



SEP 18 2012

Feije Slauerhoff
G-3 Enterprises
2612 Crows Landing Road
Modesto, CA 95358

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: N-1121433

Dear Mr. Slauerhoff:

Enclosed for your review and comment is the District's analysis of G-3 Enterprises's application for an Authority to Construct for the installation of a printing press and drying oven served by a regenerative thermal oxidizer, at 2612 Crows Landing Road in Modesto, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

Thank you for your cooperation in this matter. If you have any questions regarding this matter, please contact Mr. Mark Schonhoff of Permit Services at (209) 557-6448.

Sincerely,



David Warner
Director of Permit Services

DW:MJS/st

Enclosures

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
Tel: (559) 230-6000 FAX: (559) 230-6061

Southern Region
34946 Flyover Court
Bakersfield, CA 93308-9725
Tel: 661-392-5500 FAX: 661-392-5585



SEP 18 2012

Gerardo C. Rios (AIR 3)
Chief, Permits Office
Air Division
U.S. E.P.A. - Region IX
75 Hawthorne Street
San Francisco, CA 94105

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: N-1121433

Dear Mr. Rios:

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SEP 18 2012

Mike Tollstrup, Chief
Project Assessment Branch
Stationary Source Division
California Air Resources Board
PO Box 2815
Sacramento, CA 95812-2815

Re: Notice of Preliminary Decision - Authority to Construct
Project Number: N-1121433

Dear Mr. Tollstrup:

Enclosed for your review and comment is the District's analysis of G-3 Enterprises's application for an Authority to Construct for the installation of a printing press and drying oven served by a regenerative thermal oxidizer, at 2612 Crows Landing Road in Modesto, CA.

The notice of preliminary decision for this project will be published approximately three days from the date of this letter. Please submit your written comments on this project within the 30-day public comment period which begins on the date of publication of the public notice.

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Modesto Bee
Modesto Bee

**NOTICE OF PRELIMINARY DECISION
FOR THE PROPOSED ISSUANCE OF
AN AUTHORITY TO CONSTRUCT**

NOTICE IS HEREBY GIVEN that the San Joaquin Valley Unified Air Pollution Control District solicits public comment on the proposed issuance of Authority to Construct to G-3 Enterprises for the installation of a printing press and drying oven served by a regenerative thermal oxidizer, at 2612 Crows Landing Road in Modesto, CA.

The analysis of the regulatory basis for this proposed action, Project #N-1121433, is available for public inspection at http://www.valleyair.org/notices/public_notices_idx.htm and the District office at the address below. Written comments on this project must be submitted within 30 days of the publication date of this notice to **DAVID WARNER, DIRECTOR OF PERMIT SERVICES, SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT, 4800 ENTERPRISE WAY, MODESTO, CA 95356.**

Authority to Construct Application Review

Facility Name: G-3 Enterprises Date: August 31, 2012

Mailing Address: 2612 Crows Landing Road
Modesto, CA 95358

Contact Person: Mr. Feije Slauerhoff
Telephone: (209) 341-3082

Engineer: Mark Schonhoff
Application #: N-3309-24-0
Project #: N-1121433

Deemed Complete: January 30, 2012

I. Proposal

G-3 Enterprises has proposed to receive an Authority to Construct Permit authorizing the installation of a printing press and a drier that will be served by a regenerative thermal oxidizer (RTO). The facility currently operates under a combined VOC emission limit of 35,933 lb/yr and is proposing to permit the new press separately from that limit.

II. Applicable Rules

2201 New and Modified Stationary Source Review Rule (4/21/11)
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)
California Environmental Quality Act (CEQA)
CH&SC 41700
CH&SC 42301.6

III. Project Location

2612 Crows Landing Road
Modesto, CA

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

IV. Process Description

The substrate will enter the press and will travel sequentially through six application stations where inks and coatings will be applied utilizing gravure type printing. From the press, the material will enter a 2.5 MMBtu/hr natural gas fired oven for drying. The press and the drier will be inside of an enclosure that will be vented to a 5 MMBtu/hr RTO.

V. Equipment Listing

N-3309-24-0:

GRAPHIC ARTS PRINTING OPERATION SERVED BY A 6-COLOR CMR MODEL RG101 500/6 GRAVURE TYPE PRINTING PRESS AND A 2.5 MMBTU/HR NATURAL GAS FIRED DRYING OVEN. THE PRESS AND THE DRYING OVEN ARE INSIDE OF AN ENCLOSURE THAT IS VENTED TO A 5 MMBTU/HR REGENERATIVE THERMAL OXIDIZER.

VI. Emission Control Technology Evaluation

The emission units (printing press and the drier) will be enclosed and the enclosure will be vented to an RTO that will oxidize VOCs. The VOC capture and control efficiency will be at least 98% by weight.

VII. General Calculations

A. Assumptions

Assumptions will be stated as they are made.

B. Emission Factors

Printing Press:

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

Drier Combustion and Thermal Oxidizer Combustion:

The oven emissions will be into the enclosure and the enclosure will be vented to the RTO. Therefore, 98% control of the oven VOC emissions (including the VOC's of combustion are expected). The NOx, CO, SOx and PM10 emissions are expected to be the same for each unit.

NOx: 0.1 lb/MMBtu (AP-42, table 1.4-1)
CO: 0.084 lb/MMBtu (AP-42, table 1.4-1)
VOC (uncontrolled): 0.0055 lb/MMBtu (AP-42, table 1.4-2)
 VOC (RTO combustion): 0.0055 lb/MMBtu
 VOC (Oven Combustion): (0.0055 lb/MMBtu)(1-0.98) = 0.00011 lb/MMBtu
SOx: 0.00285 lb/MMBtu (District Policy APR-1720)
PM10: 0.0076 lb/MMBtu (AP-42, table 1.4-2)

C. Potential to Emit (PE)

Printing Press:

Material ID	Usage (gal/day)	Usage (gal/yr)	VOC Content (lb/gal)
Wikoff Ink	160	40,000	6.25
Wikoff Metallic Ink	67	16,750	6.31
Wikoff Coating	440	110,000	6.32
Isopropyl Acetate	357	89,100	7.25

The press will be enclosed and vented to the proposed thermal oxidizer. Per the applicant, the enclosure/oxidizer will provide at least 98% VOC capture and control.

$$\begin{aligned} PE_{VOC} \text{ (daily)} &= [(160 \text{ gal/day})(6.25 \text{ lb VOC/gal}) \\ &\quad + (67 \text{ gal/day})(6.31 \text{ lb VOC/gal}) \\ &\quad + (440 \text{ gal/day})(6.32 \text{ lb VOC/gal}) \\ &\quad + (357 \text{ gal/day})(7.25 \text{ lb/gal})](1-0.98) \\ &= 135.8 \text{ lb/day} \end{aligned}$$

$$\begin{aligned} PE_{VOC} \text{ (annual)} &= [(40,000 \text{ gal/yr})(6.25 \text{ lb VOC/gal}) \\ &\quad + (16,750 \text{ gal/yr})(6.31 \text{ lb VOC/gal}) \\ &\quad + (110,000 \text{ gal/yr})(6.32 \text{ lb VOC/gal}) \\ &\quad + (89,100 \text{ gal/day})(7.25 \text{ lb/gal})](1-0.98) \\ &= 33,937 \text{ lb/yr} \end{aligned}$$

