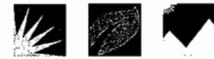




# San Joaquin Valley

AIR POLLUTION CONTROL DISTRICT



## HEALTHY AIR LIVING™

DEC 29 2009

Gerardo C. Rios, Chief  
Permits Office  
Air Division  
U.S. EPA - Region IX  
75 Hawthorne St  
San Francisco, CA 94105

Re: **Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)  
District Facility # N-1646  
Project # N-1093258**

Dear Mr. Rios:

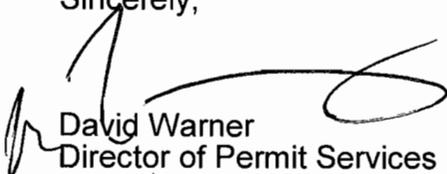
Enclosed for your review is the District's engineering evaluation of an application for Authorities to Construct for Quebec World, located at 2201 Cooper Avenue in Merced, CA, which has been issued a Title V permit. Quebec World is requesting that a Certificate of Conformity, with the procedural requirements of 40 CFR Part 70, be issued with this project. Modification of printing presses #507 (ATC Permit N-1646-24-4), #514 (ATC Permit N-1646-6-4), #515 (ATC Permit N-1646-7-4), #517 (ATC Permit N-1646-16-4), #519 (ATC Permit N-1646-23-4), #523 (ATC Permit N-1646-38-3), and #524 (ATC Permit N-1646-39-3) served by the facility shared regenerative thermal oxidizers (RTOs) to limit the NOx emission rate to 4.3 ppmv @ 19% O2 and the CO emission rate to 25 ppmv @ 19% O2 at the associated drying ovens and shared RTOs for Rule 4309 compliance. The application is also to increase the daily VOC emission limits on printing presses #514 and #517 to 69.1 lb/day and to increase the daily VOC emission limits on printing press #524 to 50 lb/day.

Enclosed is the engineering evaluation of this application, a copy of the current Title V permit, and proposed Authorities to Construct # N-1646-6-4, '-7-4, '16-4, '-23-4, '-24-4, '-39-3, '-38-3, and '-39-3 with Certificate of Conformity. After demonstrating compliance with the Authorities to Construct, the conditions will be incorporated into the facility's Title V permit through an administrative amendment.

Please submit your written comments on this project within the 45-day comment period that begins on the date you receive this letter. 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,



David Warner  
Director of Permit Services

DW: KC/cm

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



DEC 29 2009

Roger Ashlock  
Quebecor World  
2201 Cooper Avenue  
Merced, CA 95344

**Re: Proposed Authorities to Construct / Certificate of Conformity (Minor Mod)  
District Facility # N-1646  
Project # N-1093258**

Dear Mr. Ashlock:

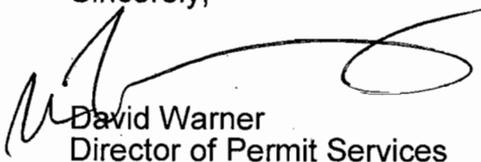
Enclosed for your review is the District's analysis of your application for Authorities to Construct for the facility identified above. You have requested that a Certificate of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. Modification of printing presses #507 (ATC Permit N-1646-24-4), #514 (ATC Permit N-1646-6-4), #515 (ATC Permit N-1646-7-4), #517 (ATC Permit N-1646-16-4), #519 (ATC Permit N-1646-23-4), #523 (ATC Permit N-1646-38-3), and #524 (ATC Permit N-1646-39-3) served by the facility shared regenerative thermal oxidizers (RTOs) to limit the NOx emission rate to 4.3 ppmv @ 19% O2 and the CO emission rate to 25 ppmv @ 19% O2 at the associated drying ovens and shared RTOs for Rule 4309 compliance. The application is also to increase the daily VOC emission limits on printing presses #514 and #517 to 69.1 lb/day and to increase the daily VOC emission limits on printing press #524 to 50 lb/day.

After addressing any EPA comments made during the 45-day comment period, the Authorities to Construct will be issued to the facility with a Certificate of Conformity. Prior to operating with modifications authorized by the Authorities 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. Rupl Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,



David Warner  
Director of Permit Services

DW: KC/cm

Enclosures

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**Authority to Construct (ATC)  
Application Review  
(Heatset Offset Lithographic Printing Operations  
served by Regenerative Thermal Oxidizers)**

**Date:** December 23, 2009

**Facility Name:** Quebecor World  
**Mailing Address:** 2201 Cooper Avenue  
Merced, CA 95348

**Contact Name:** Roger Ashlock  
**Phone:** (209) 384-0444, Ext. 288

**Engineer:** Kai Chan  
**Lead Engineer:** Nick Peirce  
**Project Number:** N-1093258  
**Permit Number:** N-1646-6-4, N-1646-7-4, N-1646-16-4, N-1646-23-4, N-1646-24-4,  
N-1646-38-3, and N-1646-39-3

**Deemed Complete:** August 19, 2009

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**I. Proposal:**

Quebecor World is requesting Authority to Construct (ATC) permits for the modification of the following permit units:

N-1646-6-4 & N-1646-16-4:

The applicant is proposing the following for heatset offset lithographic printing presses #513 (ATC Permit N-1646-6-4) and #517 (ATC Permit N-1646-16-4):

- (a). For each permit unit increase the daily VOC emissions limit from 20.0 lb/day to 69.1 lb/day without an increase to the current facility-wide VOC emissions limit of 235.6 lb/day.
- (b). Limit the NO<sub>x</sub> emissions rate to 4.3 ppmv @ 19% O<sub>2</sub> and the CO emissions rate to 25 ppmv @ 19% O<sub>2</sub> for the drying ovens and shared regenerative thermal oxidizers (RTOs) associated with these permit units. In addition, there will not be an increase to the current facility-wide NO<sub>x</sub> limit of 150 lb/day (excluding emissions from permit unit N-1646-34) due to this proposed project.
- (c). Retrofit the shared 18.0 MMBtu/hr Reeco Retherm Model E regenerative thermal oxidizer (RTO) with a Maxon or equivalent low NO<sub>x</sub> burner.
- (d). No physical changes to the associated printing presses and drying ovens due to this proposed project.

N-1646-7-4:

The applicant is proposing the following for heatset offset lithographic printing press #515 (ATC Permit N-1646-7-4):

- (a). Limit the NOx emissions rate to 4.3 ppmv @ 19% O<sub>2</sub> and the CO emissions rate to 25 ppmv @ 19% O<sub>2</sub> for the drying ovens and shared RTOs associated with this permit unit. In addition, there will not be an increase to the current facility-wide NOx limit of 150 lb/day (excluding emissions from permit unit N-1646-34) due to this proposed project.
- (b). Retrofit the shared 18.0 MMBtu/hr Reeco Retherm Model E RTO with a Maxon or equivalent low NOx burner.
- (c). No change to the current VOC emissions limit and no physical changes to the printing press and associated drying ovens due to this proposed project.

N-1646-23-4, N-1646-24-4, & N-1646-38-3:

The applicant is proposing the following for heatset offset lithographic printing presses #519 (ATC Permit N-1646-23-4), #507 (ATC Permit N-1646-24-4), and #523 (ATC Permit N-1646-38-3):

- (a). Limit the NOx emissions rate to 4.3 ppmv @ 19% O<sub>2</sub> and the CO emissions rate to 25 ppmv @ 19% O<sub>2</sub> for the drying ovens and shared RTOs associated with these permit units. In addition, there will not be an increase to the current facility-wide NOx limit of 150 lb/day (excluding emissions from permit unit N-1646-34) due to this proposed modification.
- (b). Retrofit the shared 18.0 MMBtu/hr Reeco Retherm Model E RTO with a Maxon or equivalent low NOx burner.
- (c). Utilize the shared RTOs to control the emissions from the drying ovens to comply with the NOx and CO limits of District Rule 4309 (Dryers, Dehydrators, and Ovens).
- (d). Utilize District pre-approved alternate monitoring scheme "A" per District policy SSP-3005, Section VI.A. (Periodic Monitoring of NOx, CO, and O<sub>2</sub> Concentrations) to comply with the alternative emissions monitoring requirements of District Rule 4309.
- (e). Include alternative emissions monitoring, source testing, and recordkeeping permit conditions to comply with the requirements of District Rule 4309.
- (f). No change to the current VOC emissions limit and no physical changes to the associated printing presses and drying ovens due to this proposed project.
- (g). No proposed change to the current heat input limit of 137.0 MMBtu/day and 50,000 MMBtu/yr for the drying ovens under permit unit N-1646-38 due to this proposed project.

N-1646-39-3:

The applicant is proposing the following for heatset offset lithographic printing press #524 (ATC Permit N-1646-39-3):

- (a). For this permit unit increase the daily VOC emissions limit from 17.0 lb/day to 50.0 lb/day without an increase to the current facility-wide VOC emissions limit of 235.6 lb/day.

- (b). Limit the NOx emissions rate to 4.3 ppmv @ 19% O<sub>2</sub> and the CO emissions rate to 25 ppmv @ 19% O<sub>2</sub> for the drying oven and shared regenerative thermal oxidizer (RTO) associated with this permit unit. In addition, there will not be an increase to the current facility-wide NOx limit of 150 lb/day (excluding emissions from permit unit N-1646-34) due to this proposed modification.
- (c). No physical changes to the printing press and associated drying oven due to this proposed project.
- (d). No proposed change to the current heat input limit of 11,651 MMBtu/yr for the drying oven due to this proposed project.
- (e). No proposed change to the current heat input limit of 25,000 MMBtu/yr for the shared Megtec Cleanswitch RTO due to this proposed project.

Quebecor World is an existing major stationary source and has received their Title V permit. Per Rule 2520, Section 3.20, this proposed project constitutes a minor modification to the facility's Title V permit and may be processed with a Certificate of Conformity (COC). The facility requests that these ATC permits be issued with a COC and has submitted a Compliance Certification form (see Appendix C). Therefore, Quebecor World will be required to submit a Title V administrative amendment application prior to operating under these Authority to Construct (ATC) permits issued under this proposed project.

## II. Applicable Rules:

Rule 2010: Permits Required (12/17/92)  
 Rule 2201: New and Modified Stationary Source Rule (9/21/06)  
 Rule 2520: Federally Mandated Operating Permits (6/21/01)  
 Rule 4101: Visible Emissions (2/17/05)  
 Rule 4102: Nuisance (12/17/92) -  
 Rule 4201: Particulate Matter Concentration (12/17/92)  
 Rule 4301: Fuel Burning Equipment (12/17/92)  
 Rule 4309: Dryers, Dehydrators, and Ovens (12/15/05)  
 Rule 4607: Graphic Arts and Paper, Film, Foil, and Fabric Coatings (12/18/08)  
 Rule 4801: Sulfur Compounds (12/17/92)  
 California Health & Safety Code 41700 - Health Risk Assessment  
 California Health & Safety Code 42301.6 - School Notice  
 Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)  
 California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387:  
 CEQA Guidelines

## III. Project Location:

The equipment will be operated at 2201 Cooper Avenue in Merced, CA. This facility and its associated equipment are not located within 1,000 feet of a K-12 School. Therefore, the public noticing requirement of California Health and Safety Code 42301.6 is not required for this project.

## IV. Process Description:

Quebecor World is a publication printing facility. The facility utilizes heatset offset lithographic printing presses, non-heatset offset lithographic printing presses, and flexographic printing presses to print TV Guides, phone directories, magazines, and pamphlets.

Permit units N-1646-6, -7, -16, -23, -24, -38 and -39 are heatset offset lithographic web-fed printing presses. Heatset offset printing utilizes a rotary press to print an image on a continuous web of paper. These printing presses will utilize separate printing units to transfer color images onto the web. Each printing unit has a series of vertically arranged rollers and cylinders above and below the web of paper. Rollers transfer the fountain solution and the ink to the plate cylinder. The image is then transferred from the plate to a rubber covered blanket cylinder and then to the web. Typically, each printing unit simultaneously applies a single color to both sides of the web. Together all printing units can overlay colors for a full color image without drying between printing units. After the last printing unit, the printed web enters a drying oven. Heated air in the dryer is used to dry the ink. The printed web then passes over a series of chilled rollers, which cools the printed web prior to being slit, folded, cut, and stacked for delivery to the printed material binders.

Operating Schedule & Process Rates:

Maximum operating schedule of 24 hours per day and 365 days per year.

ATC Permit No	Description	Process Rate
N-1646-6-4	Daily VOC Emissions Limit (DEL)	69.1 lb VOC/day
	Facility-Wide Daily VOC Limit (SLC <sub>VOC</sub> )	235.6 lb VOC/day <sup>(1)</sup>
	Facility-Wide Daily NOx Limit (SLC <sub>NOx</sub> )	150.0 lb NOx/day <sup>(1)</sup>
N-1646-7-4	Daily VOC Emissions Limit (DEL)	20.0 lb VOC/day
	Facility-Wide Daily VOC Limit (SLC <sub>VOC</sub> )	235.6 lb VOC/day <sup>(1)</sup>
	Facility-Wide Daily NOx Limit (SLC <sub>NOx</sub> )	150.0 lb NOx/day <sup>(1)</sup>
N-1646-16-4	Daily VOC Emissions Limit (DEL)	69.1 lb VOC/day
	Facility-Wide Daily VOC Limit (SLC <sub>VOC</sub> )	235.6 lb VOC/day <sup>(1)</sup>
	Facility-Wide Daily NOx Limit (SLC <sub>NOx</sub> )	150.0 lb NOx/day <sup>(1)</sup>
N-1646-23-4	Proposed Daily VOC Emissions Limit (DEL)	69.1 lb VOC/day
	Facility-Wide Daily VOC Limit (SLC <sub>VOC</sub> )	235.6 lb VOC/day <sup>(1)</sup>
	Facility-Wide Daily NOx Limit (SLC <sub>NOx</sub> )	150.0 lb NOx/day <sup>(1)</sup>
N-1646-24-4	Daily VOC Emissions Limit (DEL)	69.1 lb VOC/day
	Facility-Wide Daily VOC Limit (SLC <sub>VOC</sub> )	235.6 lb VOC/day <sup>(1)</sup>
	Facility-Wide Daily NOx Limit (SLC <sub>NOx</sub> )	150.0 lb NOx/day <sup>(1)</sup>
N-1646-38-3	Daily VOC Emissions Limit (DEL)	50.0 lb VOC/day
	Facility-Wide Daily VOC Limit (SLC <sub>VOC</sub> )	235.6 lb VOC/day <sup>(1)</sup>
	Facility-Wide Daily NOx Limit (SLC <sub>NOx</sub> )	150.0 lb NOx/day <sup>(1)</sup>
	Daily Heat Input Limit for the Drying Ovens	137.0 MMBtu/day
	Annual Heat Input Limit for the Drying Ovens	50,000 MMBtu/year
N-1646-39-3	Daily VOC Emissions Limit (DEL)	50.0 lb VOC/day
	Facility-Wide Daily VOC Limit (SLC <sub>VOC</sub> )	235.6 lb VOC/day <sup>(1)</sup>
	Facility-Wide Daily NOx Limit (SLC <sub>NOx</sub> )	150.0 lb NOx/day <sup>(1)</sup>
	Annual Heat Input Limit for the Drying Oven	11,651 MMBtu/year
	Annual Heat Input Limit for the Megtec Cleanswitch RTO	25,000 MMBtu/year

<sup>1</sup> Excluding emissions from permit unit N-1646-34-0 as discussed in Project #N-1060478.

## V. Equipment Listing:

### Pre-Project Permit Description:

**N-1646-6-2:** Graphic arts printing operation consisting of one Harris Model 1000B heatset offset lithographic printing press #514 served by two TEC natural gas fired drying ovens (Total of 1.366 MMBtu/hr) all vented to the 9.5 MMBtu/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E regenerative thermal oxidizers.

### Post-Project Permit Description:

**N-1646-6-4:** Graphic arts printing operation consisting of one Harris Model 1000B heatset offset lithographic printing press #514 served by two TEC natural gas fired drying ovens (Total of 1.366 MMBtu/hr) all vented to the shared 9.5 MMBtu/hr Megtec Enterprise II or the 18.0 MMBtu/hr Reeco Retherm Model E (with low NOx burners) natural gas fired regenerative thermal oxidizers.

### Pre-Project Permit Description:

**N-1646-7-2:** Graphic arts printing operation consisting of one Harris-Webb Model M-1000A heatset offset lithographic printing press #515 served by two TEC Model C-2500 natural gas fired drying ovens (Total of 1.366 MMBtu/hr) all vented to the 9.5 MMBtu/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E regenerative thermal oxidizers.

### Post-Project Permit Description:

**N-1646-7-4:** Graphic arts printing operation consisting of one Harris-Webb Model M-1000A heatset offset lithographic printing press #515 served by two TEC Model C-2500 natural gas fired drying ovens (Total of 1.366 MMBtu/hr) all vented to the shared 9.5 MMBtu/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E (with low NOx burners) natural gas fired regenerative thermal oxidizers.

### Pre-Project Permit Description:

**N-1646-16-2:** Graphic arts printing operation consisting of one Harris Model 1000 heatset offset lithographic printing press #517 served by two TEC natural gas fired drying ovens (Total of 1.366 MMBtu/hr) all vented to the 9.5 MMBtu/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E regenerative thermal oxidizers.

### Post-Project Permit Description:

**N-1646-16-4:** Graphic arts printing operation consisting of one Harris Model 1000 heatset offset lithographic printing press #517 served by two TEC natural gas fired drying ovens (Total of 1.366 MMBtu/hr) all vented to the shared 9.5 MMBtu/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E (with low NOx burners) natural gas fired regenerative thermal oxidizers.

### Pre-Project Permit Description:

**N-1646-23-1:** Graphic arts printing operation consisting of one Heidelberg Harris Model M-1000B heatset offset printing press #519 served by one Thermal Electron Model A3406E drying oven vented to the 9.5 MMBtu/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E regenerative thermal oxidizers.

Post-Project Permit Description:

**N-1646-23-4:** Graphic arts printing operation consisting of one Harris Model 1000 heatset offset lithographic printing press #519 served by one 9.2 MMBtu/hr Thermal Electron Model A3406E natural gas fired drying oven vented to the shared 9.5 MMBth/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E (with low NOx burners) natural gas fired regenerative thermal oxidizers.

Pre-Project Permit Description:

**N-1646-24-1:** Graphic arts printing operation consisting of one Koenig & Bauer Model Campacta 618 heatset offset printing press #507 served by one 8.75 MMBtu/hr Thermal Electron Model 2700/3500 drying oven vented to the 9.5 MMBtu/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E regenerative thermal oxidizers.

