregating more than 3 minutes in any one hour. Compliance with the provisions of this rule is expected.

Rule 4102 Nuisance

A. California Health & Safety Code 41700 (Risk Management Review)

A Risk Management Review (RMR) was conducted by the Technical Services Division of the SJVAPCD. As shown on the RMR summary that is in appendix B of this document, the acute and chronic hazard indices are less than 1 and the cancer risk is zero. Such scores are indicative of emissions that will not pose a significant health risk and the project is therefore approvable.

B. Toxics BACT (T-BACT)

As shown on the RMR summary that is included in Appendix B of this document, T-BACT is not required.

Rule 4607 Graphic Arts

This rule applies to graphic arts printing operations, digital printing operations and paper, film, foil & fabric coating operations as well as to the organic solvent type cleaning processes associated with such operations unless they are exempt per section 4.0. This facility does not qualify for any of the section 4.0 exemptions so this rule applies.

The rule includes VOC content limits, solvent cleaning requirements, material application method requirements, evaporative loss minimization requirements, work practice requirements and record keeping requirements.

VOC Content Limits:

Inks and Coatings:

Per Table 1 of Rule 4607, the VOC content limits for cold set lithographic printing material are:

Inks: 2.5 lb/gal (less water and exempt compounds)
Coatings: 2.5 lb/gal (less water and exempt compounds)

Solvents:

Solvent will be utilized for Step 1 and Step 2 roller washing. The following table shows the table 7 categories that are applicable to this project and the VOC content limits associated with the solvents.

Description	Table 7 Category	VOC Content Limit (lb/gal)
Roller Wash – Step 1	D.5.1	0.83
Roller Wash – Step 2	D.5.2	0.83

Fountain Solutions:

Table 2 of Rule 4607 limits the VOC content of fountain solutions. Per the applicant, the applicable category is “Sheet-fed offset Lithographic with maximum Sheet Size Greater than 11 x 17 Inches”. Per Table 2, the VOC content limit for this category is 5.0% by volume.

Section 5.3 limits the alcohol and alcohol substitute content of fountain solutions used for web offset printing. The proposed press is a sheet-fed unit, therefore, this requirement does not apply.

VOC Content Compliance Determination:

A listing of the proposed materials, their VOC contents and whether or not they will comply with the VOC limits of this rule are presented on the following table.

Product Identification	Proposed Material VOC Content, lb/gal (less water and exempts)	Compliant
Inks		
INX OSF Ecotech Black	0.18	Yes
INX OSF Ecotech Cyan	0.3	Yes
INX OSF Ecotech Magenta	0.1	Yes
INX OSF Echotech Yellow	0.1	Yes
Coatings		
Coatings & Adhesives Corp Coatings	0.08	Yes

Product Identification	Proposed Material VOC Content, lb/gal	Compliant
Solvent		
Zeta Wash	0.82	Yes

Product Identification	Proposed Material VOC Content, % by volume	Compliant
Fountain Solution		
Star-Font	4.5 – see below	Yes

Mix Ratio: 7 oz of Star-Font with 1 gal Water (Applicant)
Density of Star-Font: 8.62 lb/gal (MSDS)
VOC Content of Star-Font: 89% by volume (MSDS)

Note: The MSDS reports the VOC content by weight, but not by volume. However, it does report the amount of volatile material by volume. Since the VOC content cannot be any higher than the amount volatile, the amount volatile by volume will replace the VOC by volume in this calculation.

$$VOC = \left(\frac{\left(\frac{7 \text{ lb SF}}{16} \right) \left(\frac{1 \text{ gal SF}}{8.62 \text{ lb SF}} \right) \left(\frac{0.89 \text{ gal VOC}}{\text{gal SF}} \right)}{1 \text{ gal Water}} \right) = 4.5\% \text{ by volume}$$

Solvent Cleaning Requirements:

Per section 5.8.2, operators who perform any of the solvent cleaning operations listed in Table 7 using solvents with VOC contents in excess of 25 g/l are subject to sections 5.8.3 through 5.8.5. Section 5.8.3 regulates solvent application methods for solvents with VOC contents of greater than 25 g/l. To ensure compliance with the solvent cleaning requirements of this rule, the following condition will be included on the Authority to Construct and the Permit to Operate:

The VOC content of solvents utilized shall comply with table 7 of District Rule 4607. For a permittee using any solvent containing more than 25 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: (1) wipe cleaning; or (2) application of solvent from hand-held spray bottles from which solvents are dispensed without a propellant-induced force; or (3) non-atomized solvent flow method in which the cleaning solvent is collected in a container or a collection system which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; or (4) solvent flushing method in which the cleaning solvent is discharged into a container that is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping. [District Rule 4607]

Material Application Methods:

Section 5.7 specifies the acceptable application methods for coatings. The coatings will be applied lithographically, which is a roller type method. This method is allowed by section 5.7.2.

Evaporative Loss Minimization:

Section 5.9 states that storage and disposal of VOC containing materials including paper and cloth shall be conducted inside of closed, non-absorbent and non-leaking containers. Such a condition will be placed on the Authorities to Construct and Permits to Operate.

The operator shall store and dispose of fresh or spent solvents and waste solvent cleaning materials such as cloth, paper, etc. in closed, non-absorbent and non-leaking containers. The containers shall remain closed at all times except when depositing or removing material or when it is empty. [Rule 4607]

Work Practices:

Section 5.10 of this rule requires that all graphic arts materials and all graphic arts material application equipment be utilized in accordance with the manufacturer's instructions. Such a condition will be placed on the Authorities to Construct and the Permits to Operate.

Record Keeping:

Section 6.1.1 requires the operator to maintain a current file that includes a material safety data sheet or product data sheet showing the material name, manufacturer's name, the VOC content as applied, specific mixing instructions and the density of each ink, coating and solvent in use. Such a file will be required by the Authorities to Construct and the Permits to Operate.

Section 6.1.2.1.4 requires monthly records of each ink and pantone ink used and of the VOC content and density of each. Such records will be required by the Authorities to Construct and the Permits to Operate.

Section 6.1.2.2 requires the operator to record, on a monthly basis, the type and amount of each coating, adhesive, wash primer and solvent used. Such records will be required by the Authorities to Construct and the Permits to Operate.

Rule 4661 Organic Solvents

This rule applies to any source operation that uses organic solvents unless the source operation is exempt under Section 4.0. Per sections 4.2 and 4.2.7, the unit is exempt from this rule because it is subject to Rule 4607.

Rule 4663 Organic Solvent Cleaning, Storage and Disposal

This rule applies to facilities that perform solvent cleaning and it applies to facilities that store and dispose of solvents.

Section 5.1 includes VOC content limits for solvents used in various types of operations. It does not include a VOC content limit for printing press roller cleaning, however, in the event that general cleaning (Table 1, category A.1) is performed, the VOC content limit is 0.21 lb/gal. A condition limiting the VOC content of such solvents to that amount will be included on the ATC and PTO.

Section 5.2 specifies solvent cleaning methods to be used if cleaning that is not subject to category A.1, B.1 or C of Table 1. The cleaning operations are not subject to these table categories, therefore, this section applies and states that compliance with sections 5.2.5 through 5.2.7 is required. These requirements are identical to those discussed in the Rule 4607 compliance determination above. Therefore, the ATC/PTO condition shown there will include reference to this rule.

Section 5.3 applies only to operations that utilize VOC control devices. No such device will be utilized, therefore, this section does not apply.

Section 5.4 specifies solvent storage and disposal requirements. These requirements are identical to those discussed in the Rule 4607 compliance determination above. Therefore, the ATC/PTO condition shown there will include reference to this rule.