Drier:

$$\text{NOx} = (2.5 \text{ MMBtu/hr})(24 \text{ hr/day})(0.1 \text{ lb/MMBtu}) = 6.0 \text{ lb/day}$$
$$\text{NOx} = (2.5 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(0.1 \text{ lb/MMBtu}) = 2,190 \text{ lb/day}$$

$$\text{CO} = (2.5 \text{ MMBtu/hr})(24 \text{ hr/day})(0.084 \text{ lb/MMBtu}) = 5.0 \text{ lb/day}$$
$$\text{CO} = (2.5 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(0.084 \text{ lb/MMBtu}) = 1,840 \text{ lb/yr}$$

$$\text{VOC} = (2.5 \text{ MMBtu/hr})(24 \text{ hr/day})(0.00011 \text{ lb/MMBtu}) = 0.0 \text{ lb/day}$$
$$\text{VOC} = (2.5 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(0.00011 \text{ lb/MMBtu}) = 2 \text{ lb/yr}$$

The VOC emissions were calculated to be 0.007 lb/day and were rounded to zero per District Policy APR-1105.

$$\text{SOx} = (2.5 \text{ MMBtu/hr})(24 \text{ hr/day})(0.00285 \text{ lb/MMBtu}) = 0.2 \text{ lb/day}$$
$$\text{SOx} = (2.5 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(0.00285 \text{ lb/MMBtu}) = 62 \text{ lb/yr}$$

$$\text{PM}_{10} = (2.5 \text{ MMBtu/hr})(24 \text{ hr/day})(0.0076 \text{ lb/MMBtu}) = 0.5 \text{ lb/day}$$
$$\text{PM}_{10} = (2.5 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(0.0076 \text{ lb/MMBtu}) = 166 \text{ lb/day}$$

Thermal Oxidizer:

$$\text{NOx} = (5.0 \text{ MMBtu/hr})(24 \text{ hr/day})(0.1 \text{ lb/MMBtu}) = 12.0 \text{ lb/day}$$
$$\text{NOx} = (5.0 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(0.1 \text{ lb/MMBtu}) = 4,380 \text{ lb/day}$$

$$\text{CO} = (5.0 \text{ MMBtu/hr})(24 \text{ hr/day})(0.084 \text{ lb/MMBtu}) = 10.1 \text{ lb/day}$$
$$\text{CO} = (5.0 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(0.084 \text{ lb/MMBtu}) = 3,679 \text{ lb/yr}$$

$$\text{VOC} = (5.0 \text{ MMBtu/hr})(24 \text{ hr/day})(0.0055 \text{ lb/MMBtu}) = 0.7 \text{ lb/yr}$$
$$\text{VOC} = (5.0 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(0.0055 \text{ lb/MMBtu}) = 241 \text{ lb/yr}$$

$$\text{SOx} = (5.0 \text{ MMBtu/hr})(24 \text{ hr/day})(0.00285 \text{ lb/MMBtu}) = 0.3 \text{ lb/day}$$
$$\text{SOx} = (5.0 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(0.00285 \text{ lb/MMBtu}) = 125 \text{ lb/yr}$$

$$\text{PM}_{10} = (5.0 \text{ MMBtu/hr})(24 \text{ hr/day})(0.0076 \text{ lb/MMBtu}) = 0.9 \text{ lb/day}$$
$$\text{PM}_{10} = (5.0 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(0.0076 \text{ lb/MMBtu}) = 333 \text{ lb/day}$$

Total Emissions:

Pollutant	Potential to Emit (lb/day)			
	Printing Press	Drier	Thermal Oxidizer	Total
NOx	0	6.0	12.0	18.0
CO	0	5.0	10.1	15.1
VOC	135.8	0.0	0.7	136.5
SOx	0	0.2	0.3	0.5
PM10	0	0.5	0.9	1.4

Pollutant	Potential to Emit (lb/yr)			
	Printing Press	Drier	Thermal Oxidizer	Total
NOx	0	2,190	4,380	6,570
CO	0	1,840	3,679	5,519
VOC	33,937	2	241	34,180
SOx	0	62	125	187
PM10	0	166	333	499

D. Increase in Permitted Emissions (IPE)

1. Quarterly IPE

$$IPE_{NOx} = (6,570 \text{ lb/yr}) / (4 \text{ qtr/yr}) = 1,642.5 \text{ lb/qtr}$$

$$IPE_{CO} = (5,519 \text{ lb/yr}) / (4 \text{ qtr/yr}) = 1,379.75 \text{ lb/qtr}$$

$$IPE_{VOC} = (34,180 \text{ lb/yr}) / (4 \text{ qtr/yr}) = 8,545 \text{ lb/qtr}$$

$$IPE_{SOx} = (187 \text{ lb/yr}) / (4 \text{ qtr/yr}) = 46.75 \text{ lb/qtr}$$

$$IPE_{PM10} = (499 \text{ lb/yr}) / (4 \text{ qtr/yr}) = 124.75 \text{ lb/qtr}$$

The emission profile will include the following:

	NOx (lb)	SOx (lb)	PM10 (lb)	CO(lb)	VOC (lb)
Annual PE	6,570	187	499	5,519	34,180
Daily PE	18.0	0.5	1.4	15.1	136.5
Δ PE (Qtr 1)	1,642	46	124	1,379	8,545
Δ PE (Qtr 2)	1,642	47	125	1,380	8,545
Δ PE (Qtr 3)	1,643	47	125	1,380	8,545
Δ PE (Qtr 4)	1,643	47	125	1,380	8,545

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 units currently under consideration are 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-1113445.

SSPE1 (lb/yr)					
	NOx	CO	VOC	SOx	PM10
N-3309-1-2	0	0	35,933	0	0
N-3309-14-0	0	0		0	0
N-3309-20-0	0	0		0	0
N-3309-21-0	0	0		0	0
N-3309-22-0	0	0		0	0
N-3309-23-0	0	0		0	0
N-3309-17-0	862	186	70	10	61
ERC	0	0	0	0	0
Total	862	186	36,003	10	61

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

SSPE2 (lb/yr)					
	NOx	CO	VOC	SOx	PM10
N-3309-1-2	0	0	35,933	0	0
N-3309-14-0	0	0		0	0
N-3309-20-0	0	0		0	0
N-3309-21-0	0	0		0	0
N-3309-22-0	0	0		0	0
N-3309-23-0	0	0		0	0
N-3309-17-0	862	186	70	10	61
N-3309-24-0	6,570	5,519	34,180	187	499
ERC	0	0	0	0	0
Total	7,432	5,705	70,183	197	560

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	7,432	862	6,570
CO	5,705	186	5,519
VOC	70,183	36,003	34,180
SOx	197	10	187
PM10	560	61	499

4. Baseline Emissions

The proposed equipment is new and will not be included in the current SLC for VOC. Therefore, the Baseline Emissions are zero for all pollutants.