Post-Project Permit Description:

**N-1646-24-4:** Graphic arts printing operation consisting of one Koenig & Bauer Model Campacta 618 heatset offset lithographic printing press #507 served by one 8.75 MMBtu/hr Thermal Electron Model 2700/3500 natural gas fired drying oven vented to the shared 9.5 MMBth/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E (with low NOx burners) natural gas fired regenerative thermal oxidizers.

Pre-Project Permit Description:

**N-1646-38-0:** Graphic arts printing operation consisting of one Man Roland S 64" wide 8-color heatset offset lithographic printing press (Press #523) with one 9.4 MMBtu/hr natural gas fired Megtec Model DD III-135-2080 drying oven #1 (with Maxon low NOx burners) and one 9.0 MMBtu/hr natural gas fired Megtec Model DD III-135-2080 drying oven #2 (with Maxon low NOx burners) each served by the 9.5 MMBtu/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E regenerative thermal oxidizers.

Post-Project Permit Description:

**N-1646-38-3:** Graphic arts printing operation consisting of one Man Roland S 64" wide 8-color heatset offset lithographic printing press #523 with one 9.4 MMBtu/hr natural gas fired Megtec Model DD III-135-2080 drying oven #1 (with Maxon low NOx burners) and one 9.0 MMBtu/hr natural gas fired Megtec Model DD III-135-2080 drying oven #2 (with Maxon low NOx burners) each served by the shared 9.5 MMBtu/hr Megtec Enterprise II or 18 MMBtu/hr Reeco Retherm Model E (with low NOx burners) natural gas fired regenerative thermal oxidizers.

Pre-Project Permit Description:

**N-1646-39-1:** Graphic arts printing operation consisting of one Man Roland Model Rotoman N 38" wide 5-color heatset offset lithographic printing press (Press #524) with one 4.587 MMBtu/hr natural gas fired Thermo Wisconsin Model Apollo A3100 drying oven served by the shared 5.728 MMBtu/hr Megtec Cleanswitch Model CS-300-95 natural gas fired regenerative thermal oxidizer.

Post-Project Permit Description:

**N-1646-39-3:** Graphic arts printing operation consisting of one Man Roland Model Rotoman N 38" wide 5-color heatset offset lithographic printing press #524 with one 4.587 MMBtu/hr natural gas fired Thermo Wisconsin Model Apollo A3100 drying oven served by the shared 5.728 MMBtu/hr Megtec Cleanswitch Model CS-300-95 natural gas fired regenerative thermal oxidizer.

**VI. Emission Control Technology Evaluation:**

N-1646-6-4, N-1646-7-4, N-1646-16-4, N-1646-23-4, N-1646-24-4, N-1646-38-3, & N-1646-39-3:

VOCs will be emitted from the application and heat drying of the printing inks utilized in the heatset offset lithographic printing press. The applicant will continue to capture and control these VOCs with the facility shared RTOs. There will not be a change to the VOC emission control method due to this proposed project. The applicant will be retaining the originally proposed minimum VOC capture efficiency of 90% and VOC destruction efficiency of 98%.

Products of combustion will be emitted from the combustion of a natural gas in the drying ovens and the RTOs. The drying ovens and associated RTOs will be fired exclusively on natural gas, which results in cleaner emissions than other hydrocarbon fuels. The drying ovens will continue to utilize the existing low NOx burner system to reduce NOx emissions. For the 5.728 MMBtu/hr Megtec Cleanswitch and 9.5 MMBtu/hr Megtec Enterprise II RTOs, the applicant is proposing a maximum NOx emissions rate of 4.3 ppmvd @ 19% O<sub>2</sub> or 0.0492 lb-NOx/MMBtu. The 18.0 MMBtu/hr Reeco Retherm RTO will be retrofitted with a Maxon or equivalent low NOx burner to achieve a maximum NOx emissions rate of 4.3 ppmvd @ 19% O<sub>2</sub> or 0.0492 lb-NOx/MMBtu.

The applicant is also proposing to utilize the facility shared RTOs to control the CO emissions from the associated drying ovens. According to the RTO manufacturer, the high operating temperature of the RTO will control the CO emissions to achieve a maximum CO emissions concentration of 25 ppmvd @ 19% O<sub>2</sub> or 0.174 lb-CO/MMBtu.

**VII. General Calculations:**

**A. Assumptions:**

N-1646-6-4, N-1646-7-4, N-1646-16-4, N-1646-23-4, N-1646-24-4, N-1646-38-3, & N-1646-39-3:

1. VOC will be emitted from the application and heat drying of the printing inks.
2. NOx, CO, SOx, VOC, and PM<sub>10</sub> will be emitted from the combustion of natural gas in the associated drying ovens and RTOs.
3. Natural gas heating value of 1,000 Btu/ft<sup>3</sup> (District Practice).
4. EPA F-Factor for Natural Gas of 8,578 dscf/MMBtu at 60°F.

**B. Emission Factors:**

N-1646-6-4, N-1646-7-4, N-1646-16-4, N-1646-23-4, N-1646-24-4, N-1646-38-3, & N-1646-39-3:

1. There will not be any changes to the current inks, fountain solutions, blanket wash, or solvents utilized at these graphic arts printing operations.
2. For the drying ovens the applicant is proposing to lower the NOx emission factors to the limits as required under Rule 4309, Section 5.2 and to change the CO emission factor to 25 ppmv @ 19% O<sub>2</sub>. There will not be any changes to the current emission factors for PM<sub>10</sub>, VOC, and SOx. Therefore:

ATC Permits N-1646-6-4 (Press #514), -7-4 (Press #515), & -16-4 (Press #517)		
Pollutant	EF1	EF2
NOx	0.1 lb/MMBtu	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu
CO	0.084 lb/MMBtu	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu
VOC	0.0055 lb/MMBtu	0.0055 lb/MMBtu
PM <sub>10</sub>	0.0076 lb/MMBtu	0.0076 lb/MMBtu
SOx	0.00285 lb/MMBtu	0.00285 lb/MMBtu

ATC Permit N-1646-23-4 (Press #519) & -24-4 (Press #507)		
Pollutant	EF1	EF2
NOx	65 ppmvd @ 3% O <sub>2</sub> or 0.0789 lb/MMBtu	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu
CO	0.084 lb/MMBtu	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu
VOC	0.0055 lb/MMBtu	0.0055 lb/MMBtu
PM <sub>10</sub>	0.0076 lb/MMBtu	0.0076 lb/MMBtu
SOx	0.00285 lb/MMBtu	0.00285 lb/MMBtu

ATC Permit N-1646-38-3 (Press #523)		
Pollutant	EF1	EF2
NOx	0.036 lb/MMBtu	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu
CO	0.276 lb/MMBtu	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu
VOC	0.0055 lb/MMBtu	0.0055 lb/MMBtu
PM <sub>10</sub>	0.0076 lb/MMBtu	0.0076 lb/MMBtu
SOx	0.00285 lb/MMBtu	0.00285 lb/MMBtu

ATC Permit N-1646-39-3 (Press #524)		
Pollutant	EF1	EF2
NOx	0.16 lb/MMBtu	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu
CO	0.3 lb/MMBtu	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu
VOC	0.0055 lb/MMBtu	0.0055 lb/MMBtu
PM <sub>10</sub>	0.0076 lb/MMBtu	0.0076 lb/MMBtu
SOx	0.00285 lb/MMBtu	0.00285 lb/MMBtu

3. For the shared 9.5 MMBtu/hr Megtec Enterprise II regenerative thermal oxidizer (RTO) the applicant is proposing to lower the NOx and change the CO emission factors to the limits as required under Rule 4309, Section 5.2. There will not be any changes to the current emission factors for PM<sub>10</sub>, VOC, and SOx. Therefore:

Shared 9.5 MMBtu/hr Megtec Enterprise II RTO		
Pollutant	EF1	EF2
NOx	0.1 lb/MMBtu	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu
CO	0.084 lb/MMBtu	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu
VOC	0.0055 lb/MMBtu	0.0055 lb/MMBtu
PM <sub>10</sub>	0.0076 lb/MMBtu	0.0076 lb/MMBtu
SOx	0.00285 lb/MMBtu	0.00285 lb/MMBtu

4. For the shared 18.0 MMBtu/hr Reeco Retherm Model E regenerative thermal oxidizer (RTO) the applicant is proposing to retrofit the existing burner with an Eclipse or equivalent low NOx burner at the following proposed emission factors:

Shared 18.0 MMBtu/hr Reeco Retherm Model E RTO		
Pollutant	EF1	EF2
NOx	0.1 lb/MMBtu	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu
CO	0.084 lb/MMBtu	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu
VOC	0.0055 lb/MMBtu	0.0055 lb/MMBtu
PM <sub>10</sub>	0.0076 lb/MMBtu	0.0076 lb/MMBtu
SOx	0.00285 lb/MMBtu	0.00285 lb/MMBtu

5. For the shared 5.728 MMBtu/hr Megtec Cleanswitch Model CS-250-95 regenerative thermal oxidizer (RTO) the applicant is proposing to lower the NOx and change the CO emission factors to the limits as required under Rule 4309, Section 5.2. There will not be any changes to the current emission factors for PM<sub>10</sub>, VOC, and SOx. Therefore:

Shared 5.728 MMBtu/hr Megtec Cleanswitch Model CS-250-95 RTO		
Pollutant	EF1	EF2
NOx	0.18 lb/MMBtu	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu
CO	0.07 lb/MMBtu	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu
VOC	0.02 lb/MMBtu	0.02 lb/MMBtu
PM <sub>10</sub>	0.01 lb/MMBtu	0.01 lb/MMBtu
SOx	0.00285 lb/MMBtu	0.00285 lb/MMBtu

### C. Potential to Emit Calculations (PE):

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

##### Daily and Annual PE1 Calculations:

Daily and Annual PE1 for Permits N-1646-6-2, N-1646-7-2, & N-1646-16-2:

The daily PE1 was obtained from project N-1030443. Annual PE1 was calculated based on the daily PE1 and operating 365 days/year. Therefore:

Pollutant	Daily PE1 <sub>Total/N-1646-6-2, -7-2, &amp; -16-2</sub> (lb/day)	Annual PE1 <sub>Total/N-1646-6-2, -7-2, &amp; -16-2</sub> (lb/year)
NOx	3.3	1,205
CO	2.8	1,022
VOC	20.2	7,373
PM <sub>10</sub>	0.2	73
SOx	0.1	37

**Daily and Annual PE1 for Permit N-1646-23-1:**

The daily PE1 was obtained from project N-1030443. Annual PE1 was calculated based on the daily PE1 and operating 365 days/year. Therefore:

Pollutant	Daily PE1 <sub>Total/N-1646-23-1</sub> (lb/day)	Annual PE1 <sub>Total/N-1646-23-1</sub> (lb/year)
NOx	17.4	6,351
CO	18.5	6,753
VOC	70.3	25,660
PM <sub>10</sub>	1.7	621
SOx	0.6	219

**Daily and Annual PE1 for Permit N-1646-24-1:**

The daily PE1 was obtained from project N-1030443. Annual PE1 was calculated based on the daily PE1 and operating 365 days/year. Therefore:

Pollutant	Daily PE1 <sub>Total/N-1646-24-1</sub> (lb/day)	Annual PE1 <sub>Total/N-1646-24-1</sub> (lb/year)
NOx	16.6	6,059
CO	17.6	6,424
VOC	70.3	25,660
PM <sub>10</sub>	1.6	584
SOx	0.6	219

**Daily and Annual PE1 for Permit N-1646-38-0:**

The daily and annual PE1 were obtained from project N-1054269. Therefore:

Pollutant	Daily PE1 <sub>Total/N-1646-38-0</sub> (lb/day)	Annual PE1 <sub>Total/N-1646-38-0</sub> (lb/year)
NOx	4.9	1,800
CO	37.8	13,800
VOC	50.8	18,525
PM <sub>10</sub>	1.0	380
SOx	0.4	143

Daily and Annual PE1 for Permit N-1646-39-1:

The daily and annual PE1 were obtained from project N-1060441. Therefore:

Pollutant	Daily PE1 <sub>Total/N-1646-39-1</sub> (lb/day)	Annual PE1 <sub>Total/N-1646-39-1</sub> (lb/year)
NOx	4.9	1,864
CO	37.8	3,495
VOC	19.2	6,438
PM <sub>10</sub>	1.1	117
SOx	0.3	33

Daily and Annual PE1 for the Shared 9.5 MMBtu/hr Megtec Enterprise II RTO:

The daily and annual PE1 were obtained from project N-1060478. Therefore:

Pollutant	Daily PE1 <sub>Megtec Enterprise II RTO</sub> (lb/day)	Annual PE1 <sub>Megtec Enterprise II RTO</sub> (lb/year)
NOx	22.8	8,322
CO	19.2	7,008
VOC	1.3	475
PM <sub>10</sub>	1.7	621
SOx	0.6	219

Daily and Annual PE1 for the Shared 18.0 MMBtu/hr Reeco Rethern RTO:

The daily and annual PE1 were obtained from project N-1060478. Therefore:

Pollutant	Daily PE1 <sub>Reeco Rethern RTO</sub> (lb/day)	Annual PE1 <sub>Reeco Rethern RTO</sub> (lb/year)
NOx	43.2	15,768
CO	36.3	13,250
VOC	2.4	876
PM <sub>10</sub>	3.3	1,205
SOx	1.2	438

Daily and Annual PE1 for the Shared 5.728 MMBtu/hr Megtec Cleanswitch RTO:

The daily and annual PE1 were obtained from project N-1072192. Therefore:

Pollutant	Daily PE1 <sub>Megtec Cleanswitch RTO</sub> (lb/day)	Annual PE1 <sub>Megtec Cleanswitch RTO</sub> (lb/year)
NOx	24.7	4,500
CO	9.6	1,750
VOC	2.7	500
PM <sub>10</sub>	1.4	250
SOx	0.4	71

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

### A. Daily PE2 Calculations:

#### Daily PE2 Emissions from the Modified Printing Operations under ATC Permits N-1646-6-4, N-1646-7-4, & N-1646-16-4:

The applicant is proposing to increase the daily PE for VOC emissions from the printing operations under N-1646-6-4 and -16-4 to 69.1 lb/day. No proposed change to the daily PE for VOC emissions from the printing operation under N-1646-7-4 or the facility-wide daily PE for VOC and NOx emissions. Therefore:

Daily PE<sub>2Printing/N-1646-6-4</sub> and Daily PE<sub>2Printing/N-1646-16-4</sub> = **69.1 lb-VOC/day**

Daily PE<sub>2Printing/N-1646-7-4</sub> = Daily PE<sub>1Printing/N-1646-7-2</sub> = **20.0 lb-VOC/day**

Combined Daily PE<sub>2VOC/SLC</sub> = Daily PE<sub>1VOC/SLC</sub> = **235.6 lb-VOC/day**

Combined Daily PE<sub>2NOx/SLC</sub> = Daily PE<sub>1NOx/SLC</sub> = **150 lb-NOx/day**

#### Daily PE2 Emissions from the Combustion of Natural Gas in the Modified Drying Ovens under ATC Permits N-1646-6-4, N-1646-7-4, & N-1646-16-4:

Max. Heat Input: 1.366 MMBtu/hr

Max. Daily Operating Schedule: 24 hrs/day

F Factor for Natural Gas: 8,578 scf/MMBtu

Molar Specific Volume of Gas: 379.5 ft<sup>3</sup>/lb-mol

Molecular Weight for NOx: 46 lb/lb-mole

Molecular Weight for CO: 28 lb/lb-mole

$$EF_{2NOx \& CO} \text{ (lb/MMBtu)} = \text{Emission Concentration} \times 10^{-6} \text{ (ppmv)} \\ \times \text{Molecular Weight} \times \text{F Factor} \times 1 \text{ lb-mol}/379.5 \text{ ft}^3 \\ \times [20.9/(20.9 - O_2\%)]$$

$$\text{Daily PE}_{2Drying Ovens} = 1.366 \text{ MMBtu/hr} \times 24 \text{ hr/day} \times EF \text{ lb/MMBtu}$$

Pollutant	EF2 (lb/MMBtu)	Daily PE <sub>2Drying Ovens</sub> (lb/day)
NOx	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu	<b>1.6</b>
CO	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu	<b>5.7</b>
VOC	0.0055	<b>0.2</b>
PM <sub>10</sub>	0.0076	<b>0.2</b>
SOx	0.00285	<b>0.1</b>

#### Total Daily PE2 from the Modified Printing Operations under ATC Permits N-1646-6-4, N-1646-7-4, & N-1646-16-4:

$$\text{Daily PE}_{2Total} = \text{Daily PE}_{2Printing} + \text{Daily PE}_{2Drying Ovens}$$

Pollutant	Daily PE <sub>2Printing</sub> (lb/day)	Daily PE <sub>2Drying Ovens</sub> (lb/day)	Daily PE <sub>2Total</sub> (N-1646-6-4, -7-4, & -16-4) (lb/day)
NOx	---	1.6	<b>1.6</b>
CO	---	5.7	<b>5.7</b>
VOC (N-1646-6-4 & -16-4)	69.1	0.2	<b>69.3 (N-1646-6-4 &amp; -16-4)</b>
VOC (N-1646-7-4)	20.0	0.2	<b>20.2 (N-1646-7-4)</b>
PM <sub>10</sub>	---	0.2	<b>0.2</b>
SOx	---	0.1	<b>0.1</b>

Daily PE2 Emissions from the Modified Printing Operation under ATC Permits N-1646-23-4 & N-1646-24-4:

The applicant is not proposing any changes to the daily PE for VOC emissions from the printing operation or the facility-wide daily PE for VOC and NOx emissions. Therefore:

$$\begin{aligned} \text{Daily PE2}_{\text{Printing/N-1646-23-4 \& -24-4}} &= \text{Daily PE1}_{\text{Printing/N-1646-23-2 \& -24-2}} = \mathbf{69.1 \text{ lb-VOC/day}} \\ \text{Combined Daily PE2}_{\text{VOC/SLC}} &= \text{Daily PE1}_{\text{VOC/SLC}} = \mathbf{235.6 \text{ lb-VOC/day}} \\ \text{Combined Daily PE2}_{\text{NOx/SLC}} &= \text{Daily PE1}_{\text{NOx/SLC}} = \mathbf{150 \text{ lb-NOx/day}} \end{aligned}$$

Daily PE2 Emissions from the Combustion of Natural Gas in the Modified Drying Oven under ATC Permit N-1646-23-4:

Max. Heat Input: 9.2 MMBtu/hr  
 Max. Daily Operating Schedule: 24 hrs/day  
 F Factor for Natural Gas: 8,578 scf/MMBtu  
 Molar Specific Volume of Gas: 379.5 ft<sup>3</sup>/lb-mol  
 Molecular Weight for NOx: 46 lb/lb-mole  
 Molecular Weight for CO: 28 lb/lb-mole

$$\begin{aligned} \text{EF2}_{\text{NOx \& CO}} \text{ (lb/MMBtu)} &= \text{Emission Concentration} \times 10^{-6} \text{ (ppmv)} \\ &\quad \times \text{Molecular Weight} \times \text{F Factor} \times 1 \text{ lb-mol}/379.5 \text{ ft}^3 \\ &\quad \times [20.9/(20.9 - \text{O}_2\%)] \end{aligned}$$

$$\text{Daily PE2}_{\text{Drying Oven}} = 9.2 \text{ MMBtu/hr} \times 24 \text{ hr/day} \times \text{EF2 lb/MMBtu}$$

Pollutant	EF2 (lb/MMBtu)	Daily PE2 <sub>Drying Ovens</sub> (lb/day)
NOx	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu	10.9
CO	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu	38.4
VOC	0.0055	1.2
PM <sub>10</sub>	0.0076	1.7
SOx	0.00285	0.6

Daily PE2 Emissions from the Combustion of Natural Gas in the Modified Drying Oven under ATC Permit N-1646-24-4:

Max. Heat Input: 8.75 MMBtu/hr  
 Max. Daily Operating Schedule: 24 hrs/day  
 F Factor for Natural Gas: 8,578 scf/MMBtu  
 Molar Specific Volume of Gas: 379.5 ft<sup>3</sup>/lb-mol  
 Molecular Weight for NOx: 46 lb/lb-mole  
 Molecular Weight for CO: 28 lb/lb-mole

$$\begin{aligned} \text{EF2}_{\text{NOx \& CO}} \text{ (lb/MMBtu)} &= \text{Emission Concentration} \times 10^{-6} \text{ (ppmv)} \\ &\quad \times \text{Molecular Weight} \times \text{F Factor} \times 1 \text{ lb-mol}/379.5 \text{ ft}^3 \\ &\quad \times [20.9/(20.9 - \text{O}_2\%)] \end{aligned}$$

$$\text{Daily PE2}_{\text{Drying Ovens}} = 8.75 \text{ MMBtu/hr} \times 24 \text{ hr/day} \times \text{EF2 lb/MMBtu}$$

Pollutant	EF2 (lb/MMBtu)	Daily PE2 <sub>Drying Ovens</sub> (lb/day)
NOx	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu	<b>10.3</b>
CO	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu	<b>36.5</b>
VOC	0.0055	<b>1.2</b>
PM <sub>10</sub>	0.0076	<b>1.6</b>
SOx	0.00285	<b>0.6</b>

**Total Daily PE2 from the Modified Printing Operation under ATC Permit N-1646-23-4:**

**Daily PE2<sub>Total/N-1646-23-4</sub> = Daily PE2<sub>Printing</sub> + Daily PE2<sub>Drying Ovens</sub>**

Pollutant	Daily PE2 <sub>Printing</sub> (lb/day)	Daily PE2 <sub>Drying Ovens</sub> (lb/day)	Daily PE2 <sub>Total/N-1646-23-4</sub> (lb/day)
NOx	---	10.9	<b>10.9</b>
CO	---	38.4	<b>38.4</b>
VOC	69.1	1.2	<b>70.3</b>
PM <sub>10</sub>	---	1.7	<b>1.7</b>
SOx	---	0.6	<b>0.6</b>

**Total Daily PE2 from the Modified Printing Operation under ATC Permit N-1646-24-4:**

**Daily PE2<sub>Total/N-1646-24-4</sub> = Daily PE2<sub>Printing</sub> + Daily PE2<sub>Drying Ovens</sub>**

Pollutant	Daily PE2 <sub>Printing</sub> (lb/day)	Daily PE2 <sub>Drying Ovens</sub> (lb/day)	Daily PE2 <sub>Total/N-1646-24-4</sub> (lb/day)
NOx	---	10.3	<b>10.3</b>
CO	---	36.5	<b>36.5</b>
VOC	69.1	1.2	<b>70.3</b>
PM <sub>10</sub>	---	1.6	<b>1.6</b>
SOx	---	0.6	<b>0.6</b>

**Daily PE2 Emissions from the Modified Printing Operation under ATC Permit N-1646-38-3:**

The applicant is not proposing any changes to the daily PE for VOC emissions from the printing operation or the facility-wide daily PE for VOC and NOx emissions. Therefore:

**Daily PE2<sub>Printing/N-1646-38-3</sub> = Daily PE1<sub>Printing/N-1646-38-0</sub> = 50.0 lb-VOC/day**

**Combined Daily PE2<sub>VOC/SLC</sub> = Daily PE1<sub>VOC/SLC</sub> = 235.6 lb-VOC/day**

**Combined Daily PE2<sub>NOx/SLC</sub> = Daily PE1<sub>NOx/SLC</sub> = 150 lb-NOx/day**

**Daily PE2 Emissions from the Combustion of Natural Gas in the Modified Drying Oven under ATC Permit N-1646-38-3:**

Max. Daily Heat Input Limit: 137.0 MMBtu/day

F Factor for Natural Gas: 8,578 scf/MMBtu

Molar Specific Volume of Gas: 379.5 ft<sup>3</sup>/lb-mol

Molecular Weight for NOx: 46 lb/lb-mole

Molecular Weight for CO: 28 lb/lb-mole

$$\text{Daily PE2}_{\text{Drying Ovens/PM10, SOx, \& VOC}} = 137.0 \text{ MMBtu/day} \times \text{EF lb/MMBtu}$$

$$\begin{aligned} \text{Daily PE2}_{\text{Drying Oven/NOx \& CO}} &= \text{Emission Concentration} \times 10^{-6} \text{ (ppmv)} \\ &\times \text{Molecular Weight} \times 1 \text{ lb-mol}/379.5 \text{ ft}^3 \times \text{F Factor} \\ &\times 137.0 \text{ MMBtu/day} \times [20.9/(20.9 - \text{O}_2\%)] \end{aligned}$$

Pollutant	EF2 (lb/MMBtu)	Daily PE2 <sub>Drying Ovens</sub> (lb/day)
NOx	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu	<b>6.7</b>
CO	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu	<b>23.8</b>
VOC	0.0055	<b>0.8</b>
PM <sub>10</sub>	0.0076	<b>1.0</b>
SOx	0.00285	<b>0.4</b>

Total Daily PE2 from the Modified Printing Operation under ATC Permit N-1646-38-3:

$$\text{Daily PE2}_{\text{Total/N-1646-38-3}} = \text{Daily PE2}_{\text{Printing}} + \text{Daily PE2}_{\text{Drying Ovens}}$$

Pollutant	Daily PE2 <sub>Printing</sub> (lb/day)	Daily PE2 <sub>Drying Ovens</sub> (lb/day)	Daily PE2 <sub>Total/N-1646-38-3</sub> (lb/day)
NOx	---	6.7	<b>6.7</b>
CO	---	23.8	<b>23.8</b>
VOC	50.0	0.8	<b>50.8</b>
PM <sub>10</sub>	---	1.0	<b>1.0</b>
SOx	---	0.4	<b>0.4</b>

Daily PE2 Emissions from the Modified Printing Operation under ATC Permit N-1646-39-3:

The applicant is proposing to increase the daily PE for VOC emissions from the printing operation to 50 lb/day without any changes to the facility-wide daily PE for VOC and NOx emissions. Therefore:

$$\text{Daily PE2}_{\text{Printing/N-1646-39-3}} = \mathbf{50.0 \text{ lb-VOC/day}}$$

$$\text{Combined Daily PE2}_{\text{VOC/SLC}} = \text{Daily PE1}_{\text{VOC/SLC}} = \mathbf{235.6 \text{ lb-VOC/day}}$$

$$\text{Combined Daily PE2}_{\text{NOx/SLC}} = \text{Daily PE1}_{\text{NOx/SLC}} = \mathbf{150 \text{ lb-NOx/day}}$$

Daily PE2 Emissions from the Combustion of Natural Gas in the Modified Drying Oven under ATC Permit N-1646-39-3:

Max. Daily Heat Input Limit: 4.587 MMBtu/day

F Factor for Natural Gas: 8,578 scf/MMBtu

Molar Specific Volume of Gas: 379.5 ft<sup>3</sup>/lb-mol

Molecular Weight for NOx: 46 lb/lb-mole

Molecular Weight for CO: 28 lb/lb-mole

$$\text{Daily PE2}_{\text{Drying Ovens/PM10, SOx, \& VOC}} = 4.587 \text{ MMBtu/hr} \times \text{EF lb/MMBtu} \times 24 \text{ hr/day}$$

$$\begin{aligned} \text{Daily PE2}_{\text{Drying Oven/NOx \& CO}} &= \text{Emission Concentration} \times 10^{-6} \text{ (ppmv)} \\ &\times \text{Molecular Weight} \times 1 \text{ lb-mol}/379.5 \text{ ft}^3 \times \text{F Factor} \\ &\times 4.587 \text{ MMBtu/hr} \times [20.9/(20.9 - \text{O}_2\%)] \times 24 \text{ hr/day} \end{aligned}$$

Pollutant	EF2 (lb/MMBtu)	Daily PE2 <sub>Drying Ovens</sub> (lb/day)
NOx	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu	5.4
CO	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu	19.2
VOC	0.02	2.2
PM <sub>10</sub>	0.01	1.1
SOx	0.00285	0.3

**Total Daily PE2 from the Modified Printing Operation under ATC Permit N-1646-39-3:**

$$\text{Daily PE2}_{\text{Total/N-1646-38-3}} = \text{Daily PE2}_{\text{Printing}} + \text{Daily PE2}_{\text{Drying Ovens}}$$

Pollutant	Daily PE2 <sub>Printing</sub> (lb/day)	Daily PE2 <sub>Drying Ovens</sub> (lb/day)	Daily PE2 <sub>Total/N-1646-38-3</sub> (lb/day)
NOx	---	5.4	5.4
CO	---	19.2	19.2
VOC	50.0	2.2	52.2
PM <sub>10</sub>	---	1.1	1.1
SOx	---	0.3	0.3

**Daily PE2 from the Combustion of Natural Gas in the Shared RTOs:**

RTO Burner Rating: 9.5 MMBtu/hr (Enterprise II), 18 MMBtu/hr (Reeco), & 5.728 MMBtu/hr (Cleanswitch)

Daily Operating Hours: 24 hr/day

F Factor for Natural Gas: 8,578 scf/MMBtu

Molar Specific Volume of Gas: 379.5 ft<sup>3</sup>/lb-mol

Molecular Weight for NOx: 46 lb/lb-mole

Molecular Weight for CO: 28 lb/lb-mole

$$\begin{aligned} \text{EF2}_{\text{NOx \& CO}} \text{ (lb/MMBtu)} &= \text{Emission Concentration} \times 10^{-6} \text{ (ppmv)} \\ &\times \text{Molecular Weight} \times \text{F Factor} \times 1 \text{ lb-mol}/379.5 \text{ ft}^3 \\ &\times [20.9/(20.9 - \text{O}_2\%)] \end{aligned}$$

$$\begin{aligned} \text{Daily PE2}_{\text{RTO}} &= \text{Thermal Oxidizer Burner Rating MMBtu/hr} \times 24 \text{ hr/day} \\ &\times \text{EF2 lb/MMBtu} \end{aligned}$$

Pollutant	EF2 (lb/MMBtu)	Daily PE2 <sub>Megtec Enterprise II RTO</sub> (lb/day)	Daily PE2 <sub>Reeco Retherm RTO</sub> (lb/day)
NOx	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu	11.2	21.2
CO	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu	39.7	75.2
VOC	0.0055	1.3	2.4
PM <sub>10</sub>	0.0076	1.7	3.3
SOx	0.00285	0.6	1.2

Pollutant	EF2 (lb/MMBtu)	Daily PE2 <sub>Megtec Cleanswitch RTO</sub> (lb/day)
NOx	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu	6.8
CO	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu	23.9
VOC	0.02 lb/MMBtu	2.7
PM <sub>10</sub>	0.01 lb/MMBtu	1.4
SOx	0.00285 lb/MMBtu	0.4

### B. Annual PE2 Calculations:

#### Annual PE2 for ATC Permits N-1646-6-4, N-1646-7-4, & N-1646-16-4:

Annual emissions for the printing operation and combustion of natural gas in the associated drying oven under these permit units will be calculated based on the worse case of operating for 365 days/year. Therefore:

$$\text{Annual PE2}_{\text{N-1646-6-4, 7-4, \& 16-4}} = \text{Daily PE2}_{\text{Total/N-1646-6-4, 7-4, \& 16-4}} \times 365 \text{ days/year}$$

Pollutant	Daily PE2 <sub>Total/N-1646-6-4, 7-4, \&amp; 16-4</sub> (lb/yr)	Annual PE2 <sub>N-1646-6-4, 7-4, \&amp; 16-4</sub> (lb/yr)
NOx	1.6	584
CO	5.7	2,081
VOC (N-1646-6-4 & -16-4)	69.3	25,295 (N-1646-6-4 & -16-4)
VOC (N-1646-7-4)	20.2	7,373 (N-1646-7-4)
PM <sub>10</sub>	0.2	73
SOx	0.1	37

#### Annual PE2 for ATC Permits N-1646-23-4 & N-1646-24-4:

Annual emissions for this printing operation and combustion of natural gas in the associated drying oven for this permit unit will be calculated based on the worse case of operating for 365 days/year. Therefore:

$$\text{Annual PE2}_{\text{Total/N-1646-23-4 \& 24-4}} = \text{Daily PE2}_{\text{Total/N-1646-23-4 \& 24-4}} \times 365 \text{ days/year}$$

Pollutant	Daily PE2 <sub>Total/N-1646-23-4</sub> (lb/yr)	Annual PE2 <sub>N-1646-23-4</sub> (lb/yr)
NOx	10.9	3,979
CO	38.4	14,016
VOC	70.3	25,660
PM <sub>10</sub>	1.7	621
SOx	0.6	219

Pollutant	Daily PE2 <sub>Total/N-1646-24-4</sub> (lb/yr)	Annual PE2 <sub>N-1646-24-4</sub> (lb/yr)
NOx	10.3	6,059
CO	36.5	13,323
VOC	70.3	25,660
PM <sub>10</sub>	1.6	584
SOx	0.6	219

Annual PE2 for ATC Permit N-1646-38-3:

Annual emissions for the printing operation will be calculated based on the worse case of operating for 365 days/year. For the combustion of natural gas in the drying ovens, the annual emissions will be based on the applicant's proposed annual limit of 50,000 MMBtu/yr. Therefore:

$$\text{Annual PE2}_{\text{Printing}} = \text{Daily PE2}_{\text{Printing}} \times 365 \text{ days/year}$$

$$\text{Annual PE2}_{\text{Drying Ovens}} = 50,000 \text{ MMBtu/yr} \times \text{EF2 lb/MMBtu}$$

$$\text{Annual PE2}_{\text{Total/N-1646-38-3}} = \text{Annual PE2}_{\text{Printing}} \text{ (lb/yr)} + \text{Annual PE2}_{\text{Drying Ovens}} \text{ (lb/yr)}$$

Pollutant	Annual PE2 <sub>Printing</sub> (lb/yr)	Annual PE2 <sub>Drying Oven</sub> (lb/yr)	Annual PE2 <sub>Total/N-1646-38-3</sub> (lb/yr)
NOx	0	2,460	2,460
CO	0	8,700	8,700
VOC	18,250	275	18,525
PM <sub>10</sub>	0	380	380
SOx	0	143	143

Annual PE2 for ATC Permit N-1646-39-3:

Annual emissions for the printing operation will be calculated based on the worse case of operating for 365 days/year. For the combustion of natural gas in the drying ovens, the annual emissions will be based on the applicant's proposed annual limit of 11,651 MMBtu/yr. Therefore:

$$\text{Annual PE2}_{\text{Printing}} = \text{Daily PE2}_{\text{Printing}} \times 365 \text{ days/year}$$

$$\text{Annual PE2}_{\text{Drying Ovens}} = 11,651 \text{ MMBtu/yr} \times \text{EF2 lb/MMBtu}$$

$$\text{Annual PE2}_{\text{Total/N-1646-39-3}} = \text{Annual PE2}_{\text{Printing}} \text{ (lb/yr)} + \text{Annual PE2}_{\text{Drying Ovens}} \text{ (lb/yr)}$$

Pollutant	Annual PE2 <sub>Printing</sub> (lb/yr)	Annual PE2 <sub>Drying Oven</sub> (lb/yr)	Annual PE2 <sub>Total/N-1646-39-3</sub> (lb/yr)
NOx	0	573	573
CO	0	2,027	2,027
VOC	18,250	233	18,483
PM <sub>10</sub>	0	117	117
SOx	0	33	33

Annual PE2 from the Shared RTOs:

Annual emissions for the shared Megtec Enterprise II and Reeco Retherm RTOs will be calculated based on the worse case of operating for 365 days/year, therefore:

$$\text{Annual PE2 (lb/year)} = \text{Daily PE2}_{\text{Megtec Enterprise II or Reeco Retherm RTO}} \times 365 \text{ days/year}$$

Pollutant	Daily PE2 <sub>Megtec Enterprise II RTO</sub> (lb/day)	Annual PE2 <sub>Megtec Enterprise II RTO</sub> (lb/year)
NO <sub>x</sub>	11.2	<b>4,088</b>
CO	39.7	<b>14,491</b>
VOC	1.3	<b>475</b>
PM <sub>10</sub>	1.7	<b>621</b>
SO <sub>x</sub>	0.6	<b>219</b>

Pollutant	Daily PE2 <sub>Reeco Retherm RTO</sub> (lb/day)	Annual PE2 <sub>Reeco Retherm RTO</sub> (lb/year)
NO <sub>x</sub>	21.2	<b>7,738</b>
CO	75.2	<b>27,448</b>
VOC	2.4	<b>876</b>
PM <sub>10</sub>	3.3	<b>1,205</b>
SO <sub>x</sub>	1.2	<b>438</b>

For the Megtec Cleanswitch RTO, the applicant is not proposing any changes to the current heat input limit of 25,000 MMBtu/year. Therefore, the annual emissions will be calculated as follows:

$$\begin{aligned} \text{Annual PE2}_{\text{Megtec Cleanswitch RTO/NO}_x \text{ \& CO}} = & \text{Emission Concentration} \times 10^{-6} \text{ (ppmv)} \\ & \times \text{Molecular Weight} \times 1 \text{ lb-mol/379.5 ft}^3 \\ & \times \text{F Factor} \times 25,000 \text{ MMBtu/yr} \\ & \times [20.9/(20.9 - \text{O}_2\%)] \end{aligned}$$

$$\text{Annual PE2}_{\text{Megtec Cleanswitch RTO/VOC, PM}_{10}, \text{ \& SO}_x} = 25,000 \text{ MMBtu/yr} \times \text{EF2 lb/MMBtu}$$