Section 5.5 applies only to emission control systems. An emission control system will not be utilized, therefore, this section does not apply.

Section 6.1 applies only to solvent manufacturers and therefore does not apply to the applicant.

Section 6.2 specifies record keeping requirements for operations that perform solvent cleaning. To enforce those requirements, the following condition will be included on the ATC and PTO.

The operator shall maintain a current list of solvents that are in use at the stationary source. The list shall include the following information: (1) the name of the solvent and its manufacturer; (2) the VOC content of each solvent expressed in grams/liter or lb/gal; (3) when the solvent is a mixture of different materials that are blended by the operator, the mix ratio of the batch shall be recorded and the VOC content of the batch shall be calculated and recorded in order to determine compliance with the specified limits of VOC content, as applied; (4) the type of cleaning activity for each solvent that is being used at the stationary source in accordance with the applicable cleaning category specified in Table 1 of this rule; (5) the daily quantity of solvents used in solvent cleaning operations. [Rule 4663]

The proposed solvent will be utilized to remove material from printing plate material, not cleaning. Therefore, the record keeping requirements of this rule do not apply.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (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 San Joaquin Valley Unified Air Pollution Control District (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.
- 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 the project will not have a significant effect on the environment 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)).

California Health & Safety Code 42301.6 (School Notice)

The equipment will not be located within 1,000 feet of a K-12 school, therefore, a school notice is not required.

IX. Recommendation

Issue an Authority to Construct Permit with the conditions on the attached draft Authority to Construct.

X. Billing Information

Permit #	Description	Fee Schedule
N-3606-32-0	160.9 hp	3020-1-D

Appendices

Appendix A: Draft ATC's

Appendix B: RMR Summary

Appendix C: BACT Guideline and BACT Analysis

Appendix D: Title V Modification – Compliance Certification Form

Appendix A
Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT
ISSUANCE DATE: DRAFT

PERMIT NO: N-3606-32-0

LEGAL OWNER OR OPERATOR: PACIFIC SOUTHWEST CONTAINER
MAILING ADDRESS: ATTN: ACCOUNTS PAYABLE
4530 LECKRON RD
MODESTO, CA 95357

LOCATION: 4530 LECKRON RD
MODESTO, CA 95357

EQUIPMENT DESCRIPTION:
GRAPHIC ARTS PRINTING OPERATION CONSISTING OF A HEIDELBERG MODEL XL162-6+LX2 OFFSET LITHOGRAPHIC PRINTING PRESS WITH AN ELECTRICAL HEATER.

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. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. 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] Federally Enforceable Through Title V Permit
5. The VOC emissions from this unit shall not exceed 30.2 pounds during any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The VOC emissions from this unit shall not exceed 7,174 pounds on a rolling 12-month basis. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The facility-wide VOC emissions, on a rolling 12-month basis, shall not exceed 73,403 pounds. [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

DRAFT

Arnaud Marjollet, Director of Permit Services
N-3606-32-0 Jun 23 2014 3:57PM - SCHONHOM Joint Inspection NOT Required