F. Major Source Determination

Per Section 3.24 of District rule 2201, the Major Source thresholds are as follows:

Pollutant	Threshold [lb/yr]
NOx	20,000
CO	200,000
VOC	20,000
SOx	140,000
PM10	140,000

Post-modification Potential to Emit:

Since no emission reduction credits have been generated at this facility, the post-modification potential to emit is equivalent to the SSPE2.

Pollutant	Potential to Emit [lb/yr]	Major Source
NOx	7,432	No
CO	5,705	No
VOC	70,183	Yes
SOx	197	No
PM10	560	No

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 facility is a Major Source only for 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 facility is a Major Source only for VOC, therefore, only VOC will be addressed.

Pollutant	Threshold (lb/yr)
VOC	0

$$NEI = PE - BAE$$

Where: PE is the potential to emit (34,180 lb/yr – section VII.C.1 of this document)
BAE is zero for new units

$$NEI = 34,180 \text{ lb/yr} - 0 \text{ lb/yr} = 34,180 \text{ lb/yr}$$

As can be seen, the NEI of VOC is in excess of its 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.

Pollutant	SSPE2 (lb/yr)	PE (lb/day)		BACT Required
		Printing press	Drier	
NOx	N/A	0	6.0	Yes – Drier
CO	< 200,000 lb	0	5.0	No
VOC	N/A	135.8	0.0	Yes – Printing Press
SOx	N/A	0	0.2	No
PM10	N/A	0	0.5	No

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.

The units are new, therefore, this BACT trigger does not apply.

Major Modifications:

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

The proposed permitting action is a Federal Major Modification for VOC, therefore, BACT is required for the VOC emissions from each emission unit with VOC emissions.

Printing Press:

The printing press will have VOC emissions, therefore, BACT is required for the VOC emissions from the printing press.

Drier:

The VOC emissions were calculated in accordance with District policy APR-1105 and were determined to be zero. Therefore, BACT is not required for the VOC

emissions from the drier. Refer to section VII.C of this document for detailed VOC emission calculations.

Thermal Oxidizer:

BACT can be required only for emission units. The thermal oxidizer is a control device (as opposed to an emission unit) and it is therefore not subject to BACT.

Applicability:

As shown above, BACT is required for the VOC emissions from the printing press and for the NOx emissions from the drier.

2. BACT Analysis

As shown in the Top-Down BACT analyses that are in Appendix C of this document, BACT is:

Printing Press (BACT required for VOC):

BACT will be VOC capture and control with the use of a thermal oxidizer.

Drier (BACT required for NOx):

BACT will be the use of natural gas fuel.

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	7,432	No
CO	5,705	No
VOC	70,183	Yes
SOx	197	No
PM10	560	No

2. Quantity of Offsets Required

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 units currently under consideration fall into this category. The Baseline Emissions are from section VII.E.4 of this document and the Potential to Emit is from section VII.C.

BE (new & modified units): 0 lb/yr
PE (new & modified units): 34,180 lb/yr

Offset = 34,180 lb/yr – 0 lb/yr = 34,180 lb/yr

As shown in Appendix E of this document, the applicant has proposed offsets in quantities sufficient to satisfy this requirement.

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 of this document, the PE of VOC from the printing press will be greater than 100 pounds per day. Therefore a notice is 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 VOC will be in excess of 20,000 lb/yr, therefore, an SSIPE notification is required.

2. Public Notice

As shown above, a public notification is required because the potential to emit of the new printing press will exceed 100 lb/day, the permitting action is a Federal Major Modification and the SSIPE of VOC will exceed 20,000 pounds per year.

D. DAILY EMISSION LIMITS

The VOC emissions due to the use of graphic arts materials shall not exceed 135.8 pounds during anyone day.

The NOx emissions from the drier shall not exceed 0.1 lb/MMBtu.

The CO emissions from the drier shall not exceed 0.084 lb/MMBtu.

The VOC emissions from the drier shall not exceed 0.00011 lb/MMBtu.

The SOx emissions from the drier shall not exceed 0.00285 lb/MMBtu.

The PM10 emissions from the drier shall not exceed 0.0076 lb/MMBtu.

The NOx emissions from the thermal oxidizer shall not exceed 0.1 lb/MMBtu.

The CO emissions from the thermal oxidizer shall not exceed 0.084 lb/MMBtu.

The VOC emissions from the thermal oxidizer shall not exceed 0.0055 lb/MMBtu.

The SOx emissions from the thermal oxidizer shall not exceed 0.00285 lb/MMBtu.

The PM10 emissions from the thermal oxidizer shall not exceed 0.0076 lb/MMBtu.

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 required analysis was conducted by the Technical Services Division of the SJVAPCD and as shown in the AAQA included in Appendix B of this document, the addition of the proposed equipment will not cause, or make worse a violation of an ambient air quality standard

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 is not 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. G-3 Enterprises consists of a closure division (facility ID 2028) and the facility undergoing this modification (label division, facility ID N-3309). The closure division is not a Major Source for any pollutant and the label division is in compliance with all applicable emission limitations and standards.

H. Compliance Assurance

1. Source Testing

The emission units will be enclosed and vented to a thermal oxidizer for VOC control. To ensure that the 98% capture and control assumption being made is valid, start-up source testing to determine capture and control efficiency will be required. In accordance with District policy APR-1705 (Source Testing Frequency), annual VOC destruction testing will be required.

2. Monitoring

Monitoring of key operating parameters of the thermal oxidizer is required by District Rule 4607. Refer to section VIII (Rule 4607 Compliance) for a complete discussion of the basis for those monitoring requirements.

In summary, the facility will operate a VOC emission control system (thermal oxidizer) that will comply with Rule 4607 (Graphic Arts). Per Rule 4607, key operating parameters of the control system must be monitored and recorded to indicate compliance with the control efficiency requirements. To enforce this monitoring requirement, the following condition will be included on the ATC and the PTO.

The thermal oxidizer shall be equipped with a device that continuously monitors and records the temperature of the combustion chamber.

3. Record Keeping

To ensure compliance with the VOC emission limits of this permit, the records necessary to determine the uncontrolled graphic arts material VOC emissions and of the VOC capture and control efficiency will be required.

Records are also required by District Rule 4607. Refer to section VIII (Rule 4607 Compliance) for a discussion of those record keeping requirements.

4. Reporting

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

Rule 2520 Federally Mandated Operating Permits

The facility does not yet have a Title V permit, therefore, no discussion of this rule is necessary.

Rule 4001 New Source Performance Standards

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

This subpart applies to publication rotogravure printing. The facility will be printing labels and therefore will not engage in printing activities that meet the definition of Publication Rotogravure Printing. The definition is shown below for reference.

Publication rotogravure printing press means any number of rotogravure printing units capable of printing simultaneously on the same continuous web or substrate and includes any associated device for continuously cutting and folding the printed web, where the following saleable paper products are printed:

Catalogues, including mail order and premium,

Direct mail advertisements, including circulars, letters, pamphlets, cards, and printed envelopes,

Display advertisements, including general posters, outdoor advertisements, car cards, window posters; counter and floor displays; point-of-purchase, and other printed display material,

Magazines,

Miscellaneous advertisements, including brochures, pamphlets, catalogue sheets, circular folders, announcements, package inserts, book jackets, market circulars, magazine inserts, and shopping news,

Newspapers, magazine and comic supplements for newspapers, and preprinted newspaper inserts, including hi-fi and spectacolor rolls and sections,

Periodicals, and

Telephone and other directories, including business reference services.