Pollutant	EF2 (lb/MMBtu)	Annual PE2 <sub>Megtec Cleanswitch RTO</sub> (lb/year)
NO <sub>x</sub>	4.3 ppmv @ 19% O <sub>2</sub> or 0.0492 lb/MMBtu	<b>1,230</b>
CO	25 ppmv @ 19% O <sub>2</sub> or 0.174 lb/MMBtu	<b>4,351</b>
VOC	0.02	<b>500</b>
PM <sub>10</sub>	0.01	<b>250</b>
SO <sub>x</sub>	0.00285	<b>71</b>

**D. Increase in Permitted Emissions (IPE):**

**1. Quarterly IPE:**

The Quarterly IPE is calculated for emission profile purposes. It is assumed that the unit's annual emissions are evenly distributed throughout the year. Therefore, for the proposed project:

$$\text{Quarterly IPE} = \frac{(\text{Post-Project Annual PE} - \text{Pre-Project Annual PE})}{\div 4 \text{ Quarters/year}}$$

The applicant is not proposing to change the currently permitted facility wide VOC and NOx emission limits of 235.6 lb-VOC/day and 150 lb-NOx/day. Therefore, annual NOx and VOC emissions will also remain unchanged:

$$\text{Pre Project Annual PE}_{\text{SLC/VOC \& NOx}} = \text{Post Project Annual PE}_{\text{SLC/VOC \& NOx}}$$

$$\begin{aligned} \text{Quarterly IPE}_{\text{SLC/VOC \& NOx}} &= \frac{(\text{Post Project Annual PE} - \text{Pre Project Annual PE})}{\div 4 \text{ Quarters/year}} \\ &= 0 \text{ lb/quarter} \end{aligned}$$

For ATC Permits N-1646-6-4, N-1646-7-4, N-1646-16-4, N-1646-23-4, N-1646-24-4, and N-1646-38-3:

The post-project annual PE for PM<sub>10</sub>, CO, and SOx for these permit units due to this project will be the combined annual PE<sub>2</sub> from the drying ovens and the two shared Megtec Enterprise II and Reeco Retherm RTOs. These two RTOs are shared between eight graphic arts printing presses (Permit Units N-1646-6, -7, -16, -23, -24, -25, -36, & -38). The annual PE<sub>2</sub> from the thermal oxidizers will be evenly distributed between eight permit units. Therefore:

$$\text{Post-Project Annual PE} = \text{Annual PE}_{2\text{Total/Printing Press}} + \left[ \frac{(\text{Annual PE}_{2\text{Enterprise II RTO}} + \text{Annual PE}_{2\text{Reeco Retherm RTO}})}{\div 8 \text{ Permit units}} \right]$$

ATC Permits N-1646-6-4, N-1646-7-4, & N-1646-16-4				
Pollutant	Annual PE <sub>2</sub> (lb/year)	Annual PE <sub>2</sub> <sub>Enterprise II RTO</sub> (lb/year)	Annual PE <sub>2</sub> <sub>Reeco Retherm RTO</sub> (lb/year)	Post-Project Annual PE (lb/year)
CO	2,081	14,491	27,448	7,323
PM <sub>10</sub>	73	621	1,205	301
SOx	37	219	438	119
ATC Permit N-1646-23-4				
Pollutant	Annual PE <sub>2</sub> (lb/year)	Annual PE <sub>2</sub> <sub>Enterprise II RTO</sub> (lb/year)	Annual PE <sub>2</sub> <sub>Reeco Retherm RTO</sub> (lb/year)	Post-Project Annual PE (lb/year)
CO	14,016	14,491	27,448	19,258
PM <sub>10</sub>	621	621	1,205	849
SOx	219	219	438	301
ATC Permit N-1646-24-4				
Pollutant	Annual PE <sub>2</sub> (lb/year)	Annual PE <sub>2</sub> <sub>Enterprise II RTO</sub> (lb/year)	Annual PE <sub>2</sub> <sub>Reeco Retherm RTO</sub> (lb/year)	Post-Project Annual PE (lb/year)
CO	13,323	14,491	27,448	18,565
PM <sub>10</sub>	584	621	1,205	812
SOx	219	219	438	301

ATC Permit N-1646-38-3				
Pollutant	Annual PE2 (lb/year)	Annual PE2 <sub>Enterprise II RTO</sub> (lb/year)	Annual PE2 <sub>Reeco Retherm RTO</sub> (lb/year)	Post-Project Annual PE (lb/year)
CO	8,700	14,491	27,448	13,942
PM <sub>10</sub>	380	621	1,205	608
SOx	143	219	438	225

The pre-project annual PE for PM<sub>10</sub>, CO, and SOx for the modified printing operations will be the combined annual PE1 from the drying ovens and the two shared Megtec Enterprise II and Reeco Retherm RTOs. The two RTOs are shared between eight graphic arts printing presses (Permit Units N-1646-6, -7, -16, -23, -24, -25, -36, & -38). Therefore:

$$\text{Pre-Project Annual PE} = \text{Annual PE1}_{\text{Total/Printing Press}} + [(\text{Annual PE1}_{\text{Enterprise II RTO}} + \text{Annual PE1}_{\text{Reeco Retherm RTO}}) \div 8 \text{ Permit units}]$$

Permit Units N-1646-6-2, N-1646-7-2, & N-1646-16-2				
Pollutant	Annual PE1 (lb/year)	Annual PE1 <sub>Enterprise II RTO</sub> (lb/year)	Annual PE1 <sub>Reeco Retherm RTO</sub> (lb/year)	Pre-Project Annual PE (lb/year)
CO	1,022	7,008	13,250	3,554
PM <sub>10</sub>	73	621	1,205	301
SOx	37	219	438	119

Permit Unit N-1646-23-1				
Pollutant	Annual PE1 (lb/year)	Annual PE1 <sub>Enterprise II RTO</sub> (lb/year)	Annual PE1 <sub>Reeco Retherm RTO</sub> (lb/year)	Pre-Project Annual PE (lb/year)
CO	6,753	7,008	13,250	9,285
PM <sub>10</sub>	621	621	1,205	849
SOx	219	219	438	301

Permit Unit N-1646-24-1				
Pollutant	Annual PE1 (lb/year)	Annual PE1 <sub>Enterprise II RTO</sub> (lb/year)	Annual PE1 <sub>Reeco Retherm RTO</sub> (lb/year)	Pre-Project Annual PE (lb/year)
CO	6,424	7,008	13,250	8,956
PM <sub>10</sub>	584	621	1,205	812
SOx	219	219	438	301

Permit Unit N-1646-38-0				
Pollutant	Annual PE1 (lb/year)	Annual PE1 <sub>Enterprise II RTO</sub> (lb/year)	Annual PE1 <sub>Reeco Retherm RTO</sub> (lb/year)	Pre-Project Annual PE (lb/year)
CO	13,800	7,008	13,250	16,332
PM <sub>10</sub>	380	621	1,205	608
SOx	143	219	438	225

$$\text{Quarterly IPE} = (\text{Post-Project Annual PE} - \text{Pre-Project Annual PE}) \div 4 \text{ Quarters/year}$$

ATC Permit Number	Pollutant	Post-Project Annual PE (lb/year)	Pre-Project Annual PE (lb/year)	Quarterly IPE (lb/qtr)
N-1646-6-4 N-1646-7-4, & N-1646-16-4	NOx	---	---	0 <sup>(2)</sup>
	CO	7,323	3,554	942.25
	VOC	---	---	0 <sup>(2)</sup>
	PM <sub>10</sub>	301	301	0
	SOx	119	119	0
N-1646-23-4	NOx	---	---	0 <sup>(2)</sup>
	CO	19,258	9,285	2,493.25
	VOC	---	---	0 <sup>(2)</sup>
	PM <sub>10</sub>	849	849	0
	SOx	301	301	0
N-1646-24-4	NOx	---	---	0 <sup>(2)</sup>
	CO	18,565	8,956	2,402.25
	VOC	---	---	0 <sup>(2)</sup>
	PM <sub>10</sub>	812	812	0
	SOx	301	301	0
N-1646-38-3	NOx	---	---	0 <sup>(2)</sup>
	CO	13,942	16,332	-597.5
	VOC	---	---	0 <sup>(2)</sup>
	PM <sub>10</sub>	608	608	0
	SOx	225	225	0

For ATC Permit N-1646-39-3

The post-project annual PE for PM<sub>10</sub>, CO, and SOx for this permit unit due to this project will be the combined annual PE<sub>2</sub> from the drying oven and the shared Megtec Cleanswitch RTO. The RTO is shared between three graphic arts printing presses (Permit Units N-1646-26, -37, & -39). The annual PE<sub>2</sub> from the thermal oxidizer will be evenly distributed between three permit units. Therefore:

$$\text{Post-Project Annual PE} = \text{Annual PE}_{2\text{Total/N-1646-26-3}} + (\text{Annual PE}_{2\text{Cleanswitch RTO}} \div 3 \text{ Permit units})$$

ATC Permit N-1646-39-3			
Pollutant	Annual PE <sub>2</sub> (lb/year)	Annual PE <sub>2</sub> <sub>Cleanswitch RTO</sub> (lb/year)	Post-Project Annual PE (lb/year)
CO	2,027	4,351	3,477
PM <sub>10</sub>	117	250	200
SOx	33	71	57

The pre-project annual PE for PM<sub>10</sub>, CO, and SOx for the modified printing operation will be the combined annual PE<sub>1</sub> from the drying oven and the shared Megtec Cleanswitch RTO. The RTO is shared between three graphic arts printing presses (Permit Units N-1646-26, -37, & -39). Therefore:

$$\text{Pre-Project Annual PE} = \text{Annual PE}_{1\text{Total/N-1646-26-2}} + (\text{Annual PE}_{2\text{Cleanswitch RTO}} \div 3 \text{ Permit units})$$

<sup>2</sup> As discussed above, the quarterly IPE is equal to zero for NOx and VOC emissions.

Permit Unit N-1646-39-1			
Pollutant	Annual PE1 (lb/year)	Annual PE1 <sub>cleanswitch RTO</sub> (lb/year)	Pre-Project Annual PE (lb/year)
CO	3,495	1,750	4,078
PM <sub>10</sub>	117	250	200
SOx	33	71	57

$$\text{Quarterly IPE} = (\text{Post-Project Annual PE} - \text{Pre-Project Annual PE}) \div 4 \text{ Quarters/year}$$

ATC Permit Number	Pollutant	Post-Project Annual PE (lb/year)	Pre-Project Annual PE (lb/year)	Quarterly IPE (lb/qr)
N-1646-39-3	NOx	---	---	0 <sup>(2)</sup>
	CO	3,477	4,078	-150.25
	VOC	---	---	0 <sup>(2)</sup>
	PM <sub>10</sub>	200	200	0
	SOx	57	57	0

## 2. Adjusted Increase in Permitted Emissions (AIPE):

The AIPE is used to determine if BACT is required for emission units that are being modified. AIPE will be calculated utilizing the following equations (Ref. Rule 2201, Section 4.3 & 4.4):

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

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

PE2 = The emissions units post project potential to emit (lb/day)

HAPE = The emissions units Historically Adjusted Potential to Emit (lb/day)

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

Where, PE1 = The emission unit's Potential to Emit prior to modification.

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

EF1 = The emission unit's permitted emission factor for the pollutant before the modification.

### Printing Operation under ATC Permits N-1646-6-4 & N-1646-16-4:

For these printing operations, the applicant is proposing an increase in VOC emissions rate without proposing a change to the printing press, control efficiency, or control method. Therefore:

$$\text{EF2}_{\text{VOC}} = 69.1 \text{ lb-VOC/day} > \text{EF1}_{\text{VOC}} = 20.0 \text{ lb-VOC/day}$$

$$\text{EF2}_{\text{VOC}} / \text{EF1}_{\text{VOC}} = 1.0$$

$$\text{AIPE}_{\text{Printing/VOC}} = \text{PE2}_{\text{VOC}} - \text{HAPE}_{\text{VOC}}$$

ATC Permit Number	PE2 (lb/day)	PE1 (lb/day)	EF2 / EF1	HAPE (lb/day)	AIPE <sub>Printing/VOC</sub> (lb-VOC/day)
N-1646-6-4	69.1	20.0	1.0	20.0	49.1
N-1646-16-4	69.1	20.0	1.0	20.0	49.1

Printing Operation under ATC Permits N-1646-7-4, N-1646-23-4, N-1646-24-4, & N-1646-38-3:

For the printing operation, the applicant is not proposing a change to the processing rate, control efficiency, or control method. The pre and post-project emission factor for the printing operation will not change. Therefore:

$$EF2 = EF1 \text{ and } EF2 / EF1 = 1$$

$$HAPE = PE1 \text{ and } PE2 = PE1$$

$$AIPE_{\text{Printing/N-1646-7-4, -23-4, -24-4, \& 38-3}} = PE2 - PE1 = 0 \text{ lb/day (for VOC emissions)}$$

Printing Operation under ATC Permit N-1646-39-3:

For these printing operations, the applicant is proposing an increase in VOC emissions rate without proposing a change to the printing press, control efficiency, or control method. Therefore:

$$EF2_{\text{VOC}} = 50.0 \text{ lb-VOC/day} > EF1_{\text{VOC}} = 17.0 \text{ lb-VOC/day}$$

$$EF2_{\text{VOC}} / EF1_{\text{VOC}} = 1.0$$

$$AIPE_{\text{Printing/VOC}} = PE2_{\text{VOC}} - HAPE_{\text{VOC}}$$

ATC Permit Number	PE2 (lb/day)	PE1 (lb/day)	EF2 / EF1	HAPE (lb/day)	AIPE <sub>Printing/VOC</sub> (lb-VOC/day)
N-1646-39-3	50.0	17.0	1.0	17.0	33.0

Drying Ovens under ATC Permits N-1646-6-4, N-1646-7-4, & N-1646-16-4:

For these drying ovens, the applicant is proposing a decrease in the NO<sub>x</sub> emission rate, an increase in the CO emission rate, and no changes to the VOC, PM<sub>10</sub>, and SO<sub>x</sub> emission rates. Therefore:

$$EF2_{\text{NO}_x} = 0.0492 \text{ lb/MMBtu} < EF1_{\text{NO}_x} = 0.1 \text{ lb/MMBtu and}$$

$$EF2_{\text{NO}_x} / EF1_{\text{NO}_x} = 0.492$$

$$EF2_{\text{CO}} = 0.174 \text{ lb/MMBtu} > EF1_{\text{CO}} = 0.084 \text{ lb/MMBtu and } EF2_{\text{CO}} / EF1_{\text{CO}} = 1$$

$$EF2_{\text{VOC, PM}_{10}, \& \text{SO}_x} = EF1_{\text{VOC, PM}_{10}, \& \text{SO}_x} = 1$$

$$AIPE_{\text{Drying Ovens}} = PE2_{\text{Drying Ovens}} - HAPE_{\text{Drying Ovens}}$$

Pollutant	PE2 (lb/day)	PE1 (lb/day)	EF2 / EF1	HAPE (lb/day)	AIPE <sub>Drying Ovens/N-1646-6-4, 7-4, \&amp; 16-4</sub> (lb/day)
NO <sub>x</sub>	1.6	3.3	0.492	1.6	0
CO	5.7	2.8	1.0	2.8	2.9
VOC	0.2	0.2	1.0	0.2	0
PM <sub>10</sub>	0.2	0.2	1.0	0.2	0
SO <sub>x</sub>	0.1	0.1	1.0	0.1	0

Drying Ovens under ATC Permits N-1646-23-4 & N-1646-24-4:

For these drying ovens, the applicant is proposing a decrease in the NOx emission rate, an increase in the CO emission rate, and no changes to the VOC, PM<sub>10</sub>, and SOx emission rates. Therefore:

$$EF2_{NOx} = 0.0492 \text{ lb/MMBtu} < EF1_{NOx} = 0.0789 \text{ lb/MMBtu} \text{ and}$$

$$EF2_{NOx} / EF1_{NOx} = 0.624$$

$$EF2_{CO} = 0.174 \text{ lb/MMBtu} > EF1_{CO} = 0.084 \text{ lb/MMBtu} \text{ and } EF2_{CO} / EF1_{CO} = 1$$

$$EF2_{VOC, PM10, \& SOx} = EF1_{VOC, PM10, \& SOx} = 1$$

$$AIPE_{Drying\ Ovens} = PE2_{Drying\ Ovens} - HAPE_{Drying\ Ovens}$$

ATC Permit No.	Pollutant	PE2 (lb/day)	PE1 (lb/day)	EF2/EF1	HAPE (lb/day)	AIPE <sub>Drying Ovens</sub> (lb/day)
N-1646-23-4	NOx	10.9	17.4	0.624	10.9	0
	CO	38.4	18.5	1.0	18.5	19.9
	VOC	1.2	1.2	1.0	1.2	0
	PM <sub>10</sub>	1.7	1.7	1.0	1.7	0
	SOx	0.6	0.6	1.0	0.6	0
N-1646-24-4	NOx	10.3	16.6	0.624	10.4	0 <sup>(3)</sup> (-0.1)
	CO	36.5	17.6	1.0	17.6	18.9
	VOC	1.2	1.2	1.0	1.2	0
	PM <sub>10</sub>	1.6	1.6	1.0	1.7	0
	SOx	0.6	0.6	1.0	0.6	0

Drying Ovens under ATC Permit N-1646-38-3:

For the drying ovens, the applicant is proposing an increase in the NOx emission rate, a decrease in the CO emission rate, and no changes to the VOC, PM<sub>10</sub>, and SOx emission rates. Therefore:

$$EF2_{NOx} = 0.0492 \text{ lb/MMBtu} > EF1_{NOx} = 0.036 \text{ lb/MMBtu} \text{ and}$$

$$EF2_{NOx} / EF1_{NOx} = 1.0$$

$$EF2_{CO} = 0.174 \text{ lb/MMBtu} < EF1_{CO} = 0.276 \text{ lb/MMBtu} \text{ and } EF2_{CO} / EF1_{CO} = 0.630$$

$$EF2_{VOC, PM10, \& SOx} = EF1_{VOC, PM10, \& SOx} = 1$$

$$AIPE_{Drying\ Ovens} = PE2_{Drying\ Ovens} - HAPE_{Drying\ Ovens}$$

Pollutant	PE2 (lb/day)	PE1 (lb/day)	EF2/EF1	HAPE (lb/day)	AIPE <sub>Drying Ovens/N-1646-38-3</sub> (lb/day)
NOx	6.7	4.9	1.0	4.9	1.8
CO	23.8	37.8	0.630	23.8	0
VOC	0.8	0.8	1.0	0.8	0
PM <sub>10</sub>	1.0	1.0	1.0	1.0	0
SOx	0.4	0.4	1.0	0.4	0

<sup>3</sup> Per District practice, calculated negative values for AIPE are set equal to zero.