8. The VOC content of the fountain solutions used shall not exceed 5.0% by volume. [District Rules 2201 and 4607] Federally Enforceable Through Title V Permit
9. The VOC content of inks used for non-high-end graphics shall not exceed 2.5 lb/gal or 5% by weight, which ever is less. The VOC content of inks used for high-end graphics shall not exceed 2.5 lb/gal or 30% by weight, which ever is less. [District Rules 2201 and 4607] Federally Enforceable Through Title V Permit
10. The VOC content of solvents utilized shall comply with table 7 of District Rule 4607. For a permittee using any solvent containing more than 25 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: (1) wipe cleaning; or (2) application of solvent from hand-held spray bottles from which solvents are dispensed without a propellant-induced force; or (3) non-atomized solvent flow method in which the cleaning solvent is collected in a container or a collection system which is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container; or (4) solvent flushing method in which the cleaning solvent is discharged into a container that is closed except for solvent collection openings and, if necessary, openings to avoid excessive pressure build-up inside the container. The discharged solvent from the equipment must be collected into containers without atomizing into the open air. The solvent may be flushed through the system by air or hydraulic pressure, or by pumping. [District Rule 4607] Federally Enforceable Through Title V Permit
11. The operator shall store and dispose of fresh or spent solvents and waste solvent cleaning materials such as cloth, paper, etc. in closed, non-absorbent and non-leaking containers. The containers shall remain closed at all times except when depositing or removing material or when it is empty. [District Rules 4607 and 4663] Federally Enforceable Through Title V Permit
12. Graphic arts materials shall be used in accordance with the manufacturer's instructions. [District Rule 4607] Federally Enforceable Through Title V Permit
13. The operator shall maintain a current list of solvents that are in use at the stationary source. The list shall include the following information: (1) the name of the solvent and its manufacturer; (2) the VOC content of each solvent expressed in grams/liter or lb/gal; (3) when the solvent is a mixture of different materials that are blended by the operator, the mix ratio of the batch shall be recorded and the VOC content of the batch shall be calculated and recorded in order to determine compliance with the specified limits of VOC content, as applied; (4) the type of cleaning activity for each solvent that is being used at the stationary source in accordance with the applicable cleaning category specified in Table 1 of this rule; (5) the daily quantity of solvents used in solvent cleaning operations. [District Rule 4663] Federally Enforceable Through Title V Permit
14. The operator shall record, on a monthly basis, the type and amount of all inks used according to one of the following methods; (1) group the quantity of all inks used and identify the maximum VOC content and use the maximum density of 1,010 g/l (8.44 lb/gal), (2) report process inks and pantone inks separately and use specific VOC content and density values for each process ink, and the highest VOC content and the maximum density of 1,010 g/l (8.44 lb/gal) for pantone inks or, (3) report process inks and pantone inks separately and use the maximum VOC content and minimum density value for both process and pantone inks, or use the density of 1,010 g/l (8.44 lb/gal) for pantone inks or, (4) itemize each ink and pantone ink and use the specific VOC content and density value for each. [District Rule 4607] Federally Enforceable Through Title V Permit
15. The operator shall record, on a monthly basis, the type and amount of each coating, adhesive, wash primer and solvent (including cleaning solvents) used. [District Rule 4607] Federally Enforceable Through Title V Permit
16. The operator shall record, on a monthly basis, the type, amount and percent VOC by volume of each fountain solution used. [District Rule 4607] Federally Enforceable Through Title V Permit
17. A record of the daily VOC emissions from this unit shall be kept. The daily VOC emissions may be calculated from the monthly material usage (inks, coatings, solvents, etc.) records and the number of days per calendar month this unit was operated. [District Rule 2201] Federally Enforceable Through Title V Permit
18. A record of the VOC emissions from this unit, 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
19. A 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

CONDITIONS CONTINUE ON NEXT PAGE

20. All records shall be maintained for a period of at least five years and shall be made available to the District, ARB and EPA upon request. [District Rules 2201, 4607 and 4663] Federally Enforceable Through Title V Permit

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Appendix B

RMR Summary

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Mark Schonhoff – Permit Services
 From: Kyle Melching – Technical Services
 Date: May 28, 2014
 Facility Name: Pacific Southwest Container
 Location: 4530 Leckron Rd., Modesto
 Application #(s): N-3606-32-0
 Project #: N-1141679

A. RMR SUMMARY

RMR Summary			
Categories	Printing Press (Unit 32-0)	Project Totals	Facility Totals
Prioritization Score	5.06	5.06	>1.0
Acute Hazard Index	0.83	0.83	0.84
Chronic Hazard Index	0.00	0.00	0.15
Maximum Individual Cancer Risk	N/A ¹	N/A ¹	1.24E-06
T-BACT Required?	No		
Special Permit Conditions?	No		

¹The Maximum Individual Cancer Risk was not calculated since there are no risk factors associated with any of the Hazardous Air Pollutants (HAPs) under analysis

B. RMR REPORT

I. Project Description

Technical Services received a request on May 21, 2014, to perform a Risk Management Review (RMR) and Ambient Air Quality Analysis (AAQA) for the proposed installation of a printing press.