Rule 4002 National Emission Standards for Hazardous Air Pollutants

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

As shown in Appendix D of this document, the potential HAP emissions, without consideration of emission controls, are less than the major HAP source thresholds. Those thresholds are 10 tons per year of any single HAP or 25 tons/yr of combined HAPs. Therefore, the use of HAPs is less than the thresholds. Per sections 63.820(a)(2)(i), 63.820(a)(2)(ii) and 63.820(3), the facility is an Area Source of HAPs and is subject only to sections 63.829(d) and 63.830(b)(1).

Section 63.829(d):

This section requires that the facility keep the records necessary to show that the use of HAPs are less than the major HAP source thresholds. The records are to be kept on a monthly basis. The ATC and the PTO will include the necessary record keeping conditions.

Section 63.830(b)(1):

This section requires that an initial notification be performed in accordance with section 63.9. Per section 63.9 (b)(i), the notification is required when a source becomes subject to a relevant standard. Prior to increasing emissions such that the facility would become subject to a standard, an Authority-to-Construct permit would be required. Per section 63.9(b)(iii), the Authority-to-Construct application submitted would satisfy the initial notification requirements.

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 included in Appendix B of this document, the acute and chronic hazard indices were shown to be 0.0120 and 0.0000129 respectively and the cancer risk was shown to be 0.000638 in one million. 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

Per section 2.0, this rule is applicable to graphic arts printing operations, digital printing operations, paper, film, foil, or fabric coating operations and to the organic solvent cleaning materials and processes associated with such operations. The printing operation is a graphic arts operation, and this rule therefore 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.

Section 5.1 (VOC Content Limits):

As shown below, materials that do not comply with the VOC content limits of this section are proposed. However, the facility has proposed the use of an emission control system that will meet the requirements of section 5.6. Therefore, compliance with the VOC content limits of section 5.1 is not necessary.

VOC Content Limits			
Material	VOC Content Limit (reference)	VOC Content of Proposed Materials	Compliant
	Less Water and Exempt Compounds		
Wikoff Ink	2.5 lb/gal (Rule 4607, section 5.1, table 1)	6.26 lb/gal	No
Wikoff Metallic Ink	2.5 lb/gal (Rule 4607, section 5.1, table 1)	6.32 lb/gal	No
Wikoff Coating	2.2 lb/gal (Rule 4607, section 5.5, table 5)	6.33 lb/gal	No
Isopropyl Acetate Solvent	0.21 lb/gal (Rule 4607, section 5.8, table 7.D.4.1)	7.25 lb/gal	No

Section 5.2 (Requirements for Flexographic Specialty Inks):

Flexographic printing will not be performed, therefore, the requirements of this section do not apply.

Section 5.3 (Requirements for Coldset Web Offset Lithographic Fountain Solutions):

Coldset web offset lithographic printing will not be performed, therefore, the requirements of this section do not apply.

Section 5.4 (Requirements for Screen Printing Operations):

Screen printing will not be performed, therefore, the requirements of this section do not apply.

Section 5.5 (Requirements for Paper, Film or Fabric Coating Operations):

The facility has proposed the use of a VOC emission control system that will meet the requirements of section 5.6. Per section 5.6, such operations are exempt from this section.

Section 5.6 (VOC Emission Control Systems):

Per section 5.6.2, in lieu of complying with sections 5.1, 5.2, 5.3, 5.4, 5.5, 5.7 and 5.8 of this rule (including the above listed VOC content limits), a facility may utilize a VOC control system that meets the VOC capture and control level specified in section 5.6.2. Per the applicant, the applicable table 6 category is "Flexible Package Printing". Therefore, the minimum capture and control requirement is 80%. However, section 5.6.2.4 states that the VOC control system must reduce the VOC emissions, at all times to a level not greater than the emissions that would have been achieved through the use of compliant coatings. The calculation method for making this determination is in section 6.4.7.4 of this rule. As shown in that section, to make the necessary finding, a capture and control efficiency of 96.6% must be met (see calculation below). Per the applicant, the system will provide at least 98% VOC capture and control. Therefore, compliance with the above listed sections (as applicable) is expected.

Section 6.4.7.4 specifies the calculation method to be used to determine the overall capture and control efficiency of an emission control system.

$$CE = \left[1 - \left(\frac{VOC_{LWC}}{VOC_{LWn,Max}} \times \frac{1 - (VOC_{LWn,Max} / D_{n,Max})}{1 - (VOC_{LWC} / D_c)} \right) \right] \times 100$$

Where:

CE is the minimum required overall capture and control efficiency (percent)

VOC_{LWC} is the VOC content limit, less water and exempt compounds (2.5 lb/gal)

VOC_{LWn, Max} is the VOC content of the proposed noncompliant ink (6.33 lb/gal, worst case material)

$D_{n, \text{Max}}$ is the density of solvent, reducer or thinner contained in the proposed noncompliant ink (assume methyl ethyl ketone, VOC = 6.71 lb/gal)

D_c is the density of corresponding solvent, reducer or thinner used in the compliant ink (defined in this rule as 880 g/l, 7.34 lb/gal)

$$CE = \left[1 - \left(\frac{2.5}{6.33} \times \frac{1 - (6.33/6.71)}{1 - (2.5/7.34)} \right) \right] \times 100 = 96.6\%$$

Section 5.7 (Coating Application Equipment):

This section specifies the type of material application methods that may be utilized. The use of a VOC emission control system that will meet the requirements of section 5.6. Per section 5.6, such operations are exempt from this section. For reference, it will be noted that the facility has proposed to utilize a roller type application method, which will comply with section 5.7.2.

Section 5.8 (Requirements for Organic Solvent Cleaning):

The facility has proposed the use of a VOC emission control system that will meet the requirements of section 5.6. Per section 5.6, such operations are exempt from this section.

Section 5.9 (Organic Solvent Disposal and Storage):

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.

Section 5.10 (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.

Section 6.0 (Administrative Requirements):

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 6.1.3 specifies the records to be kept in the event that noncompliant material will be used. The facility will be utilizing non-compliant inks with compliance with this rule being achieved through section 5.6 (Approved VOC Emission Control System. For such operations, the operator is required to record, on a daily basis, the type and amount of inks, coatings, adhesives, fountain solutions, wash primers and solvents used. The following condition will be placed on the ATC and the PTO.

The operator shall record, on a daily basis, the type and amount of all inks, coatings, fountain solutions, wash primers and solvents (including non-compliant cleaning solvents) used.

Section 6.1.5 specifies the records to be kept in the event that an emission control system will be utilized. The required records include daily records of key system operating parameters to demonstrate continuous operation and compliance of the VOC emission control system during emission-producing activities. To enforce this requirement, the following condition will be placed on the ATC and the PTO.

The combustion shall be at or above the temperature shown by the most recent source test to result in at least 98% VOC control at all times that emission-producing activities are being conducted.

The thermal oxidizer shall be equipped with a device that continuously monitors and records the temperature of the combustion chamber.