Drying Oven under ATC Permit N-1646-39-3:

For these drying ovens, the applicant is proposing a decrease in the NO<sub>x</sub> and CO emission rates and no changes to the VOC, PM<sub>10</sub>, and SO<sub>x</sub> emission rates. Therefore:

$$EF_{2NO_x} = 0.0492 \text{ lb/MMBtu} < EF_{1NO_x} = 0.16 \text{ lb/MMBtu and}$$

$$EF_{2NO_x} / EF_{1NO_x} = 0.308$$

$$EF_{2CO} = 0.174 \text{ lb/MMBtu} < EF_{1CO} = 0.3 \text{ lb/MMBtu and } EF_{2CO} / EF_{1CO} = 0.58$$

$$EF_{2VOC, PM_{10}, \& SO_x} = EF_{1VOC, PM_{10}, \& SO_x} = 1$$

$$AIPE_{\text{Drying Ovens}} = PE_{2\text{Drying Ovens}} - HAPE_{\text{Drying Ovens}}$$

Pollutant	PE2 (lb/day)	PE1 (lb/day)	EF2 / EF1	HAPE (lb/day)	AIPE <sub>Drying Ovens/N-1646-39-3</sub> (lb/day)
NO <sub>x</sub>	5.4	17.6	0.308	5.4	0
CO	19.2	33.0	0.58	19.1	0.1
VOC	2.2	2.2	1.0	2.2	0
PM <sub>10</sub>	1.1	1.1	1.0	1.1	0
SO <sub>x</sub>	0.3	0.3	1.0	0.3	0

**E. Facility Emissions:**

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

Pursuant to Section 4.9 of District Rule 2201, the Pre-project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Pre-Project Stationary Source Potential to Emit (SSPE1) <sup>(4)</sup> (lb/year)					
Permit Number	NO <sub>x</sub>	CO	VOC	PM <sub>10</sub>	SO <sub>x</sub>
N-1646-2-2 (ATC) <sup>(5)</sup> (Paper Scrap Handling System served by Sock Filters)	---	---	---	37	---
N-1646-6-2 <sup>(6)</sup> (Heatset Offset Lithographic Printing Press #514 served by two Drying Ovens vented to the Megtec Enterprise II or Reeco Retherm RTOs)	54,750	1,022	85,994	73	37
N-1646-7-2 <sup>(6)</sup> (Heatset Offset Lithographic Printing Press #515 served by two Drying Ovens vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	1,022	---	73	37

<sup>4</sup> Unless otherwise noted, the pre-project annual emissions from the permit units at this facility were obtained from Project #N-1074543.

<sup>5</sup> Obtained from the Annual PE2 calculations from Project #N-1072048.

<sup>6</sup> Obtained from the Annual PE1 calculations section of this document.

Permit Number	NOx	CO	VOC	PM <sub>10</sub>	SOx
N-1646-10-3 (Non-Heatset Offset Lithographic Printing Press #504)	---	---	---	---	---
N-1646-11-1 (Harris Video Ink Jet Printer #733)	---	---	---	0	---
N-1646-12-1 (Harris Video Ink Jet Printer #734)	---	---	---	0	---
N-1646-13-1 (Harris Video Ink Jet Printer #735)	---	---	---	0	---
N-1646-14-1 (Harris Video Ink Jet Printer #737)	---	---	---	0	---
N-1646-15-3 (ATC) (Cerutti Flexographic Printing Press #505)	---	---	---	---	---
N-1646-16-2 <sup>(6)</sup> (Heatset Offset Lithographic Printing Press #517 served by two Drying Ovens vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	1,022	---	73	37
N-1646-19-3 (ATC) <sup>(5)</sup> (Paper Slitting System served by a Dust Collector)	---	---	---	0	---
N-1646-23-2 <sup>(6)</sup> (Heatset Offset Lithographic Printing Press #519 served by one Drying Oven vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	6,753	---	621	219
N-1646-24-2 <sup>(6)</sup> (Heatset Offset Lithographic Printing Press #507 served by one Drying Oven vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	6,424	---	584	219
N-1646-25-2 (Heatset Offset Lithographic Printing Press #508 served by one Drying Oven vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	48,034	---	2,081	803
N-1646-26-3 (ATC) (Heatset Offset Lithographic Printing Press #531 served by one Drying Oven vented to the Megtec Cleanswitch RTO)	---	16,024	---	694	256
N-1646-34-0 (253 hp Diesel-Fired Emergency IC Engine powering a fire pump)	1,658	549	40	39	18
N-1646-36-1 (ATC) (Heatset Offset Lithographic Printing Press #520 served by one Drying Oven vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	3,255	---	142	53
N-1646-37-1 (ATC) (Heatset Offset Lithographic Printing Press #522 served by two Drying Oven vented to the Megtec Cleanswitch RTO)	---	8,700	---	380	143
N-1646-38-0 (ATC) <sup>(6)</sup> (Heatset Offset Lithographic Printing Press #523 served by two Drying Oven vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	13,800	---	380	143

Permit Number	NOx	CO	VOC	PM <sub>10</sub>	SOx
N-1646-39-1 (Heatset Offset Lithographic Printing Press #524 served by one Drying Oven vented to the Megtec Cleanswitch RTO)	---	3,495	---	117	33
18 MMBtu/hr Reeco Retherm RTO	---	27,448	---	1,205	438
9.5 MMBtu/hr Megtec Enterprise II RTO	---	14,491	---	621	219
5.728 MMBtu/hr Megtec Cleanswitch RTO	---	4,351	---	250	71
Total	56,408	156,390	86,034	7,370	2,726
Major Source Threshold Levels	50,000	200,000	50,000	140,000	140,000
Major Source	YES	NO	YES	NO	NO

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

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

Post-Project Stationary Source Potential to Emit (SSPE2) (lb/year)					
Permit Number	NOx	CO	VOC	PM <sub>10</sub>	SOx
N-1646-2-2 (ATC) (Paper Scrap Handling System served by Sock Filters)	---	---	---	37	---
N-1646-6-4 (ATC) <sup>(7)</sup> (Heatset Offset Lithographic Printing Press #514 served by two Drying Ovens vented to the Megtec Enterprise II or Reeco Retherm RTOs)	54,750	2,081	85,994	73	37
N-1646-7-4 (ATC) <sup>(7)</sup> (Heatset Offset Lithographic Printing Press #515 served by two Drying Ovens vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	2,081	---	73	37
N-1646-10-3 (Non-Heatset Offset Lithographic Printing Press #504)	---	---	---	---	---
N-1646-11-1 (Harris Video Ink Jet Printer #733)	---	---	---	0	---
N-1646-12-1 (Harris Video Ink Jet Printer #734)	---	---	---	0	---
N-1646-13-1 (Harris Video Ink Jet Printer #735)	---	---	---	0	---
N-1646-14-1 (Harris Video Ink Jet Printer #737)	---	---	---	0	---

<sup>7</sup> VOC & NOx emissions included in the facility wide VOC emissions quantified under permit N-1646-6-4. CO, PM<sub>10</sub>, & SOx emissions are obtained from the Annual PE2 calculations section of this document.

Permit Number	NOx	CO	VOC	PM <sub>10</sub>	SOx
N-1646-15-3 (ATC) (Cerutti Flexographic Printing Press #505)	---	---	---	---	---
N-1646-16-4 (ATC) <sup>(7)</sup> (Heatset Offset Lithographic Printing Press #517 served by two Drying Ovens vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	2,081	---	73	37
N-1646-19-3 (ATC) (Paper Slitting System served by a Dust Collector)	---	---	---	0	---
N-1646-23-4 (ATC) <sup>(7)</sup> (Heatset Offset Lithographic Printing Press #519 served by one Drying Oven vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	14,016	---	621	219
N-1646-24-4 (ATC) <sup>(7)</sup> (Heatset Offset Lithographic Printing Press #507 served by one Drying Oven vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	13,323	---	584	219
N-1646-25-2 (ATC) (Heatset Offset Lithographic Printing Press #508 served by one Drying Oven vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	48,034	---	2,081	803
N-1646-26-3 (ATC) (Heatset Offset Lithographic Printing Press #531 served by one Drying Oven vented to the Megtec Cleanswitch RTO)	---	16,024	---	694	256
N-1646-34-0 (253 hp Diesel-Fired Emergency IC Engine powering a fire pump)	1,658	549	40	39	18
N-1646-36-1 (ATC) (Heatset Offset Lithographic Printing Press #520 served by one Drying Oven vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	3,255	---	142	53
N-1646-37-1 (ATC) (Heatset Offset Lithographic Printing Press #522 served by two Drying Oven vented to the Megtec Cleanswitch RTO)	---	13,800	---	380	143
N-1646-38-3 (ATC) <sup>(7)</sup> (Heatset Offset Lithographic Printing Press #523 served by two Drying Oven vented to the Megtec Enterprise II or Reeco Retherm RTOs)	---	8,700	---	380	143
N-1646-39-3 (ATC) <sup>(7)</sup> (Heatset Offset Lithographic Printing Press #524 served by one Drying Oven vented to the Megtec Cleanswitch RTO)	---	2,027	---	117	33
18 MMBtu/hr Reeco Retherm RTO <sup>(7)</sup>	---	27,448	---	1,205	438
9.5 MMBtu/hr Megtec Enterprise II RTO <sup>(7)</sup>	---	14,491	---	621	219
5.728 MMBtu/hr Megtec Cleanswitch RTO <sup>(7)</sup>	---	4,351	---	250	71
<b>Total</b>	<b>56,408</b>	<b>172,261</b>	<b>86,034</b>	<b>7,370</b>	<b>2,726</b>
<b>Major Source Threshold Levels</b>	<b>50,000</b>	<b>200,000</b>	<b>50,000</b>	<b>140,000</b>	<b>140,000</b>
<b>Major Source</b>	<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>	<b>NO</b>

### 3. Baseline Emissions:

Pursuant to Rule 2201, Section 3.7, the Baseline Emissions (BE) for a given pollutant is the sum of the following:

BE = Pre-project Potential to Emit for:

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

Otherwise,

BE = Historic Actual Emissions (HAE), calculated pursuant to Rule 2201, Section 3.22

Based on the SSPE1 and SSPE2 calculations in the above section, the facility is a major source for VOC and NOx.

Pursuant to Rule 2201, Section 3.7.1.2, for a major source, the Baseline Emissions (BE) for a given pollutant is equal to the sum of the pre-project Potential to Emit for any Highly-Utilized Emissions Unit, provided that if the unit has a Specific Limiting Condition (SLC), all units combined under the SLC have an average combined annual Actual Emissions during the two consecutive years immediately prior to filing of an application for an ATC were equal to or greater than 80% of the pre-project SLC limit.

The emission units are limited by a facility-wide SLC for VOC. Pursuant to the emissions calculations in Appendix E, the average combined annual Actual Emissions are greater than 80% of the pre-project SLC limit of 85,994 lb VOC/year<sup>8</sup>. All emission units under the facility wide SLC are Highly-Utilized Emission Units for VOC. Therefore, the BE for VOC will be equal to the sum of the pre-project PE for all emission units effected by this proposed project.

Pursuant to Rule 2201, Section 3.7.1.4, for a major source, the Baseline Emissions (BE) for a given pollutant is equal to the sum of the pre-project Potential to Emit for any Clean Emissions Unit, provided that if the unit has a Specific Limiting Condition (SLC), all units combined under the SLC also qualify as Clean Emission Units. Section 3.12.2 defines a clean emissions unit as a unit equipped with emissions control technology that meets the requirements for achieved-in-practice BACT as accepted by the APCO during the five years immediately prior to the submission of the complete application. To demonstrate that an emission unit qualifies as a clean unit, the emissions unit must be using a control method that as been accepted as BACT within the last five years for the same class and category of source. The only emission units, which emit NOx are the facility's existing drying ovens, regenerative thermal oxidizers, and a 235 hp diesel-fired emergency IC engine powering a fire pump.

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<sup>8</sup> Based on a daily SLC of 235.6 lb VOC/day and operating a maximum of 365 days/yr, the annual pre-project SLC is 85,994 lb VOC/yr.

For high-end graphics printing using a heatset offset lithographic printing press with a drying oven, the District's current BACT Clearinghouse Guideline 4.7.1. (See Appendix D), lists the achieved-in-practice BACT for NOx emissions to be the use of natural gas fuel in the drying ovens. A BACT analysis for NOx emissions was performed on 3/13/06 under District project number N-1054269 to install two heat-set offset lithographic printing presses each served by a drying oven (ATC Permits N-1646-37-0 & N-1646-38-0). According to the referenced BACT analysis, the drying ovens meet the achieved-in-practice BACT requirements for NOx emissions as identified under BACT Guideline 4.7.1. The drying ovens are therefore Clean Emission Units for NOx.

The regenerative thermal oxidizers are utilized as a control device to reduce the VOC emissions from the printing operation and would not need to qualify as a clean emissions unit.

The emissions from the 235 hp diesel-fired emergency standby IC engine powering a fire pump were not included in the facility's SLC for NOx and VOC emissions. Furthermore, emergency standby IC engines are exempt from offsets and the BE is used to determine the offset quantity requirements. Therefore, the IC engine will not be included in this determination of a Clean Emissions Unit.

The emission units under the SLC are Clean Emission Units for NOx and the BE for NOx will be equal to the sum of the pre-project PE for all emission units effected by this proposed project.

Pursuant to Rule 2201, Section 3.7.1.1, for a non-major source, the Baseline Emissions (BE) for a given pollutant is equal to the sum of the pre-project Potential to Emit for all emission units. Since this facility is a non-major source for CO, PM<sub>10</sub> and SOx, the BE for these pollutants will be equal to the sum of the pre-project PE for all emission units effected by this proposed project.

**4. Stationary Source Project Increase in Permitted Emissions (SSIPE):**

SSIPE is used to determine if a project triggers public notification (Ref. District Rule 2201, Section 5.4.5). For the proposed project:

$$\text{SSIPE (for any one pollutant)} = \text{SSPE2} - \text{SSPE1}$$

SSIPE			
Pollutant	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)
NOx	56,408	56,408	0
CO	172,261	156,390	15,871
VOC	86,034	86,034	0
PM <sub>10</sub>	7,370	7,370	0
SOx	2,726	2,726	0

## F. Major Modification:

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

- A. If Best Available Control Technology (BACT) is triggered for a new or modified emission unit that results in a Title I Modification (District Rule 2201, Section 4.1.3); and
- B. If a public notification is triggered (District Rule 2201, Section 5.4.1).

Based on the SSPE1 and SSPE2 calculations in Section 2.(E).1. and (E).2. of this document, the facility is a major source for NO<sub>x</sub> and VOC emissions. In order to determine whether a Major Modification is triggered, the Contemporaneous Increase in Permitted Emissions (CIPE) is calculated and compared to the appropriate Major Modification trigger threshold pursuant to Table 3-3 of District Rule 2201 for NO<sub>x</sub> and VOC emissions. The CIPE is calculated as follows:  $CIPE = \Sigma(PE2 - BE)$ , for all units involved in a project.

It is the District's position, when determining if a Major Modification is triggered, to only consider the emissions from the units under the proposed project (even if the facility has a Specific Limiting Condition for the pollutants in question). As shown in Section VII.E.1. of this document, the facility is an existing Major Source for NO<sub>x</sub> and VOC emissions and the Major Modification trigger thresholds for NO<sub>x</sub> and VOC emissions is 50,000 lb/yr for each pollutant.

The project by itself would need to be a significant increase in order to trigger a Major Modification. The post-project potential NO<sub>x</sub> emissions from the proposed modified dryers and thermal oxidizers is 27,879 lb-NO<sub>x</sub>/year<sup>(9)</sup>, which is less than the trigger threshold of 50,000 lb-NO<sub>x</sub>/year. Therefore, the project cannot be a significant increase and the project does not constitute a Major Modification for NO<sub>x</sub> emissions.

For VOC emissions, as shown in Appendix E of this document, the Net Emissions Change (NEC) for VOC emissions, from the units associated with this proposed project is 16,717 lb-VOC/year, which is less than the trigger threshold of 50,000 lb-VOC/yr. Therefore, the proposed project also cannot trigger a Major modification for VOC emissions, and no further calculations are required.

## G. Federal Major Modification:

Since this project does not trigger District Major Modification, it will also not trigger Federal Major Modifications (Ref. District Rule 2201, Section 3.17).

<sup>9</sup> Project NO<sub>x</sub> Emissions = Annual PE<sub>2NO<sub>x</sub>/N-1646-6-4</sub> + Annual PE<sub>2NO<sub>x</sub>/N-1646-7-4</sub> + Annual PE<sub>2NO<sub>x</sub>/N-1646-16-4</sub> + Annual PE<sub>2NO<sub>x</sub>/N-1646-23-4</sub> + Annual PE<sub>2NO<sub>x</sub>/N-1646-24-4</sub> + Annual PE<sub>2NO<sub>x</sub>/N-1646-38-3</sub> + Annual PE<sub>2NO<sub>x</sub>/N-1646-39-3</sub> + Annual PE<sub>2NO<sub>x</sub>/Megtec Enterprise II RTO</sub> + Annual PE<sub>2NO<sub>x</sub>/Reeco Retherm RTO</sub> + Annual PE<sub>2NO<sub>x</sub>/Megtec Cleanswitch RTO</sub> = 584 lb-NO<sub>x</sub>/yr + 584 lb-NO<sub>x</sub>/yr + 584 lb-NO<sub>x</sub>/yr + 3,979 lb-NO<sub>x</sub>/yr + 6,059 lb-NO<sub>x</sub>/yr + 2,460 lb-NO<sub>x</sub>/yr + 573 lb-NO<sub>x</sub>/yr + 4,088 lb-NO<sub>x</sub>/yr + 7,738 lb-NO<sub>x</sub>/yr + 1,230 lb-NO<sub>x</sub>/yr = 27,879 lb-NO<sub>x</sub>/yr

## VIII. Compliance

### Rule 2201 - New and Modified Stationary Source Review Rule:

#### A. Best Available Control Technology (BACT):

BACT requirements are triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. BACT is required for the following actions: (1) Any new emissions unit with a potential to emit exceeding two pounds in any one day, (2) The relocation of an existing emissions unit from one stationary source to another with a potential to emit exceeding two pounds in any one day, (3) Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding two pounds in any one day, and (4) Major modifications. If the post project Stationary Source Potential to Emit (SSPE2) for Carbon Monoxide is less than 200,000 pounds per year, BACT is not required for Carbon Monoxide.