II. Analysis

Toxic emissions from the project were calculated after reviewing MSDS sheets for the proposed printing operation to determine the speciation of Hazardous Air Pollutants (HAPs). In accordance with the District's *Risk Management Policy for Permitting New and Modified Sources* (APR 1905-1, March 2, 2001), risks from the proposed project were prioritized using the procedures in the 1990 CAPCOA Facility Prioritization Guidelines and incorporated in the District's HEART's database. The prioritization score for the proposed project was greater than 1.0 (see RMR Summary Table); therefore, a refined Health Risk Assessment was required and performed for the project. AERMOD was used with source parameters outlined below and concatenated 5-year meteorological data from Modesto to determine maximum dispersion factors at the nearest residential and business receptors.

The dispersion factors were input into the HARP model to calculate the Chronic and Acute Hazard Indices and the Carcinogenic Risk.

The following parameters were used for the review:

Analysis Parameters Unit 32-0			
VOC Emissions (lb/day)	23.53	Location Type	Urban
VOC Emissions (lb/yr)	8,588	Closest Receptor (m)	152
Source Type	Volume	Type of Receptor	Business
# of Openings	5		

Analysis Parameters Opening #1			
Length of Side (m)	6.25	Release Height (m)	2.13
Initial Lateral Dimension (m)	1.45	Initial Vertical Dimension (m)	3.4

Analysis Parameters Opening #2			
Length of Side (m)	8.06	Release Height (m)	2.13
Initial Lateral Dimension (m)	1.88	Initial Vertical Dimension (m)	3.4

Analysis Parameters Opening #3			
Length of Side (m)	9.54	Release Height (m)	2.13
Initial Lateral Dimension (m)	2.22	Initial Vertical Dimension (m)	3.4

Analysis Parameters Opening #4			
Length of Side (m)	9.14	Release Height (m)	2.13
Initial Lateral Dimension (m)	2.13	Initial Vertical Dimension (m)	3.4

Analysis Parameters Opening #5			
Length of Side (m)	7.47	Release Height (m)	2.13
Initial Lateral Dimension (m)	3.4	Initial Vertical Dimension (m)	2.13

An AAQA was requested; however, since this project only contains VOC emissions, an AAQA is not required.

III. Conclusion

There is no Cancer Risk associated with any of the HAPs under review; and the Chronic and Acute Hazard Indices are below 1.0. In accordance with the District's Risk Management Policy, the unit 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. Volume Source Calculation Spreadsheet
- D. VOC Spreadsheet
- E. Prioritization score w/ toxic emissions summary
- F. HARP Risk Report
- G. Facility Summary

Appendix C

BACT Guideline and BACT Analysis

Per » B A C T » Bact Guideline.asp?category Level1=4&category Level2=7&category Level3=2&last Update=10 » 15 :

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**Best Available Control Technology (BACT) Guideline 4.7.2
Last Update: 10/15/2010**

Offset Lithographic Printing - Non-heat Set Press

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Using materials with the following VOC contents: Inks: less than 5% VOC by weight (less water and exempt compounds) or less than 30% VOC by weight (less water and exempt compounds) for high end graphics Fountain Solutions: less than 5% by volume for coldset web offset lithographic, less than 5% by volume for sheet-fed offset lithographic with maximum sheet size greater than 11x17 inches, and less than 8% by volume for high end graphics	VOC capture and incineration; or VOC capture and carbon adsorption and using materials with the following VOC contents: - Inks:less than 5% VOC by weight (less water and exempt compounds) or less than 30% VOC by weight (less water and exempt compounds) for high end graphics - Fountain Solutions: less than 5% by volume for coldset web offset lithographics, less than 5% by volume for sheet-fed offset lithographic with maximum sheet size greater than 11x17 inches, and less than 8% by volume for high end graphics	

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. For background information, see Permit Specific BACT Determinations on Details Page.