Section 6.4 specifies the test methods to be utilized to show compliance with the applicable capture and control requirements of the permit and District policy APR-1705 requires that the thermal oxidizer control efficiency be determined annually. No applicable rule or policy specifies the capture efficiency frequency, therefore, a one-time start-up determination will be required. To enforce the capture and control system requirements, the following conditions will be placed on the ATC and the PTO:

Source testing to determine the VOC capture efficiency and the VOC destruction efficiency of the thermal oxidizer shall be determined within 60 days after initial start-up.

Source testing to determine the VOC destruction efficiency of the thermal oxidizer shall be conducted annually.

VOC capture efficiency shall be determined utilizing EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR 51, Appendix M, Test Methods 204-204F as applicable.

The VOC control efficiency of the thermal oxidizer shall be determined using EPA Test Methods 2, 2A or 2D for measuring flow rates and EPA test Methods 25, 25A or 25B for measuring total gaseous organic concentrations at the inlet and outlet of the oxidizer. EPA method 18 or ARB Method 22 shall be used to determine the emissions of exempt compounds.

4661 Organic Solvents

This operation is subject to District Rule 4607 and is therefore exempt from this rule (per section 4.2.7)

4663 Organic Solvent Cleaning, Storage and Disposal

This operation is subject to District Rule 4607 and is therefore exempt from this rule (per section 4.3.6)

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.

Greenhouse Gas (GHG) Significance Determination

The applicant is proposing to relocate a 6-color gravure type printing press, a 2.5 MMBtu/hr natural gas fired ink drying oven, a 5 MMBtu/hr regenerative thermal oxidizer (RTO), and ink dispensing room from their facility in Ukiah, Mendocino County to their Modesto facility located in Ceres, Stanislaus County. The Ukiah facility will be permanently closed at the time the equipment is removed and reinstalled at the Modesto facility. 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 determined that no other agency has broader discretionary approval power over the project and that the District is the first agency to act on the project, therefore establishing the District as the Lead Agency for the project (CEQA Guidelines §15051(b)). The District's engineering evaluation of the project (this document) determined that compliance with District rules and permit conditions would reduce and mitigate the project's potential air quality impacts to less than significant.

The Applicant will surrender ERCs sufficient to offset operational VOC emissions as required by District NSR requirements. The following condition will be included in the Authority to Construct (ATC):

Prior to operating under this Authority to Construct, the following quantities of VOC shall be mitigated: 1st quarter: 8,545 pounds, second quarter: 8,545 pounds, 3rd quarter: 8,545 pounds and 4th quarter: 8,545 pounds. The offsets shall be provided at the ratio specified in Table 4-2 of District Rule 2201 (as amended on 4/21/2011). [District Rule 2201] N

The District prepared an Initial Study which demonstrates that through a combination of project design elements, and permit conditions, project specific environmental impacts will be less than significant. A Mitigated Negative declaration and Notice of intent to Adopt will be prepared and circulated for public review and comment pursuant to CCR §15072 et seq. The issuance of the Authority to Construct (ATC) constitutes the final decision to approve the project and will not be issued until the District has approved the final environmental document. Pursuant to CEQA Guidelines §15075 a Notice of Determination will be filed within five (5) days of the issuance of the ATC.

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 with the conditions on the attached draft Authority to Construct.

X. Billing Information

Permit #	Description	Fee Schedule
N-3309-24-0	7.5 MMBtu/hr	3020-2-G

Appendices

- Appendix A: Draft ATC
- Appendix B: RMR and Ambient Air Quality Analysis Summaries
- Appendix C: BACT Guidelines and BACT Analyses
- Appendix D: Major HAP Source Determination
- Appendix E: Offset Analysis

Appendix A

Draft ATC

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

ISSUANCE DATE: DRAFT

PERMIT NO: N-3309-24-0

LEGAL OWNER OR OPERATOR: G-3 ENTERPRISES, LABEL DIVISION
MAILING ADDRESS: 2612 CROWS LANDING RD
MODESTO, CA 95358-9400

LOCATION: 2612 CROWS LANDING RD
MODESTO, CA 95358-9400

EQUIPMENT DESCRIPTION:
GRAPHIC ARTS PRINTING OPERATION WITH A CMR RG101 500/6 6-COLOR GRAVURE PRINTING PRESS SERVED BY A CMM GROUP 08018 RTO-15000-M-95 REGENERATIVE THERMAL OXIDIZER

CONDITIONS

1. Prior to operating under this Authority to Construct, the following quantities of VOC shall be mitigated: 1st quarter: 8,545 pounds, second quarter: 8,545 pounds, 3rd quarter: 8,545 pounds and 4th quarter: 8,545 pounds. The offsets shall be provided at the ratio specified in Table 4-2 of District Rule 2201 (as amended on 4/21/2011). [District Rule 2201]
2. ERC Certificate S-3887-1 or a certificate split from that certificate shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District. Following the revisions, this Authority to Construct permit shall be reissued administratively to specify the new offsetting proposal. Original public noticing requirements shall be duplicated prior to the reissuance of this Authority to Construct Permit. [District Rule 2201]
3. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
4. {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]
5. {14} Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
6. All equipment shall be used in accordance with the manufacturer's instructions. [District Rule 4607]
7. The capture and control system shall provide at least 98% capture and control of the VOCs from the printing press and drier. [District Rules 2201 and 4607]

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

DAVID WARNER, Director of Permit Services

N-3309-24-0 : Aug 31 2012 10:15AM - BCHOCHOM : Joint Inspection NOT Required

8. The combustion chamber of the regenerative thermal oxidizer (RTO) shall be at or above the temperature required to provide at least 98% capture and control of the VOCs from the printing press and drying oven at all times that emission-producing activities are being conducted. That temperature shall be established during the initial source test. This condition shall be administratively modified to specify the minimum RTO temperature at the time this Authority-to-Construct permit is converted to a Permit-to-Operate. [District Rules 2201 and 4607]
9. The VOC emissions due to the use of graphic arts materials shall not exceed 135.8 pounds during anyone day. [District Rule 2201]
10. The VOC emissions shall not exceed 8,545 pounds during any one calendar quarter. [District Rule 2201]
11. The NO_x emissions from the drier shall not exceed 0.1 lb/MMBtu. [District Rule 2201]
12. The CO emissions from the drier shall not exceed 0.084 lb/MMBtu. [District Rule 2201]
13. The VOC emissions from the drier shall not exceed 0.00011 lb/MMBtu. [District Rule 2201]
14. The SO_x emissions from the drier shall not exceed 0.00285 lb/MMBtu. [District Rule 2201]
15. The PM₁₀ emissions from the drier shall not exceed 0.0076 lb/MMBtu. [District Rule 2201]
16. The NO_x emissions from the RTO shall not exceed 0.1 lb/MMBtu. [District Rule 2201]
17. The CO emissions from the RTO shall not exceed 0.084 lb/MMBtu. [District Rule 2201]
18. The VOC emissions from the RTO shall not exceed 0.0055 lb/MMBtu. [District Rule 2201]
19. The SO_x emissions from the RTO shall not exceed 0.00285 lb/MMBtu. [District Rule 2201]
20. The PM₁₀ emissions from the RTO shall not exceed 0.0076 lb/MMBtu. [District Rule 2201]
21. The RTO shall be equipped with a device that continuously monitors and records the temperature of the combustion chamber. The monitoring and recording device shall be in operation at all times that the RTO is in operation. [District Rules 2201 and 4607]
22. Source testing to determine the VOC capture efficiency and the VOC destruction efficiency of the RTO shall be determined within 60 days after initial start-up. [District Rules 2201 and 4607]
23. Source testing to determine the VOC destruction efficiency of the RTO shall be conducted annually. [District Rules 2201 and 4607]
24. {110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
25. VOC capture efficiency shall be determined utilizing EPA's "Guidelines for Determining Capture Efficiency," January 9, 1995 and 40 CFR 51, Appendix M, Test Methods 204-204F as applicable. [District Rule 4607]
26. The VOC control efficiency of the RTO shall be determined using EPA Test Methods 2, 2A or 2D for measuring flow rates and EPA test Methods 25, 25A or 25B for measuring total gaseous organic concentrations at the inlet and outlet of the oxidizer. EPA method 18 or ARB Method 22 shall be used to determine the emissions of exempt compounds. [District Rule 4607]
27. {33} Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081]
28. {109} Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]
29. All emissions measurements shall be made with the equipment operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. [District Rule 1081]
30. For emissions source testing, the arithmetic average of three 30-consecutive-minute test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rule 1081] Federally Enforceable Through Title V Permit