#### Best Available Control Technology (BACT) for ATC Permits N-1646-6-4 and N-1646-16-4

##### 1. BACT Applicability:

As shown in Section VII.D.2 of this document, the applicant is proposing to modify these heatset offset lithographic printing operations with an AIPE of greater than 2.0 lb/day for VOC emissions from the offset heatset lithographic printing press and CO emissions from the associated drying ovens. However, the post project Stationary Source Potential to Emit (SSPE2) for CO is 172,261 lb/year, which is less than 200,000 lb/year. Therefore, BACT will only be triggered for VOC from the printing presses associated with these permit units.

##### 2. BACT Guidance:

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule." For source categories or classes covered in the BACT Clearinghouse, relevant information under each of the steps may be simply cited from the Clearinghouse without further analysis.

The District's BACT Clearinghouse Guideline 4.7.1 covers high-end graphics printing using a heatset offset lithographic printing press with a drying oven for all equipment ratings (See Appendix D). Therefore, relevant information will be cited from the referenced BACT Guideline without further analysis.

##### 3. BACT Analysis for VOC Emissions:

According to the referenced BACT Guideline 4.7.1, the most stringent control technique for VOC emissions is VOC capture and incineration using high-end graphics heatset inks with a VOC content < 45% by weight (less water & exempt compounds) and fountain solutions with a VOC content of < 15% by volume. The applicant is proposing the use of the most stringent control technique, therefore, BACT is being proposed and no further analysis is required for VOC emissions.

**Best Available Control Technology (BACT) for ATC Permits N-1646-7-4, N-1646-23-4, and N-1646-24-4**

**1. BACT Applicability:**

As shown in Section VII.D.2 of this document, the applicant is proposing to modify these heatset offset lithographic printing operations with an AIPE of greater than 2.0 lb/day only for CO emissions from the associated drying ovens. However, the post project Stationary Source Potential to Emit (SSPE2) for CO is 172,261 lb/year, which is less than 200,000 lb/year. Therefore, BACT will not be triggered for the emission units associated with these permit units.

**Best Available Control Technology (BACT) for ATC Permit N-1646-38-3**

**1. BACT Applicability:**

As shown in the Section VII.D.2. of this document, the applicant is proposing to modify the heatset offset lithographic printing operation with an AIPE of less than 2.0 lb/day for any criteria pollutants. Therefore, BACT will not be triggered for the emission units serving this permit unit.

**Best Available Control Technology (BACT) for ATC Permit N-1646-39-3**

**1. BACT Applicability:**

As shown in the Section VII.D.2. of this document, the applicant is proposing to modify emission units with an AIPE of greater than 2.0 lb/day only for VOC emissions from the offset heatset lithographic printing press. Therefore, BACT is triggered only for VOC emissions from the printing press.

**2. BACT Guidance:**

Per District Policy APR 1305, Section IX, "A top-down BACT analysis shall be performed as a part of the Application Review for each application subject to the BACT requirements pursuant to the District's NSR Rule." For source categories or classes covered in the BACT Clearinghouse, relevant information under each of the steps may be simply cited from the Clearinghouse without further analysis.

The District's BACT Clearinghouse Guideline 4.7.1 covers high-end graphics printing using a heatset offset lithographic printing press with a drying oven for all equipment ratings (See Appendix D). Therefore, relevant information will be cited from the referenced BACT Guideline without further analysis.

**3. BACT Analysis for VOC Emissions:**

According to the referenced BACT Guideline 4.7.1, the most stringent control technique for VOC emissions is VOC capture and incineration using high-end graphics heatset inks with a VOC content < 45% by weight (less water & exempt compounds) and fountain solutions with a VOC content of < 15% by volume. The applicant is proposing the use of the most stringent control technique, therefore, BACT is being proposed and no further analysis is required for VOC emissions.

## B. Offsets

### 1. Offset Applicability

Pursuant to Section 4.5.3, offset requirements shall be triggered on a pollutant-by-pollutant basis, unless exempt per Section 4.6. Offsets are required if the post-project SSPE2 totals equals or exceeds the following offset thresholds for any pollutant:

Pollutant	Offset Thresholds (lb/yr)	SSPE2 (lb/yr)	SSPE1 (lb/yr)	Offsets Triggered
NOx	20,000	56,408	56,408	Yes
CO	200,000	172,261	156,390	No
VOC	20,000	86,034	86,034	Yes
PM <sub>10</sub>	29,200	7,370	7,370	No
SOx	54,750	2,726	2,726	No

### 2. Quantity of Offsets Required

The SSPE2 for NOx and VOC emissions exceed the offset threshold and offsets are triggered only for NOx and VOC. According to Section 4.7.1 and 4.7.3, for pollutants with a pre-project Stationary Source Potential to Emit (SSPE1) greater than the emission offset threshold levels, the quantity of emission offsets is calculated as follows:

$$\text{Offset Quantity (lb/yr)} = [\Sigma(\text{PE2} - \text{BE})] \times \text{Offset Ratio}$$

where, Offset Ratio = Distance or interpollutant ratio of Sections 4.8 and 4.13.3

As indicated in Section VII.E.3 of this document, the BE for the existing emission units are equal to the pre-project PE (PE1). Therefore, for this stationary source project:

$$\text{Offset Quantity (lb/yr)} = \Sigma(\text{PE2}_{\text{SLC}} - \text{BE}_{\text{SLC}}) = \text{Annual PE2}_{\text{SLC}} - \text{Annual PE1}_{\text{SLC}}$$

Pollutant	Annual PE2 <sub>SLC</sub> (lb/yr)	Annual PE1 <sub>SLC</sub> (lb/yr)	Offset Quantity (lb/yr)
NOx	56,408	56,408	0
VOC	86,034	86,034	0

The offset trigger level for NOx and VOC are exceeded, but offsets are not required.

## 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:

- New Major Sources
- Major Modifications
- New emission units with a PE > 100 lb/day of any one pollutant

- Modifications with SSPE1 below an offset threshold and SSPE2 above an offset threshold on a pollutant by pollutant basis  
(Existing Facility Offset Threshold Exceedance Notification)
- New stationary sources with SSPE2 exceeding offset thresholds  
(New Facility Offset Threshold Exceedance Notification)
- Any permitting action with a SSIPE exceeding 20,000 lb/yr for any one pollutant.  
(SSIPE Notice)

**a. New Major Source Notice Determination:**

A New Major Source is a new facility, which is also a major source. Since this is not a new facility, public noticing is not required for this project for New Major Source purposes.

**b. Major Modification Notice Determination:**

As indicated in Section VII.F. (Major Modification) above, the proposed project does not result in a net emissions change (NEC), which exceeds the major modification trigger threshold for any pollutant. Therefore, public notice is not required for major modification purposes.

**c. PE Notification:**

As indicated in Section VII.C.2.A. (Daily PE2 Calculations) above, the proposed project will not result in the installation of new emission units with an increase in emissions of greater than 100 lb/day for any pollutant. Therefore, public noticing will be not required for PE > 100 lb/day purposes.

**d. Existing Facility - Offset Threshold Notification**

Existing facilities with the SSPE1 below the offset threshold resulting in an SSPE2 exceeding the offset threshold due to the proposed project for one or more pollutants will require public noticing. As shown in Section VII.E. (Facility Emissions) of this document, the SSPE1 and SSPE2 for NOx and VOC are above the offset threshold levels. Therefore, public noticing is not required for offset threshold exceedance purposes.

**e. New Facility - Offset Threshold 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.4. of this document, the SSIPE will not exceed 20,000 lb/year for any criteria pollutant as a result of this project. Therefore, public noticing will not be required for SSIPE exceeding 20,000 lb/year.

## 2. Public Notice Action

Rule 2201, Section 5.5 details the actions taken by the District when public noticing is triggered according to the application types above. As indicated above the public noticing requirements is not triggered for this project. Therefore, public notification and publication requirements as indicated in section 5.5 of this rule are **not required**.

### D. Daily Emissions Limits

Daily Emission Limits (DELs) are required by Rule 2201, Sections 3.17 & 5.7.2. The daily emission limits from the graphic arts printing operations will be equal to the above calculated daily PE2 for each pollutant. In addition, the applicant is proposing to utilize SLCs on the permit unit. The daily emission limits from the drying oven and thermal oxidizer will be based on the emission rate or emission concentration of each pollutant due to the combustion of natural gas. The following limits will be placed on the Authority to Construct and Permit to Operate to enforce the requirements of this section:

<b>DEL for the Printing Inks and Solvents under ATC Permits N-1646-6-4, -16-4, -23-4, &amp; -24-4</b>		
Pollutant	DEL <sub>Printing</sub> (lb/day)	Daily SLC (lb/day)
VOC	<b>69.1</b>	<b>235.6</b>
NO <sub>x</sub>	See DEL for the Ovens	<b>150</b>

<b>DEL for the Printing Inks and Solvents under ATC Permit N-1646-7-4</b>		
Pollutant	DEL <sub>Printing</sub> (lb/day)	Daily SLC (lb/day)
VOC	<b>20.0</b>	<b>235.6</b>
NO <sub>x</sub>	See DEL for the Ovens	<b>150</b>

<b>DEL for the Printing Inks and Solvents under ATC Permits N-1646-38-3 &amp; -39-3</b>		
Pollutant	DEL <sub>Printing</sub> (lb/day)	Daily SLC (lb/day)
VOC	<b>50.0</b>	<b>235.6</b>
NO <sub>x</sub>	See DEL for the Ovens	<b>150</b>

<b>DEL for the Drying Oven under ATC Permits N-1646-6-4, -7-4, -16-4, -23-4, -24-4, -38-3, &amp; -39-3</b>	
Pollutant	DEL <sub>Drying Ovens</sub>
NO <sub>x</sub>	<b>4.3 ppmvd @ 19% O<sub>2</sub> or 0.0492 lb/MMBtu</b>
CO	<b>25.0 ppmvd @ 19% O<sub>2</sub> or 0.174 lb/MMBtu</b>
VOC	<b>0.0055 lb/MMBtu</b>
PM <sub>10</sub>	<b>0.0076 lb/MMBtu</b>
SO <sub>x</sub>	<b>0.00285 lb/MMBtu</b>

<b>DEL for the Shared 9.5 MMBtu/hr Megtec Enterprise II RTO</b>	
Pollutant	DEL <sub>Megtec Enterprise II RTO</sub>
NO <sub>x</sub>	<b>4.3 ppmvd @ 19% O<sub>2</sub> or 0.0492 lb/MMBtu</b>
CO	<b>25.0 ppmvd @ 19% O<sub>2</sub> or 0.174 lb/MMBtu</b>
VOC	<b>0.0055 lb/MMBtu</b>
PM <sub>10</sub>	<b>0.0076 lb/MMBtu</b>
SO <sub>x</sub>	<b>0.00285 lb/MMBtu</b>

<b>DEL for the Shared 18.0 MMBtu/hr Reeco Retherm Model E RTO</b>	
<b>Pollutant</b>	<b>DEL<sub>Reeco Retherm RTO</sub></b>
<b>NOx</b>	<b>4.3 ppmvd @ 19% O<sub>2</sub> or 0.0492 lb/MMBtu</b>
<b>CO</b>	<b>25.0 ppmvd @ 19% O<sub>2</sub> or 0.174 lb/MMBtu</b>
<b>VOC</b>	<b>0.0055 lb/MMBtu</b>
<b>PM<sub>10</sub></b>	<b>0.0076 lb/MMBtu</b>
<b>SOx</b>	<b>0.00285 lb/MMBtu</b>

<b>DEL for the Shared 5.728 MMBtu/hr Megtec Cleanswitch RTO</b>	
<b>Pollutant</b>	<b>DEL<sub>Megtec Cleanswitch RTO</sub></b>
<b>NOx</b>	<b>4.3 ppmvd @ 19% O<sub>2</sub> or 0.0492 lb/MMBtu</b>
<b>CO</b>	<b>25.0 ppmvd @ 19% O<sub>2</sub> or 0.174 lb/MMBtu</b>
<b>VOC</b>	<b>0.02 lb/MMBtu</b>
<b>PM<sub>10</sub></b>	<b>0.01 lb/MMBtu</b>
<b>SOx</b>	<b>0.00285 lb/MMBtu</b>

## **E. Compliance Assurance**

The following measures shall be taken to ensure continued compliance with District Rules.

### **1. Source Testing & Monitoring**

Pursuant to District Policy APR 1705 (Source Testing Frequency), units equipped with an afterburner, thermal incinerator, or catalytic incinerator for controlling VOC must be tested annually. The drying ovens serving the heatset offset lithographic printing presses are vented to the shared RTOs for VOC control. The applicant is proposing a minimum VOC destruction efficiency of 98% from the facility shared RTOs. Therefore, source testing to verify the control efficiency and VOC emissions from the each shared RTO will be required annually.

The drying ovens will be subject to the source testing and monitoring requirements of District Rule 4309 (Dryers, Dehydrators, and Ovens). Refer to Section VIII, Rule 4309, for a discussion of these source testing and monitoring requirements.

The proposed regenerative thermal oxidizer is not subject to any District Rule monitoring requirements. However, monitoring of the regenerative thermal oxidizers utilizing a continuous temperature indicator and recorder will be required to verify proper operation of the oxidizer.

### **2. Record Keeping**

Daily record keeping will be required to verify compliance with the permitted daily emission limits. The applicant is proposing to limit the combined facility wide daily NOx and VOC emissions to not exceed 150 lb NOx/day and 235.6 lb VOC/day, respectively. Therefore, a permit condition requiring a daily record of the quantity of natural gas utilized by each facility drying oven and thermal oxidizer will be required to verify compliance with the daily NOx emission limit. In addition, a permit condition requiring a daily record of the combined facility-wide daily VOC emissions will be required to verify compliance with the daily VOC emission limit.

The drying ovens will be subject to the record keeping requirements of District Rule 4309 (Dryers, Dehydrators, and Ovens). Refer to Section VIII, Rule 4309, for a discussion of these record keeping requirements.

The graphic arts printing operation will be subject to the record keeping requirements of District Rule 4607 (Graphic Arts and Paper, Film, Foil, and Fabric Coatings). Refer to the conditions on the draft ATC permit for these record keeping requirements.

### 3. Reporting

No applicable District rule or policy requires reporting.

#### **Rule 2520 - Federally Mandated Operating Permits:**

This facility was issued their Title V Operating Permit. The proposed project constitutes a **Minor** Modification to the Title V Permit pursuant to Section 3.20 of this Rule. The applicant has proposed to receive the ATC permits with Certificates of Conformity in accordance with the requirements of 40 CFR 70.6(c), 70.7 and 70.8. Therefore, the 45-day EPA notice will be conducted prior to the issuance of the ATC.

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 C of this document).

Per section 5.3.2 of this rule, the applicant must submit an application for a Title V permit modification prior to implementing the requested changes. The following federally enforceable conditions will be placed on each of these ATC permits to ensure compliance with this rule:

- - *{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 2520] Y*
- - *{1831} Prior to operating with the modifications authorized by this Authority to Construct, the facility shall submit an application for an administrative amendment to its Title V permit, in accordance with District Rule 2520, Section 11.4.2. [District Rule 2520] Y*

Compliance with 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**

Subpart QQ applies to publication rotogravure printing presses, except for proof presses which construction, modification, or reconstruction has commenced after October 28, 1980. This facility does not perform any publication rotogravure printing, therefore, this rule is not applicable.

## **Rule 4002 – National Emissions Standards for Hazardous Air Pollutants**

### **40 CFR Part 63, Subpart KK – National Emissions Standard for the Printing and Publishing Industry**

According to §63.820(a)(1) (Applicability), Subpart KK 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, product and packaging rotogravure, or wide-web flexographic printing presses are operated and .....

According to §63.2 (Definitions), a Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants.

Based on the information provided by the applicant, this facility's only source of HAP emissions are from the printing inks used in their flexographic printing press under permit unit N-1646-15 and the potential HAP emissions are less than 10 tons per year<sup>(10)</sup> for each HAP or any combined of HAPs. Therefore, this facility is not a major source of HAP emissions and this rule is not applicable.

### **40 CFR Part 63, Subpart OOOO - National Emission Standard for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles**

Subpart OOOO applies to the printing, coating, slashing, dyeing, or finishing of fabric and other textiles. This facility does not perform any printing, coating slashing, dyeing, or finishing of fabric and other textiles. Therefore, this rule is not applicable.

## **Rule 4101 - Visible Emissions:**

As long as the equipment is properly maintained and operated, each emission unit will not discharge into the atmosphere any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart or equivalent to 20% opacity. A permit condition will be placed on each of these ATC permits as follows:

- - *{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]*

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<sup>10</sup> The potential HAP emissions from this permit unit is 3.06 tons/year based on a maximum HAP content of 0.275 lb/100 lb of ink and utilizing 6,100 lb of ink/day (permitted daily emission limit) and operating 365 days/year.

Therefore, compliance with this rule is expected.

#### **Rule 4102 – Nuisance:**

As long as the equipment is properly maintained and operated the emission units will not discharge any air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such person or public or which cause or have a natural tendency to cause injury or damage to business or property. A permit condition will be placed on each of these ATC permits as follows:

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

Therefore, compliance with this rule is expected.

#### **California Health & Safety Code 41700 (Health Risk Analysis):**

Pursuant to District's Risk Management Policy APR 1905 (03/2/01), for any source with increases in toxic air emissions, the health risks resulting from such projects must be evaluated. The health risk assessment process begins with a prioritization score using CAPCOA facility prioritization guidelines. If the project cumulative prioritization score increase is equal to or less than one, no further assessment will be required.

For ATC permits N-1646-7-4, -23-4, -24-4, and -38-3, the applicant is not proposing an increase in fuel usage in the existing drying ovens and associated RTOs, or an increase in printing materials usage with this project. Therefore, a health risk assessment is not necessary for these permit units and no further risk analysis is required.

For ATC permits N-1646-6-4, -16-4, and -39-3, the applicant is only proposing an increase in the printing materials usage. Therefore, a health risk assessment was performed for these permit units.

The District's Technical Services staff has determined the prioritization score for this facility prior to this project was greater than 1. Therefore, a refined Risk Management Review (RMR) was performed for this project. See **Appendix F** for a copy of the RMR summary sheet.