Top-Down BACT Analysis for VOC

The District BACT Clearinghouse includes a guideline that applies to this operation (Guideline 4.7.2). Therefore, in accordance with the District BACT policy, information from that guideline will be utilized without further analysis.

Top-Down BACT analysis for VOC:

Step 1 – Identify all Practically Applicable Control Technologies

VOC Capture and Control utilizing a Thermal or Catalytic Oxidizer

VOC Capture and Control Utilizing a Carbon Adsorption System

Materials that meet the following VOC content levels:

Inks with less than 5% by weight VOC for non-high-end graphics
Inks with less than 30% by weight VOC for high-end graphics

Fountain solutions with less than 5% VOC by volume for coldest web offset lithographic presses and sheet-fed offset lithographic presses with maximum sheet size of greater than 11 x 17 inches

Fountain solutions with less than 8% VOC by volume for high end graphics.

Step 2 – Eliminate Technologically Infeasible Options

The above control options are not technologically infeasible

Step 3 – Rank Remaining Control Options by Control Effectiveness

Ranking	Option	Category
1	Capture and Thermal/Catalytic Oxidation	Technologically Feasible
2	Capture and Carbon Adsorption	Technologically Feasible
3	<p>Materials that meet the following VOC content levels:</p> <p>Inks with less than 5% by weight VOC for non-high-end graphics; and</p> <p>Inks with less than 30% by weight VOC for high-end graphics; and</p> <p>Fountain solutions with less than 5.0% VOC by volume for coldest web offset lithographic presses and sheet-fed offset lithographic presses with maximum sheet size of greater than 11 x 17 inches; and</p>	Achieved in Practice

Note: The BACT guideline limits the VOC content of fountain solutions used for high end graphics to 8% by volume, however, Rule 4607 now limits the VOC content of such fountain solutions to 5.0% by volume. The more restrictive option of 5.0% will therefore be used.

Step 4 – Cost Effectiveness Analysis

The costs are from the application review document for project N-1103617, which was for a similarly sized press.

District Standard Emissions (DSE):

DSE = Proposed Annual Emission Rate = 7,174 lb/yr

Cost Effectiveness – Thermal Oxidizer w/ 98% capture and control:

Initial Costs (from Cycle Therm):

Thermal Oxidizer (1.5 MMBtu/hr):	\$400,000
Installation:	\$ 50,000
<hr/> Total	<hr/> \$450,000

Total annualized cost:

$A = [P(i)(1+i)^n] / [(1+i)^n - 1]$ where:

- A: Equivalent annual capital cost of the control equipment
- P: Present value of the control equipment, including installation
- i: Interest rate (District policy is to use 10%)
- n: Equipment life (District policy is to use 10 years)

$$A = [\$450,000(0.1)(1+0.1)^{10}] / [(1+0.1)^{10} - 1] = \$73,235/\text{yr}$$

Annual Operating Costs:

Natural Gas Costs:

Fuel Requirement (w/o deduction for the contaminated airstream heat content):

$$(1.5 \text{ MMBtu/hr})(8,760 \text{ hr/yr}) = 13,140 \text{ MMBtu/yr}$$

Contaminated Airstream Heat Content:

VOC Emissions: 7,174 lb/yr
Heat Content: 13,729 Btu/lb (MEK)

$$\text{Heating Value of Air Contaminant} = (7,174 \text{ lb/yr})(13,729 \text{ Btu/lb}) = 98.5 \text{ MMBtu/yr}$$

$$\text{Fuel Requirement} = 13,140 \text{ MMBtu/yr} - 98.5 \text{ MMBtu/yr} = 13,042 \text{ MMBtu/yr}$$