31. Permittee shall store and dispose of fresh or spent solvents, waste solvent cleaning materials, coatings, adhesives, catalysts, thinners, and inks in closed, non-absorbent, non-leaking containers. The containers shall remain closed at all times except when depositing or removing the contents of the containers or when the container is empty. [District Rule 4607]
32. The operator shall record, on a daily basis, the type and amount of all inks, coatings, fountain solutions, wash primers and solvents (including non-compliant cleaning solvents) used. [District Rules 2201 and 4607]
33. {3432} Permittee shall maintain a current file of coatings, inks, adhesives, fountain solutions, wash primers, and solvents in use and in storage. The file shall include material safety data sheet (MSDS) or product data sheet showing the material name, manufacturer's name, VOC content as applied, mixing instruction, and density. [District Rule 4607]
34. {1915} Permittee shall record on a monthly basis, the type and amount of each ink, coating, adhesive, fountain solution, wash primer, and solvent used. [District Rule 4607]
35. Permittee shall keep a record of the monthly emissions of hazardous air pollutants. [40 CFR Part 63.829(d)]
36. Permittee shall keep records of the RTO combustion chamber temperature. [District Rule 4607]
37. {1916} All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rule 4607]

DRAFT

Appendix B

RMR and Ambient Air Quality Analysis Summaries

San Joaquin Valley Air Pollution Control District Risk Management Review

To: Mark Schonhoff – Permit Services
From: Kou Thao – Technical Services
Date: 8-1-12
Facility Name: G-3 Enterprises
Location: 2612 Crows Landing Rd
Modesto, CA 95358
Application #(s): N-3309-24-0
Project #: N-1121433

A. RMR SUMMARY

RMR Summary			
Categories	Printing operation w/thermal oxidizer (Unit 24-0)	Project Totals	Facility Totals
Prioritization Score	>1	>1	>1
Acute Hazard Index	1.20E-02	1.20E-02	4.11E-01
Chronic Hazard Index	1.29E-05	1.29E-05	2.60E-01
Maximum Individual Cancer Risk (10 ⁻⁶)	6.38E-10	6.38E-10	6.38E-10
T-BACT Required?	No		
Special Permit Conditions?	No		

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 24-0

No special conditions are required.

B. RMR REPORT

I. Project Description

Technical Services received a request on July 25, 2012 to perform a Risk Management Review for a proposed installation of a graphic arts printing operation served by a thermal oxidizer.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. The MSDS sheets for the coatings used in the operation were reviewed by CAS# for Hazardous Air Pollutants (HAP's). The values were entered into the coating spreadsheet to calculate the HAP's emissions and inputted into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Modesto to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 24-0			
Source Type	Point	Location Type	Urban
Stack Height (m)	7.62	Closest Receptor (m)	30.48
Stack Diameter. (m)	0.76	Type of Receptor	Residential
Stack Exit Velocity (m/s)	8.27	Max Hours per Year	8760
Stack Exit Temp. (°K)	1033	Fuel Type	NG
Burner Rating (MMBtu/hr)	0.0075		

Technical Services performed modeling for criteria pollutants CO, NO_x, SO_x and PM₁₀; as well as a RMR. The emission rates used for criteria pollutant modeling were 0.63 lb/hr CO, 0.75 lb/hr NO_x, 0.021 lb/hr SO_x, and 0.057 lb/hr PM₁₀. The engineer supplied the maximum fuel rate for the IC engine used during the analysis.

The results from the Criteria Pollutant Modeling are as follows:

Criteria Pollutant Modeling Results*

Diesel ICE	1 Hour	3 Hours	8 Hours.	24 Hours	Annual
CO	Pass	X	Pass	X	X
NO _x	Pass ¹	X	X	X	Pass
SO _x	Pass	Pass	X	Pass	Pass
PM ₁₀	X	X	X	Pass	Pass
PM _{2.5}	X	X	X	Pass	Pass

*Results were taken from the attached PSD spreadsheet.

¹The project was compared to the 1-hour NO₂ National Ambient Air Quality Standard that became effective on April 12, 2010 using the District's approved procedures. ²The criteria pollutants are below EPA's level of significance as found in 40 CFR Part 51.165 (b)(2).

III. Conclusion

The acute and chronic indices are below 1.0 and the cancer risk factor associated with the project is less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

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.

The emissions from the proposed equipment will not cause or contribute significantly to a violation of the State and National AAQS.

IV. Attachments

- A. RMR request from the project engineer
- B. Additional information from the applicant/project engineer
- C. Toxic emissions summary
- D. AAQA summary
- E. Prioritization score
- F. 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=11&last Update=7 » 31 :](#)

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**Best Available Control Technology (BACT) Guideline 4.7.11
Last Update: 7/31/2000**

Rotogravure Printing Operation

Pollutant	Achieved in Practice or In the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	Inks with a VOC content of < 2.5 lb/gal (Less water and exempt compounds)	1. Inks with a VOC content of = or < 5% by weight (less water and exempt compounds.) 2. VOC capture and control with carbon adsorption. 3. VOC capture and control with thermal incineration.	

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](#).

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**Best Available Control Technology (BACT) Guideline 4.7.1
Last Update: 6/25/1999**

**Offset Lithographic Printing - Publication Printing, High-end Graphics,
Heatset using with a Drying Oven**

Pollutant	Achieved in Practice or in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	Natural gas fuel used in the drying oven	Catalytic Oxidation	
NOx	Natural gas fuel used in the drying oven		
VOC	Using low VOC fountain solutions and inks compliant with District Rule 4607 (Graphic Arts) (This control is achieved in practice only for facilities subject to Rule 4607.)	1. VOC capture and incineration using high-end graphics heatset inks with a VOC content < 45% by weight (less water and exempt compounds) and fountain solutions with a VOC content of < 15% by volume 2. VOC capture and carbon adsorption using high-end graphics heatset inks with a VOC content of < 45% by weight (less water and exempt compounds) and fountain solutions with a VOC content of < 15% by volume 3. Using low VOC fountain solutions and inks compliant with District Rule 4607 (Graphic Arts)	

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.