For projects where the increase in cancer risk is greater than one per million or the hazardous indices are greater than or equal to one, Toxic Best Available Control Technology (TBACT) is required. The acute and chronic hazardous indices are below 1.0; and the cancer risk is  $0.495 \times 10^{-6}$ , which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

#### **Rule 4201 - Particulate Matter Concentration:**

This rule defines the maximum allowable concentration of particulates in the exhaust as 0.1 gr/dscf. According to AP 42 (Table 1.4-2, footnote c), all PM emissions from natural gas combustion are less than 1  $\mu\text{m}$  in diameter. Since the drying ovens and associated RTOs will be fired exclusively on natural gas fuel, it is reasonable to assume the PM emissions will be the same as the PM<sub>10</sub> emissions. Thus, the particulate concentration in the exhaust of the RTOs serving the drying ovens may be calculated as follows:

For the Drying Ovens & Megtec Enterprise II and Reeco Retherm RTOs:

$$\begin{aligned} \text{PM Concentration} &= 0.0076 \text{ lb-PM}_{10}/\text{MMBtu} \times \text{MMBtu}/8,578 \text{ dscf} \times 7,000 \text{ gr/lb} \\ &= 0.006 \text{ gr/dscf} < 0.1 \text{ gr/dscf} \end{aligned}$$

For the Megtec Cleanswitch RTO:

$$\begin{aligned} \text{PM Concentration} &= 0.01 \text{ lb-PM}_{10}/\text{MMBtu} \times \text{MMBtu}/8,578 \text{ dscf} \times 7,000 \text{ gr/lb} \\ &= 0.008 \text{ gr/dscf} < 0.1 \text{ gr/dscf} \end{aligned}$$

Therefore, as long as the equipment is properly maintained and operated, compliance with District Rule 4201 requirements is expected and a permit condition will be placed on each ATC permit as follows:

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

**Rule 4301 - Fuel Burning Equipment:**

Pursuant to Section 3.1 of this rule, this rule applies only to units that produce heat or power via indirect heat transfer. The drying ovens and associated regenerative thermal oxidizer are direct-fired units. Thus, this rule does not apply.

**Rule 4309 - Dryers, Dehydrators, and Ovens:**

N-1646-6-4, N-1646-7-4, N-1646-16-4, & N-1646-39-3:

These drying ovens are natural gas-fired with a total heat input of 1.366 MMBtu/hr for the drying ovens serving permit units N-1646-6, N-1646-7, and N-1646-16; and 4.587 MMBtu/hr for permit unit N-1646-39-3. Pursuant to Section 2.0 of District Rule 4309, these drying ovens are not subject to District Rule 4309 and no further discussion is necessary.

N-1646-23-4, N-1646-24-4, & N-1646-38-3:

The drying ovens are natural gas-fired with a total heat input of 9.5 MMBtu/hr for the drying oven serving permit unit N-1646-23, 8.75 MMBtu/hr for the drying ovens under permit unit N-1646-24, and 18.4 MMBtu/hr under permit unit N-1646-38. Pursuant to Section 2.0 of District Rule 4309, the drying ovens are subject to District Rule 4309.

**Section 5.0, Requirements:**

Section 5.2 requires that, except for dehydrators, NOx and CO emissions shall not exceed the limits specified in the following table. All ppmv emission limits specified in this section are referenced at dry stack gas conditions and 19.00 percent by volume stack gas oxygen. Emission concentrations shall be corrected to 19.00 percent oxygen in accordance with Section 8.1.

Section 5.2, Table 1, from District Rule 4309, list the following requirements:

Rule 4309 NOx and CO Emissions Limits		
Category	Operated on gaseous fuel	
	NO <sub>x</sub> Limit	CO Limit
Other processes, which are not Asphalt/Concrete Plants or Milk, Cheese, or Dairy Processing Facilities	4.3 ppmv	42 ppmv

The applicant is proposing to utilize the existing facility shared RTOs to control the emissions from the drying ovens to comply with the NO<sub>x</sub> and CO limits of this rule. The Reeco Retherm RTO will also be retrofitted with a low NO<sub>x</sub> burner to ensure compliance with the NO<sub>x</sub> limits. Therefore, the applicant is proposing to comply with the NO<sub>x</sub> and CO emission limits at the exhaust of the RTOs at the following emission concentration limits for their natural gas fired drying ovens:

NO<sub>x</sub>: 4.3 ppmvd @ 19% O<sub>2</sub> and CO: 25 ppmvd @ 19% O<sub>2</sub>.

Therefore, compliance with Section 5.2 of District Rule 4309 is expected.

#### **Section 5.4, Monitoring Provisions:**

Section 5.4.1 requires each unit subject to section 5.2 to either install a continuous emissions monitoring system (CEMS) for NO<sub>x</sub>, CO, and oxygen or implement an APCO-approved Alternate Monitoring System. The applicant chooses the latter option, and proposes to use Option A (periodic monitoring using District-approved portable analyzer) from the District's pre-approved Alternate Monitoring Schemes contained in District Policy SSP 3005 (4/28/2008). The following conditions will be incorporated into each ATC permit in order to ensure compliance with the requirements of the proposed alternate monitoring plan:

- - {3741} *The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309] N*
- - {3742} *If either the NO<sub>x</sub> or CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of the performing the notification and testing required by this condition. [District Rule 4309]*
- - {3743} *All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-*

*minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]*

- - *{3744} The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range [District Rule 4309]*

### **Section 5.5, Compliance Determination:**

Section 5.5.1 requires that all emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. Section 5.5.2 requires that no determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0. Therefore, the following permit condition will be placed on each ATC permit as follows:

- - *{3713} All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rule 4309]*

Section 5.5.5 requires that for emissions monitoring pursuant to Sections 5.4.1.2.2.1, emission readings shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15-consecutive-minute sample reading or by taking at least five readings evenly spaced out over the 15-consecutive-minute period.

Therefore, since the applicant proposed to use a portable analyzer to satisfy the monitoring requirements of District Rule 4309, the following permit condition will be placed on each ATC permit as follows:

- - *{3743} All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five (5) readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309]*

Section 5.5.6 requires that for emissions source testing performed pursuant to Section 6.3.1 for the purpose of determining compliance with an applicable standard or numerical limitation of this rule, 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. Therefore, the following permit condition will be placed on each ATC permit as follows:

- - {3715} 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 4309]

**Section 6.1, Record Keeping:**

Section 6.1.6 requires that the records required by Sections 6.1.1 through 6.1.5 shall be maintained for five calendar years and shall be made available to the APCO upon request. Failure to maintain records or information contained in the records that demonstrate noncompliance with the applicable requirements of this rule shall constitute a violation of this rule. A permit condition will be placed on each ATC permit as follows:

- - {Modified 2983} All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070 and 4309]

**Section 6.2, Test Methods:**

Section 6.2 identifies the following test methods as District-approved source testing methods for the pollutants listed:

Pollutant	Units	Test Method Required
Fuel hhv	Fuel hhv shall be certified by third party fuel supplier or:	
	Liquid fuels	ASTM D 240-87 or D 2382-88
	Gaseous fuels	ASTM D 1826-88 or D 1945-81 in conjunction with ASTM D 3588-89
NO <sub>x</sub>	ppmv	EPA Method 7E or ARB Method 100
CO	ppmv	EPA Method 10 or ARB Method 100
Stack Gas O <sub>2</sub>	%	EPA Method 3 or 3A, or ARB Method 100
Stack Gas Velocities	ft/min	EPA Method 2
Stack Gas Moisture Content	%	EPA Method 4

The following permit conditions will be placed on each ATC permit as follows:

- - {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]
- - {3718} NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309]
- - {3719} CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309]
- - {3720} Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309]

### **Section 6.3, Compliance Demonstration**

Section 6.3.2 requires the permittee to perform initial source test to determine compliance with NOx and CO emission limits. Furthermore, the unit is required to be tested every 24 months. The applicant will be required to perform a source test to satisfy the requirements of this section. The exhaust of the drying ovens are vented through the associated RTOs and the applicant is requesting to demonstrate compliance with the NOx and CO emission limits of this rule at the exhaust of the RTOs.

The following conditions will be included in each ATC permit to verify compliance with the proposed NOx and CO emission limits:

- - *Source testing to measure NOx and CO emissions from the drying ovens shall be conducted at the exhaust of the associated regenerative thermal oxidizer within 60 days of initial start-up and at least once every 24 months thereafter. [District Rules 2201 and 4309]*
- - *{3722} All test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309]*
- - *{110} The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]*

#### **Conclusion:**

Conditions will be incorporated into the permit in order to ensure compliance with each section of this rule. Therefore, compliance with District Rule 4309 requirements is expected with the issuance of these ATC permits.

#### **Rule 4607 - Graphic Arts and Paper, Film, Foil, and Fabric Coatings:**

This rule is applicable to any graphic arts printing operation, to digital printing operations, and to any paper, film, foil, or fabric coating operation and to the organic solvent cleaning materials and processes associated with such operations. The applicant will be operating graphic arts printing operations (heatset offset lithographic printing). Therefore, these permit units are subject to the provisions of this rule.

As determined under project #N-1030443 (N-1646-6-1, -7-1, 16-1, 23-2, & 24-2), N-1054269 (N-1646-38-0), and #N-1060441 (N-1646-39-0), the heatset offset lithographic printing presses are expected to comply with the VOC emission control system requirements, evaporative loss minimization requirements, organic solvent cleaning, storage & disposal requirements, administrative requirements, and recordkeeping requirements listed in this rule. In addition, the use of these RTOs were determined to be approved VOC emission control systems under these referenced projects. The applicant is not proposing any modifications that will change the previous compliance determinations for these permit units. Therefore, continued compliance with all of the applicable requirements of this rule is expected as long as the equipment is properly maintained and operated.

## Rule 4801 - Sulfur Compounds

Section 3.1 prohibits emissions of sulfur compounds as SO<sub>2</sub> in excess of 0.2% by volume (2,000 ppmv) averaged over 15 minutes.

From Section VII.B. of this document, the SO<sub>2</sub> emissions from the drying ovens and thermal oxidizer are calculated based on an emission factor of 0.00285 lb-SO<sub>x</sub>/MMBtu.

$$\begin{aligned}\text{lb-SO}_2/\text{exhaust vol.} &= (\text{lb-SO}_2/\text{MMBtu}) \div (\text{F factor}) \\ &= (0.00285 \text{ lb-SO}_2/\text{MMBtu}) \div (8,578 \text{ dscf/MMBtu}) \\ &= 3.32 \times 10^{-7} \text{ lb-SO}_2/\text{dscf}\end{aligned}$$

$$\text{Volume SO}_2/\text{exhaust vol.} = nRT/P$$

$$\text{Where, } n = \text{moles SO}_x = (3.32 \times 10^{-7} \text{ lb-SO}_2/\text{dscf}) \div (64 \text{ lb-SO}_2/\text{lb-mol})$$

$$= 5.0 \times 10^{-9} \text{ lb-mol/dscf}$$

$$R = \text{Universal gas constant} = 10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R}$$

$$T = 60^\circ\text{F standard temperature} = 520^\circ \text{R}$$

$$P = \text{Standard atmospheric pressure} = 14.7 \text{ psi}$$

$$\begin{aligned}\text{Volume SO}_2/\text{exhaust vol.} &= [(5.0 \times 10^{-9} \text{ lb-mol/dscf}) \times (10.73 \text{ psi-ft}^3/\text{lb-mol-}^\circ\text{R}) \times \\ &\quad (520^\circ \text{R})] \div 14.7 \text{ psi} \\ &= 1.9 \times 10^{-6} \text{ dscf-SO}_2/\text{dscf-exhaust} \\ &= 1.9 \text{ ppmv} \ll 2,000 \text{ ppmv}\end{aligned}$$

Compliance with this rule is expected.

### California Health & Safety Code 42301.6 (School Notice)

This facility will not be operated within 1,000 feet of a K-12 school site boundary. Therefore, the public notification requirement of California Health and Safety Code 42301.6 is not required for this project.

### 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 activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

**IX. Recommendation**

Compliance with all applicable rules and regulations is expected. Issue Authority to Construct permits N-1646-6-4, N-1646-7-4, N-1646-16-4, N-1646-23-4, N-1646-24-4, N-1646-38-3, and N-1646-39-3 subject to the permit conditions on the attached draft Authority to Construct permits in Appendix A.

**X. Billing Information**

The 9.5 MMBtu/hr Megtec Enterprise II and 18.0 MMBtu/hr Reeco Retherm Model E RTOs will be shared between eight permit units (N-1646-6, -7, -16, -23, -24, -25, -36, & -38). Therefore, only 1/8 or 3.438 MMBtu/hr of the heat input rating of these shared RTOs will be included in the determination of the fee schedule.

The 5.728 MMBtu/hr Megtec Cleanswitch RTO will be shared between three permit units (N-1646-26, -37, & -39). Therefore, only 1/3 or 1.909 MMBtu/hr of the input rating of the shared RTO will be included in the determination of the fee schedule.

For ATC Permits N-1646-6-4, -7-4, & -16-4:

Drying Oven Burner Rating:	1.366 MMBtu/hr
Shared RTOs Burner Rating:	3.438 MMBtu/hr
Total Burner Rating:	4.804 MMBtu/hr

Therefore, the fee schedule will be based on a total heat input rate of **4.804 MMBtu/hr**.

For ATC Permit N-1646-23-4:

Drying Oven Burner Rating:	9.500 MMBtu/hr
Shared RTO Burner Rating:	3.438 MMBtu/hr
Total Burner Rating:	12.938 MMBtu/hr

Therefore, the fee schedule will be based on a total heat input rate of **12.938 MMBtu/hr**.

For ATC Permit N-1646-24-4:

Drying Oven Burner Rating:	8.750 MMBtu/hr
Shared RTO Burner Rating:	3.438 MMBtu/hr
Total Burner Rating:	12.188 MMBtu/hr

Therefore, the fee schedule will be based on a total heat input rate of **12.188 MMBtu/hr**.

For ATC Permit N-1646-38-3:

Drying Oven Burner Rating:	18.400 MMBtu/hr
Shared RTO Burner Rating:	3.438 MMBtu/hr
Total Burner Rating:	21.838 MMBtu/hr

Therefore, the fee schedule will be based on a total heat input rate of **21.838 MMBtu/hr**.

For ATC Permit N-1646-39-3:

Drying Ovens Burner Rating:	4.587 MMBtu/hr
Shared RTOs Burner Rating:	1.909 MMBtu/hr
Total Burner Rating:	6.496 MMBtu/hr

Therefore, the fee schedule will be based on a total heat input rate of **6.496 MMBtu/hr**.

ATC Permit Number	Fee Schedule	Fee Description	Previous Fee Schedule
N-1646-6-4	3020-02-F	Total Heat Input: 4.804 MMBtu/hr	3020-02-F
N-1646-7-4	3020-02-F	Total Heat Input: 4.804 MMBtu/hr	3020-02-F
N-1646-16-4	3020-02-F	Total Heat Input: 4.804 MMBtu/hr	3020-02-F
N-1646-23-4	3020-02-G	Total Heat Input: 12.938 MMBtu/hr	3020-02-G
N-1646-24-4	3020-02-G	Total Heat Input: 12.188 MMBtu/hr	3020-02-G
N-1646-38-3	3020-02-H	Total Heat Input: 21.838 MMBtu/hr	3020-02-H
N-1646-39-3	3020-02-G	Total Heat Input: 6.496 MMBtu/hr	3020-02-G

## XI. Appendices

- Appendix A:** Draft Authority to Construct Permits N-1646-6-4, N-1646-7-4, N-1646-23-4, N-1646-24-4, N-1646-38-3, and N-1646-39-3
- Appendix B:** Current Permit to Operate N-1646-6-2, N-1646-7-2, N-1646-16-2, N-1646-23-1, N-1646-24-1, N-1646-39-1, and Authority to Construct permit N-1646-38-0
- Appendix C:** Title V Modification – Compliance Certification Form
- Appendix D:** District BACT Clearinghouse Guideline 4.7.1
- Appendix E:** Historical Actual Emissions (HE) and Net Emissions Change (NEC) Calculations and Determination of Highly-Utilized Emission Units
- Appendix F:** Risk Management Review Summary Sheet

## **Appendix A**

**Draft Authority To Construct Permits N-1646-6-4, N-1646-7-4, N-1646-16-4,  
N-1646-23-4, N-1646-24-4, N-1646-38-3, and N-1646-39-3**

San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**  
**DRAFT**

**PERMIT NO:** N-1646-6-4

**LEGAL OWNER OR OPERATOR:** QUEBECOR WORLD  
**MAILING ADDRESS:** 2201 COOPER AVE  
MERCED, CA 95348

**LOCATION:** 2201 COOPER AVE  
MERCED, CA

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF THE GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE HARRIS MODEL 1000B HEATSET OFFSET LITHOGRAPHIC PRINTING PRESS #514 SERVED BY TWO TEC NATURAL GAS FIRED DRYING OVENS (TOTAL OF 1.366 MMBTU/HR) ALL VENTED TO THE 9.5 MMBTU/HR MEG TEC ENTERPRISE II OR 18 MMBTU/HR REECO RETHERM MODEL E REGENERATIVE THERMAL OXIDIZERS (RTOS) TO INCREASE THE DAILY VOC EMISSIONS LIMIT TO 69.1 LB/DAY; LIMIT THE NOX EMISSION RATE TO 4.3 PPMV @ 19% O2 AND LIMIT THE CO EMISSION RATE TO 25 PPMV @ 19% O2 AT THE ASSOCIATED DRYING OVENS SHARED RTOS. THE 18.0 MMBTU/HR REECO RETHERM MODEL E RTO WILL ALSO BE RETROFITTED WITH A MAXON OR EQUIVALENT LOW NOX BURNER.