Natural Gas Cost: \$7.97/MMBtu (U.S. Energy Information Administration)

Annual Natural Gas Cost: $(13,042 \text{ MMBtu/yr})(\$7.97/\text{MMBtu}) = \$103,945/\text{yr}$

Total Cost:

$\$73,235/\text{yr} + \$103,945/\text{yr} = \$177,180/\text{yr}$

Amount of Control:

District Standard Emissions: 7,174 lb/yr

Capture and Control: 98%

Amount of Control = $(7,174 \text{ lb/yr})(0.98) = 7,031 \text{ lb/yr}$

Cost of Control:

$(\$177,180/\text{yr}) / [(7,031/2,000) \text{ tons/yr}] = \$50,400/\text{ton}$

The cost of VOC control utilizing a thermal oxidizer would exceed the District's \$17,500 per ton of reductions cost effectiveness threshold. Therefore, a thermal oxidizer will be removed from consideration at this time.

Cost Effectiveness – Catalytic Oxidizer w/ 98% Capture and Control:

Initial Costs (from Catalytic Products International):

Catalytic Oxidizer (0.2 MMBtu/hr):	\$225,000
<u>Installation (including an equipment enclosure):</u>	<u>\$150,000</u>
Total	\$375,000

Total annualized cost:

$$A = [P(i)(1+i)^n] / [(1+i)^n - 1] \text{ where:}$$

- A: Equivalent annual capital cost of the control equipment
- P: Present value of the control equipment, including installation
- i: Interest rate (District policy is to use 10%)
- n: Equipment life (District policy is to use 10 years)

$$A = [\$375,000(0.1)(1+0.1)^{10}] / [(1+0.1)^{10} - 1] = \$61,030/\text{yr}$$

Annual Operating Costs:

Natural Gas Costs:

Fuel Requirement (w/o deduction for the contaminated airstream heat content):

$$(0.2 \text{ MMBtu/hr})(8,760 \text{ hr/yr}) = 1,752 \text{ MMBtu/yr}$$

Contaminated Airstream Heat Content:

VOC Emissions: 7,174 lb/yr
Heat Content: 13,729 Btu/lb (MEK)

$$\text{Heating Value of Air Contaminant} = (7,174 \text{ lb/yr})(13,729 \text{ Btu/lb}) = 98.5 \text{ MMBtu/yr}$$

$$\text{Fuel Requirement} = 1,752 \text{ MMBtu/yr} - 98.5 \text{ MMBtu/yr} = 1,654 \text{ MMBtu/yr}$$

Natural Gas Cost: \$7.97/MMBtu (U.S. Energy Information Administration)

$$\text{Annual Natural Gas Cost: } (1,654 \text{ MMBtu/yr})(\$7.97/\text{MMBtu}) = \$13,182/\text{yr}$$

Electricity Costs:

Power Requirement: 5 kW
Cost of Electricity: \$0.08/kw-hr

$$\text{Electricity Cost} = (5 \text{ kW})(\$0.08/\text{kW-hr})(8,760 \text{ hr/yr}) = \$3,504/\text{yr}$$

Total Cost:

$$\$61,030/\text{yr} + \$13,182/\text{yr} + \$3,504/\text{yr} = \$77,716/\text{yr}$$

Amount of Control:

District Standard Emissions: 7,174 lb/yr
Capture and Control: 98%

$$\text{Amount of Control} = (7,174 \text{ lb/yr})(0.98) = 7,031 \text{ lb/yr}$$

Cost of Control:

$$(\$77,716/\text{yr}) / [(7,031/2,000) \text{ tons/yr}] = \$22,107/\text{ton}$$

The cost of VOC control utilizing a thermal oxidizer would exceed the District's \$17,500 per ton of reductions cost effectiveness threshold. Therefore, a thermal oxidizer will be removed from consideration at this time.