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As shown in section VIII (Rule 2201 Compliance) of this document, BACT is required for the VOC emissions from the printing press and for the NOx emissions from the drier.

Top-Down BACT Analysis for the Printing Press:

District BACT guideline 4.7.11 applies to the proposed equipment. Per District Policy APR-1305 (Best Available Control Technology Policy), information from that guideline will be utilized without further analysis.

Step 1: List Practically Applicable Control Options

1. Inks with a VOC content of less than 2.5 lb/gal (less water and exempt compounds)
2. Inks with a VOC content of less than or equal to 5% by weight (less water and exempt compounds)
3. VOC capture and control with carbon adsorption
4. VOC capture and control with thermal oxidation

Step 2: Eliminate Technologically Infeasible Control Options

None of the emission control options listed in step 1 is technologically infeasible.

Step 3: Rank Remaining Control Options

In order to properly rank the above listed control options, the amount of VOC control that would be provided by each option must be determined:

Inks with a VOC content of less than 2.5 lb/gal (less water and exempt compounds):

The VOC contents of the proposed materials (less water and exempt compounds) are:

Vinalfast Pro Yellow Ink:	6.25 lb/gal
Vinalfast 2.1 Ultra Silver Metallic Ink:	6.31 lb/gal
Vinalfast Glossy Caps OPV Coating:	6.01 lb/gal

As can be seen, the highest VOC content material is the Vinalfast 2.1 Ultra Silver Metallic Ink. The utilization of this ink in the amount-of-control calculation will ensure that the highest amount of control is considered:

$$CE_{2.5 \text{ lb/gal Ink}} = (6.31 \text{ lb/gal} - 2.5 \text{ lb/gal}) / 6.31 \text{ lb/gal} = 60.3\%$$

Inks with a VOC content of less than or equal to 5% by weight (less water and exempt compounds):

The VOC contents of the proposed materials (less water and exempt compounds) are:

Vinalfast Pro Yellow Ink: 81.5% by wt.
Vinalfast 2.1 Ultra Silver Metallic Ink: 79.8% by wt.
Vinalfast Glossy Caps OPV Coating: 73.5% by wt.

As can be seen, the highest VOC content material (on a weight basis) is the Vinalfast Pro Yellow Ink. The utilization of this ink in the amount-of-control calculation will ensure that the highest amount of control is considered:

$$CE_{5\% \text{ VOC Ink}} = (81.5\% \text{ VOC} - 5\% \text{ VOC}) / 81.5\% \text{ VOC} = 93.9\%$$

VOC capture and after control

$CE_{\text{Capture and Carbon Adsorption}}$: 95% (typical)

$CE_{\text{Capture and Thermal Oxidation}}$: 98% (typical)

Rank	Control Option	Category
1	VOC Capture and thermal Oxidation	Technologically Feasible
2	VOC capture and carbon adsorption	Technologically Feasible
3	Use of Inks with a VOC content of less than or equal to 5% by weight (less water and exempt compounds)	Technologically Feasible
4	Use of inks with a VOC content less than 2.5 lb/gal (less water and exempt compounds)	Achieved in Practice

Step 4: Cost Effectiveness Analysis

The applicant is proposing the highest ranked control option listed in Step 3. Therefore, a cost effectiveness analysis is not necessary.

Step 5: Select BACT

BACT will be VOC capture and control with the use of a thermal oxidizer. The applicant is proposing such a control system, therefore, BACT will be met.

Top-Down BACT Analysis for the Drier:

The drier portion of District BACT guideline 4.7.1 applies to the proposed drier. Per District Policy APR-1305 (Best Available Control Technology Policy), information from that guideline will be utilized without further analysis.

Step 1: List Practically Applicable Control Options

1. Natural gas fuel

Step 2: Eliminate Technologically Infeasible Control Options

The above listed control option is categorized as Achieved-in-Practice.

Step 3: Rank Remaining Control Options

1. Natural gas fuel

Step 4: Cost Effectiveness Analysis

The applicant is proposing the highest ranked control option listed in Step 3. Therefore, a cost effectiveness analysis is not necessary.

Step 5: Select BACT

BACT will be the use of natural gas fuel.

Appendix D

Major HAP Source Determination

Major HAP Source Determination:

The facility is subject to 40 CFR Part 63 Subpart KK (National Emission Standards for the Printing and Publishing Industry). The standards differ for Major and Area Sources of hazardous air pollutants, therefore, it is necessary to determine the facility's HAP Source status. The Major Source HAP Source thresholds are 10 tons/yr of any single HAP or combined HAP emissions of 25 tons/yr. If the HAP emissions are less than these thresholds then the facility is a non-Major HAP source (Area Source).

Per 40 CFR Part 63.2, a HAP is as defined in section 112(b) of the Federal Clean Air Act. Therefore, only the pollutants listed in section 112(b) will be considered.

N-3309-1-2 (Lithographic Printing Press) **N-3309-14-0 (Lithographic Printing Press)**

These units utilized the same materials, therefore, they will be evaluated together. Cobalt compounds and ethylene glycol, which are on the section 112(b) list of HAPS, are identified as being contained in this material.

Cobalt Compounds:

Cobalt Compounds are identified in the material safety data sheet (MSDS) as being an ingredient in the INX OSF Ink. This material is identified in the FCAA (section 112) list of HAP.

Cobalt Compound Content: 0.1 - 1% by wt.
Ink Specific Gravity: 1.62 (MSDS)

Usage (from the application review material for project N-1020655):

Unit N-3309-1:	3,802 gal/yr
Unit N-3309-14:	6,685 gal/yr
<u>Total</u>	<u>10,487 gal/yr</u>

$$PE_{\text{Cobalt Compounds}} = (10,487 \text{ gal/yr})(8.34 \times 1.62 \text{ lb/gal})(0.01) = 1,417 \text{ lb/yr}$$

Ethylene Glycol:

Ethylene Glycol is identified in the material safety data sheet (MSDS) as being an ingredient in the Fountain Concentrate 2451. This material is identified in the FCAA (section 112) list of HAP.

Ethylene Glycol Content: 1-10% by wt.

Material Specific Gravity: 1.1 (MSDS)

Usage (from the application review material for project N-1020655):

Unit N-3309-1: 250 gal/yr

Unit N-3309-14: 250 gal/yr

Total 500 gal/yr

$$PE_{\text{Cobalt Compounds}} = (500 \text{ gal/yr})(8.34 \times 1.1 \text{ lb/gal})(0.10) = 459 \text{ lb/yr}$$

N-3309-17 (278 BHP Diesel Fired Emergency Engine):

The fuel usage at the rated output is now known, therefore, it will be calculated utilizing the following assumptions and the permitted number of operating hours (100 hr/yr).