Note: The costs considered are only a partial list of the actual costs that would be incurred should such an emission control device be required. Examples of the items not included are oxidizer maintenance and the required initial and periodic source testing.

Cost Effectiveness – Carbon Adsorption w/ 95% capture and control:

Initial Costs (from Calgon Corporation):

Carbon System:	\$11,710
Installation:	\$10,000
Total	\$21,710

Total annualized cost:

$$A = [P(i)(1+i)^n] / [(1+i)^n - 1] \text{ where:}$$

- A: Equivalent annual capital cost of the control equipment
- P: Present value of the control equipment, including installation
- i: Interest rate (District policy is to use 10%)
- n: Equipment life (District policy is to use 10 years)

$$A = [\$21,710(0.1)(1+0.1)^{10}] / [(1+0.1)^{10} - 1] = \$3,533/\text{yr}$$

Annual Operating Costs (unless otherwise stated, from Calgon Corp):

Carbon (7,500 lb/yr @ \$2.08/lb):	\$30,368/yr
Service (8/yr @ \$5,000 each):	\$40,000/yr
Total	\$55,600/yr

Electricity Costs:

Power Requirement:	5 kW
Cost of Electricity:	\$0.08/kw-hr

$$\text{Electricity Cost} = (5 \text{ kW})(\$0.08/\text{kW-hr})(8,760 \text{ hr/yr}) = \$3,504/\text{yr}$$

Total Cost:

$$\$3,533/\text{yr} + \$55,600/\text{yr} + \$3,504/\text{yr} = \$62,637/\text{yr}$$

Amount of Control:

District Standard Emissions:	7,174 lb/yr
Capture and Control:	95%

$$\text{Amount of Control} = (7,174 \text{ lb/yr})(0.95) = 6,815 \text{ lb/yr}$$

Cost of Control:

$$(\$62,737/\text{yr}) / [(6,815/2,000) \text{ tons/yr}] = \$18,382/\text{ton}$$

The cost of VOC control utilizing a carbon adsorption system would exceed the District's \$17,500 per ton of reductions cost effectiveness threshold. Therefore, a thermal oxidizer will be removed from consideration at this time.

Cost Effectiveness – Materials that meet option 3 VOC content levels:

This control option is categorized as Achieved-in-Practice and is therefore required regardless of cost. A cost analysis is not necessary.

Step 5 – Select BACT

BACT will be the highest ranked control measure that remains under consideration after Step 4 (Cost Effectiveness Analysis). That control option is the use of inks and fountain solutions that meet the following:

- Inks with less than 5% by weight VOC for non-high-end graphics
- Inks with less than 30% by weight VOC for high-end graphics

Fountain solutions with less than 5.0% VOC by volume for coldest web offset lithographic presses and sheet-fed offset lithographic presses with maximum sheet size of greater than 11 x 17 inches (the applicant states that this applies to the proposed press).

**Appendix D:
Title V Modification – Compliance Certification Form**



**San Joaquin Valley
Unified Air Pollution Control District**

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TITLE V MODIFICATION- COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- SIGNIFICANT PERMIT MODIFICATION ADMINISTRATIVE AMENDMENT
 MINOR PERMIT MODIFICATION

COMPANY NAME: Pacific Southwest Container L.L.C.	FACILITY ID: N-3606
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: Pacific Southwest Container L.L.C.	
3. Agent to the Owner: "Mac" McCullough	

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

- Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).
- Based on information and belief formed after reasonable inquiry, the equipment 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 ~~do~~ declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Lyndelle J. McCullough
Signature of Responsible Official

May 12th, 2014
Date

"Mac" McCullough
Name of Responsible Official (please print)

Sr. Vice President- Quality & Environmental Management
Title of Responsible Official (please print)