Brake Specific

Fuel Consumption: 7000 Btu/bhp-hr (AP-42 Table 3.3-1, 10/1996)

Heating Value of

Diesel: 140,000 Btu/gal

$$\text{Fuel Use} = (278 \text{ bhp})(7,000 \text{ Btu/bhp-hr})(\text{gal}/140,000 \text{ Btu})(100 \text{ hr/yr}) = 1,390 \text{ gal/yr}$$

Toxic Emissions (Emergency Diesel Fired IC Engines)		
Compound	Emission Factor (lb/10 ³ gal)	Potential to Emit (lb/yr)
Acenaphthene	0.000867	0.00121
Acenaphthylene	0.00132	0.00184
Acetaldehyde	0.00646	0.00898
Acrolein	0.00179	0.00249
Anthracene	0.000289	0.000402
Benzene	0.104	0.145
Benzo(a)anthracene	0.0000969	0.000135
Benzo(a)pyrene	0.0000477	0.000066
Dibenz(ah)anthracene	0.000280	0.000389
ethylbenzene	0.00803	0.0112
fluoranthene	0.000330	0.000459
fluorene	0.00124	0.00172
formaldehyde	0.176	0.245
Hexane	0.00147	0.00204
Indeno(1,2,3-cd)pyrene	0.000280	0.000389
Napthalene	0.0319	0.0443
phenanthrene	0.00648	0.00900
propylene	0.345	0.480
pyrene	0.000280	0.000389
toluene	0.111	0.154
Xylene (total)	0.0206	0.0286
Total	---	1.14

N-3309-20 (Flexographic Printing Press, UV Type Materials)
N-3309-21 (Flexographic Printing Press, UV Type Materials))

During the risk management review process for these applications, the following HAPs were identified:

Ethylene glycol monobutyl ether (CAS 111762)
Ethyl acrylate (CAS 140885)
Copper (CAS 7440508)

None of these pollutants is listed in the FCAA (section 112) list of HAPS. Therefore, for the purposes of this determination, the HAP emissions are zero.

N-3309-22-0 (Flexographic Printing Press, UV type materials)

Except for the clean-up solvent, the materials utilized in this operation are the same as for units N-3309-20-0 and N-3308-21-0. Therefore, only the solvent need be considered. The solvent contains the following ingredients:

Naxonate (CAS 1300727)
Nonyl phenol ethoxylate (CAS 26027383)
Dipropyl glycol monopropyl ether (CAS 29911271)
Sodium gluconate (CAS 527071)

None of these pollutants is listed in the FCAA (section 112) list of HAPS. Therefore, for the purposes of this determination, the HAP emissions are zero.

N-3309-23-0 (Printing Plate Manufacturing Operation):

During the processing of this application, a risk management review was conducted. The material utilized was found to contain no hazardous ingredients, therefore, the HAP emissions are zero.

N-3309-24 (Rotogravure Printing Press)

To determine the contribution of the drier and the thermal oxidizer to the facility-wide potential to emit of HAPS, the potential natural gas usage will be applied to the appropriate emission factor. The emissions factors are from the California Air Toxics Emission Factors (CATEF) database.

Drier Rating: 2.5 MMBtu/hr
 Thermal Oxidizer Rating: 5.0 MMBtu/hr
 Total 7.5 MMBtu/hr

Natural gas heat content: 1,000 Btu/scf

$$\text{Annual Fuel Usage} = (7.5 \text{ MMBtu/hr})(8,760 \text{ hr/yr})(\text{scf}/1000 \text{ Btu}) = 65.7 \text{ MMscf/yr}$$

Compound	Emission Factor (lb/MMscf)	Potential to Emit (lb/yr)
Acetaldehyde	0.00887	0.6
Benzene	0.00431	0.3
Formaldehyde	0.0221	1.5
Toluene	0.0034	0.2
Total	---	2.6

Ingredient	CAS #	HAP	Potential HAP (lb/yr)
Vinylfast Ink			
Isobutyl Acetate	110-19-0	No	0
Glycol Ether PM Acetate	108-65-6	No	0
n-Propyl Acetate	109-60-4	No	0
Vinylfast Glossy Coating			
Ethyl Acetate	141-78-6	No	0
Methyl Ethyl Ketone	78-93-3	No	0
Vinylfast Metallic Ink			
Ethyl Acetate	141-78-6	No	0
Elemental Aluminum	7429-90-5	No	0
n-propyl Acetate	109-60-4	No	0
Isopropyl Acetate	108-21-4	No	0
Solvent			
Isopropyl Acetate	108-21-4	No	0
Total HAP			0

As can be seen, the potential to emit of no single HAP will exceed 10 tons per year and the combined HAP emissions will not exceed 25 tons/yr. The facility is therefore not a Major Air Toxics Source.

Facility-Wide Potential to Emit of Hazardous Air Pollutants	
Compound	Potential to Emit (lb/yr)
Acenaphthene	0.00121
Acenaphthylene	0.00184
Acetaldehyde	0.609
Acrolein	0.00249
Anthracene	0.000402
Benzene	0.445
Benzo(a)anthracene	0.000135
Benzo(a)pyrene	0.000066
Dibenz(ah)anthracene	0.000389
ethylbenzene	0.0112
fluoranthene	0.000459
fluorene	0.00172
formaldehyde	1.75
Hexane	0.00204
Indeno(1,2,3-cd)pyrene	0.000389
Napthalene	0.0443
phenanthrene	0.00900
propylene	0.480
pyrene	0.000389
toluene	0.354
Xylene (total)	0.0286
Cobalt Compounds	1,417
Ethylene Glycol	459
Total	1,880

As can be seen, the potential HAP emissions are less than 10 tons per year each and 25 tons/yr combined. Therefore the facility is an Area Source of HAP emissions.

Appendix E

Offset Analysis



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Emission Reduction Credit Certificate S-3887-1

ISSUED TO: G3 ENTERPRISES
ISSUED DATE: August 27, 2012
LOCATION OF REDUCTION: 20807 STOCKDALE HIGHWAY
 BAKERSFIELD, CA (MAJOR SS)
 SECTION: NE06 TOWNSHIP: 30S RANGE: 26E

For VOC Reduction In The Amount Of:

Quarter 1	Quarter 2	Quarter 3	Quarter 4
13,000 lbs	13,000 lbs	13,000 lbs	13,000 lbs

Conditions Attached

Method Of Reduction

- Shutdown of Entire Stationary Source
- Shutdown of Emissions Units
- X Other

SHUTDOWN ENTIRE STATIONARY SOURCE

Use of these credits outside the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) is not allowed without express written authorization by the SJVUAPCD.

Seyed Sadredin, Executive Director / APCO

David Warner, Director of Permit Services

VOC Offset Quantity: 34,180 lb/yr (Section VIII, Rule 2201 Compliance)
(8,545 lb/qtr)

Liabilities will be identified as negative numbers and credits will be identified as positive numbers.

	Quarter 1	Quarter 2	Quarter 3	Quarter 4
Emissions Increase (lb)	-8,545	-8,545	-8,545	-8,545
Offset Ratio (> 15 miles)	1.5	1.5	1.5	1.5
Offset Liability (lb)	-12,817	-12,817	-12,818	-12,818
ERC S-3887-1 (lb)	13,000	13,000	13,000	13,000
Extra NOx (lb)	183	183	182	182

As can be seen, sufficient offsets will be submitted.