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {2306} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (11/15/01). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] 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

**DAVID WARNER, Director of Permit Services**  
N-1646-6-4 : Dec 23 2009 10:52AM -- CHANK : Joint Inspection NOT Required

5. The drying ovens and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The drying oven serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryer is being air purged. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The collection system for the dryer exhaust and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
8. Each thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
9. Each thermal oxidizer shall be equipped with an operational continuous temperature monitoring and recording instrument. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
10. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
11. The VOC content of organic solvents used to perform surface preparation or cleanup shall not exceed the VOC content limits specified in Table 7 of Rule 4607 (Graphic Arts and Paper, Film, Foil, and Fabric Coatings - 12/18/08 version). [District Rule 4607] Federally Enforceable Through Title V Permit
12. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) 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
13. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles or containers which solvents are dispensed without a propellant-induced force. [District Rule 4607] Federally Enforceable Through Title V Permit
14. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, draining procedures, and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607] Federally Enforceable Through Title V Permit
15. Permittee shall store or 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] Federally Enforceable Through Title V Permit
16. The permittee shall properly use and operate all graphic arts printing technologies as directed and/or specified by the manufacturer of the printer or graphic arts material. [District Rule 4607] Federally Enforceable Through Title V Permit
17. The Volatile Organic Compound (VOC) content of the printing inks as applied (excluding water and exempt compounds) shall be less than 45% by weight and the VOC content of the fountain solutions shall be less than 15% by volume. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. VOC emissions from the printing inks and solvents shall not exceed 69.1 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
19. NOx emissions from the drying oven shall not exceed 4.3 ppmvd @ 19% O2 (referenced as NO2). [District Rules 2201] Federally Enforceable Through Title V Permit
20. CO emissions from the drying oven shall not exceed 25.0 ppmvd @ 19% O2. [District Rules 2201] Federally Enforceable Through Title V Permit
21. Emissions from the drying oven shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
22. NOx emissions from the regenerative thermal oxidizers shall not exceed 4.3 ppmvd @ 19% O2 (referenced as NO2). [District Rules 2201] Federally Enforceable Through Title V Permit
23. CO emissions from the regenerative thermal oxidizers shall not exceed 25.0 ppmvd @ 19% O2. [District Rules 2201] Federally Enforceable Through Title V Permit
24. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
25. Total VOC emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 235.6 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Total NOx emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 150 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
29. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3] Federally Enforceable Through Title V Permit
30. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit
31. 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] Federally Enforceable Through Title V Permit
32. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
33. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/18/08 version of Rule 4607). [District Rule 4607] Federally Enforceable Through Title V Permit
34. The permittee shall record on a monthly basis, the type and amount of each ink, coating, adhesive, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
35. The permittee 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

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CONDITIONS CONTINUE ON NEXT PAGE

36. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) by each drying oven and each thermal oxidizer at the facility; (4) Operational temperature of the regenerative thermal oxidizer. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, and 4607] Federally Enforceable Through Title V Permit
38. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. Upon determining an excursion from this requirement, the permittee shall investigate the excursion and take corrective action to minimize emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
39. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit
40. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit
41. If the District or EPA determine that a Quality improvement plan is required under 40 CFR part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
42. {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] Federally Enforceable Through Title V Permit
43. {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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: N-1646-7-4

LEGAL OWNER OR OPERATOR: QUEBECOR WORLD  
MAILING ADDRESS: 2201 COOPER AVE  
MERCED, CA 95348

LOCATION: 2201 COOPER AVE  
MERCED, CA

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF THE GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE HARRIS-WEBB MODEL M-1000A HEATSET OFFSET LITHOGRAPHIC PRINTING PRESS #515 SERVED BY TWO TEC MODEL C-2500 NATURAL GAS FIRED DRYING OVENS (TOTAL OF 1.366 MMBTU/HR) ALL VENTED TO THE 9.5 MMBTU/HR MEG TEC ENTERPRISE II OR 18 MMBTU/HR REECO RETHERM MODEL E REGENERATIVE THERMAL OXIDIZERS TO LIMIT THE NOX EMISSION RATE TO 4.3 PPMV @ 19% O2 AND THE CO EMISSION RATE TO 25 PPMV @ 19% O2 AT THE ASSOCIATED DRYING OVENS AND SHARED RTOS. THE 18.0 MMBTU/HR REECO RETHERM MODEL E RTO WILL ALSO BE RETROFITTED WITH A MAXON OR EQUIVALENT LOW NOX BURNER.

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {2306} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (11/15/01). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
5. The drying ovens and regenerative thermal oxidizers shall be fired exclusively on natural gas. [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

**DAVID WARNER**, Director of Permit Services

N-1646-7-4 : Dec 23 2009 10:52AM - CHANK : Joint Inspection NOT Required

6. The drying oven serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryer is being air purged. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The collection system for the dryer exhaust and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
8. Each thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
9. Each thermal oxidizer shall be equipped with an operational continuous temperature monitoring and recording instrument. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
10. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
11. The VOC content of organic solvents used to perform surface preparation or cleanup shall not exceed the VOC content limits specified in Table 7 of Rule 4607 (Graphic Arts and Paper, Film, Foil, and Fabric Coatings - 12/18/08 version). [District Rule 4607] Federally Enforceable Through Title V Permit
12. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) 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
13. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles or containers which solvents are dispensed without a propellant-induced force. [District Rule 4607] Federally Enforceable Through Title V Permit
14. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, draining procedures, and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607] Federally Enforceable Through Title V Permit
15. Permittee shall store or 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] Federally Enforceable Through Title V Permit
16. The permittee shall properly use and operate all graphic arts printing technologies as directed and/or specified by the manufacturer of the printer or graphic arts material. [District Rule 4607] Federally Enforceable Through Title V Permit
17. The Volatile Organic Compound (VOC) content of the printing inks as applied (excluding water and exempt compounds) shall be less than 45% by weight and the VOC content of the fountain solutions shall be less than 15% by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
18. VOC emissions from the printing inks and solvents shall not exceed 20.0 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

19. NO<sub>x</sub> emissions from the drying oven shall not exceed 4.3 ppmvd @ 19% O<sub>2</sub> (referenced as NO<sub>2</sub>). [District Rules 2201] Federally Enforceable Through Title V Permit
20. CO emissions from the drying oven shall not exceed 25.0 ppmvd @ 19% O<sub>2</sub>. [District Rules 2201] Federally Enforceable Through Title V Permit
21. Emissions from the drying oven shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
22. NO<sub>x</sub> emissions from the regenerative thermal oxidizers shall not exceed 4.3 ppmvd @ 19% O<sub>2</sub> (referenced as NO<sub>2</sub>). [District Rules 2201] Federally Enforceable Through Title V Permit
23. CO emissions from the regenerative thermal oxidizers shall not exceed 25.0 ppmvd @ 19% O<sub>2</sub>. [District Rules 2201] Federally Enforceable Through Title V Permit
24. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
25. Total VOC emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 235.6 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Total NO<sub>x</sub> emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 150 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
29. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3] Federally Enforceable Through Title V Permit
30. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit
31. 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] Federally Enforceable Through Title V Permit
32. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
33. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/18/08 version of Rule 4607). [District Rule 4607] Federally Enforceable Through Title V Permit
34. The permittee shall record on a monthly basis, the type and amount of each ink, coating, adhesive, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
35. The permittee 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
36. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) by each drying oven and each thermal oxidizer at the facility; (4) Operational temperature of the regenerative thermal oxidizer. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

37. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, and 4607] Federally Enforceable Through Title V Permit
38. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. Upon determining an excursion from this requirement, the permittee shall investigate the excursion and take corrective action to minimize emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
39. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit
40. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit
41. If the District or EPA determine that a Quality improvement plan is required under 40 CFR part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
42. {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] Federally Enforceable Through Title V Permit
43. {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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**  
**DRAFT**

**PERMIT NO:** N-1646-16-4

**LEGAL OWNER OR OPERATOR:** QUEBECOR WORLD  
**MAILING ADDRESS:** 2201 COOPER AVE  
MERCED, CA 95348

**LOCATION:** 2201 COOPER AVE  
MERCED, CA

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF THE GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE HARRIS MODEL 1000 HEATSET OFFSET LITHOGRAPHIC PRINTING PRESS #517 SERVED BY TWO TEC NATURAL GAS FIRED DRYING OVENS (TOTAL OF 1.366 MMBTU/HR) ALL VENTED TO THE 9.5 MMBTU/HR MEG TEC ENTERPRISE II OR 18 MMBTU/HR REECO RETHERM MODEL E REGENERATIVE THERMAL OXIDIZERS (RTOS) TO INCREASE THE DAILY VOC EMISSION LIMIT TO 69.1 LB/DAY; LIMIT THE NOX EMISSION RATE TO 4.3 PPMV @ 19% O2 AND THE CO EMISSION RATE TO 25 PPMV @ 19% O2 AT THE ASSOCIATED DRYING OVENS AND SHARED RTOS. THE 18.0 MMBTU/HR REECO RETHERM MODEL E RTO WILL ALSO BE RETROFITTED WITH A MAXON OR EQUIVALENT LOW NOX BURNER.

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {2306} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (11/15/01). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] 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

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DAVID WARNER, Director of Permit Services

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5. The drying ovens and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The drying oven serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryer is being air purged. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The collection system for the dryer exhaust and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
8. Each thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
9. Each thermal oxidizer shall be equipped with an operational continuous temperature monitoring and recording instrument. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
10. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
11. The VOC content of organic solvents used to perform surface preparation or cleanup shall not exceed the VOC content limits specified in Table 7 of Rule 4607 (Graphic Arts and Paper, Film, Foil, and Fabric Coatings - 12/18/08 version). [District Rule 4607] Federally Enforceable Through Title V Permit
12. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) 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
13. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles or containers which solvents are dispensed without a propellant-induced force. [District Rule 4607] Federally Enforceable Through Title V Permit
14. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, draining procedures, and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607] Federally Enforceable Through Title V Permit
15. Permittee shall store or 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] Federally Enforceable Through Title V Permit
16. The permittee shall properly use and operate all graphic arts printing technologies as directed and/or specified by the manufacturer of the printer or graphic arts material. [District Rule 4607] Federally Enforceable Through Title V Permit
17. The Volatile Organic Compound (VOC) content of the printing inks as applied (excluding water and exempt compounds) shall be less than 45% by weight and the VOC content of the fountain solutions shall be less than 15% by volume. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

18. VOC emissions from the printing inks and solvents shall not exceed 69.1 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
19. NOx emissions from the drying oven shall not exceed 4.3 ppmvd @ 19% O2 (referenced as NO2). [District Rules 2201] Federally Enforceable Through Title V Permit
20. CO emissions from the drying oven shall not exceed 25.0 ppmvd @ 19% O2. [District Rules 2201] Federally Enforceable Through Title V Permit
21. Emissions from the drying oven shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
22. NOx emissions from the regenerative thermal oxidizers shall not exceed 4.3 ppmvd @ 19% O2 (referenced as NO2). [District Rules 2201] Federally Enforceable Through Title V Permit
23. CO emissions from the regenerative thermal oxidizers shall not exceed 25.0 ppmvd @ 19% O2. [District Rules 2201] Federally Enforceable Through Title V Permit
24. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
25. Total VOC emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 235.6 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Total NOx emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 150 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
27. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
29. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3] Federally Enforceable Through Title V Permit
30. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit
31. 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] Federally Enforceable Through Title V Permit
32. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
33. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/18/08 version of Rule 4607). [District Rule 4607] Federally Enforceable Through Title V Permit
34. The permittee shall record on a monthly basis, the type and amount of each ink, coating, adhesive, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
35. The permittee 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

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CONDITIONS CONTINUE ON NEXT PAGE

36. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) by each drying oven and each thermal oxidizer at the facility; (4) Operational temperature of the regenerative thermal oxidizer. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
37. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, and 4607] Federally Enforceable Through Title V Permit
38. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. Upon determining an excursion from this requirement, the permittee shall investigate the excursion and take corrective action to minimize emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
39. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit
40. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit
41. If the District or EPA determine that a Quality improvement plan is required under 40 CFR part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
42. {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] Federally Enforceable Through Title V Permit
43. {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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

**PERMIT NO:** N-1646-23-4

**LEGAL OWNER OR OPERATOR:** QUEBECOR WORLD  
**MAILING ADDRESS:** 2201 COOPER AVE  
MERCED, CA 95348

**LOCATION:** 2201 COOPER AVE  
MERCED, CA

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF THE GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE HEIDELBERG HARRIS MODEL M-1000B HEATSET OFFSET PRINTING PRESS #519 SERVED BY ONE THERMAL ELECTRON MODEL A3406E DRYING OVEN VENTED TO THE 9.5 MMBTU/HR MEG TEC ENTERPRISE II OR 18 MMBTU/HR REECO RETHERM MODEL E REGENERATIVE THERMAL OXIDIZERS (RTOS) TO LIMIT THE NOX EMISSION RATE LIMIT TO 4.3 PPMV @ 19% O2 AND THE CO EMISSION RATE TO 25 PPMV @ 19% O2 AT THE ASSOCIATED DRYING OVEN AND SHARED RTOS. THE APPLICANT IS ALSO PROPOSING TO VERIFY COMPLIANCE AT THE EXHAUST OF THE SHARED RTOS AND INCLUDE PERMIT CONDITIONS TO COMPLY WITH DISTRICT RULE 4309 (DRYERS, DEHYDRATORS, & OVENS).

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {2306} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (11/15/01). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] 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

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DAVID WARNER, Director of Permit Services  
N-1646-23-4 : Dec 23 2009 10:52AM - CHANK : Joint Inspection NOT Required

5. The drying ovens and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The drying ovens serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the regenerative thermal oxidizer at all times except during periods of start-up while the dryers are being air purged. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The collection system for the dryer exhausts and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District Rules 2201 and 4607] Federally Enforceable Through Title V Permit
8. Each regenerative thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District Rules 2201 and 4607] Federally Enforceable Through Title V Permit
9. Each regenerative thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The regenerative thermal oxidizer shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District Rules 2201 and 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
10. Each regenerative thermal incinerator shall be equipped with a continuous temperature monitoring and recording instrument. [District Rules 2201 and 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
11. The VOC content of organic solvents used to perform surface preparation or cleanup shall not exceed the VOC content limits specified in Table 7 of Rule 4607 (Graphic Arts and Paper, Film, Foil, and Fabric Coatings - 12/18/08 version). [District Rule 4607] Federally Enforceable Through Title V Permit
12. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) 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
13. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles or containers which solvents are dispensed without a propellant-induced force. [District Rule 4607] Federally Enforceable Through Title V Permit
14. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, draining procedures, and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607] Federally Enforceable Through Title V Permit
15. Permittee shall store or 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] Federally Enforceable Through Title V Permit
16. The permittee shall properly use and operate all graphic arts printing technologies as directed and/or specified by the manufacturer of the printer or graphic arts material. [District Rule 4607] Federally Enforceable Through Title V Permit
17. VOC emissions from the printing inks and solvents shall not exceed 69.1 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

18. NO<sub>x</sub> emissions from the drying oven shall not exceed 4.3 ppmvd @ 19% O<sub>2</sub> (referenced as NO<sub>2</sub>). [District Rules 2201] Federally Enforceable Through Title V Permit
19. CO emissions from the drying oven shall not exceed 25.0 ppmvd @ 19% O<sub>2</sub>. [District Rules 2201] Federally Enforceable Through Title V Permit
20. Emissions from the drying oven shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
21. NO<sub>x</sub> emissions from the regenerative thermal oxidizers shall not exceed 4.3 ppmvd @ 19% O<sub>2</sub> (referenced as NO<sub>2</sub>). [District Rules 2201] Federally Enforceable Through Title V Permit
22. CO emissions from the regenerative thermal oxidizers shall not exceed 25.0 ppmvd @ 19% O<sub>2</sub>. [District Rules 2201] Federally Enforceable Through Title V Permit
23. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
24. Total VOC emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 235.6 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Total NO<sub>x</sub> emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 150 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit
28. Source testing to measure NO<sub>x</sub> and CO emissions from the drying ovens shall be conducted at the exhaust of the associated regenerative thermal oxidizer within 60 days of initial start-up and at least once every 24 months thereafter. [District Rules 2201 and 4309] Federally Enforceable Through Title V Permit
29. All test results for NO<sub>x</sub> and CO shall be reported in ppmv @ 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), corrected to dry stack conditions. [District Rule 4309] Federally Enforceable Through Title V Permit
30. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309] Federally Enforceable Through Title V Permit
31. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309] Federally Enforceable Through Title V Permit
32. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309] Federally Enforceable Through Title V Permit
33. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rule 4309] Federally Enforceable Through Title V Permit
34. 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 4309] Federally Enforceable Through Title V Permit
35. 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] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309] Federally Enforceable Through Title V Permit
38. If either the NO<sub>x</sub> or CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309] Federally Enforceable Through Title V Permit
39. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309] Federally Enforceable Through Title V Permit
40. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range [District Rule 4309] Federally Enforceable Through Title V Permit
41. 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] Federally Enforceable Through Title V Permit
42. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
43. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/18/08 version of Rule 4607). [District Rule 4607] Federally Enforceable Through Title V Permit
44. The permittee shall record on a monthly basis, the type and amount of each ink, coating, adhesive, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
45. The permittee 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
46. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) by each drying oven and each thermal oxidizer at the facility; (4) Operational temperature of each regenerative thermal oxidizer. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2320, and 4607, and 4309] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

48. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. Upon determining an excursion from this requirement, the permittee shall investigate the excursion and take corrective action to minimize emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
49. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit
50. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit
51. If the District or EPA determine that a Quality improvement plan is required under 40 CFR part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
52. {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] Federally Enforceable Through Title V Permit
53. {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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**ISSUANCE DATE: DRAFT**  
**DRAFT**

**PERMIT NO:** N-1646-24-4

**LEGAL OWNER OR OPERATOR:** QUEBECOR WORLD  
**MAILING ADDRESS:** 2201 COOPER AVE  
MERCED, CA 95348

**LOCATION:** 2201 COOPER AVE  
MERCED, CA

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF THE GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE KOENIG & BAUER MODEL CAMPACTA 618 HEATSET OFFSET PRINTING PRESS #507 SERVED BY ONE 8.75 MMBTU/HR THERMO ELECTRON MODEL 2700/3500 DRYING OVEN VENTED TO THE 9.5 MMBTU/HR MEG TEC ENTERPRISE II OR 18 MMBTU/HR REECO RETHERMAL REGENERATIVE THERMAL OXIDIZERS (RTOS) TO LIMIT THE NOX EMISSION RATE LIMIT TO 4.3 PPMV @ 19% O2 AND THE CO EMISSION RATE TO 25 PPMV @ 19% O2 AT THE ASSOCIATED DRYING OVEN AND SHARED RTOS. THE APPLICANT IS ALSO PROPOSING TO VERIFY COMPLIANCE AT THE EXHAUST OF THE SHARED RTOS AND INCLUDE PERMIT CONDITIONS TO COMPLY WITH DISTRICT RULE 4309 (DRYERS, DEHYDRATORS, & OVENS).

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {2306} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (11/15/01). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] 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

**DAVID WARNER**, Director of Permit Services  
N-1646-24-4 : Dec 23 2009 10:52AM - CHANK : Joint Inspection NOT Required

5. The drying ovens and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The drying ovens serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the regenerative thermal oxidizer at all times except during periods of start-up while the dryers are being air purged. [District Rule 2201] Federally Enforceable Through Title V Permit
7. The collection system for the dryer exhausts and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District Rules 2201 and 4607] Federally Enforceable Through Title V Permit
8. Each regenerative thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District Rules 2201 and 4607] Federally Enforceable Through Title V Permit
9. Each regenerative thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The regenerative thermal oxidizer shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District Rules 2201 and 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
10. Each regenerative thermal incinerator shall be equipped with a continuous temperature monitoring and recording instrument. [District Rules 2201 and 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
11. The VOC content of organic solvents used to perform surface preparation or cleanup shall not exceed the VOC content limits specified in Table 7 of Rule 4607 (Graphic Arts and Paper, Film, Foil, and Fabric Coatings - 12/18/08 version). [District Rule 4607] Federally Enforceable Through Title V Permit
12. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) 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.
13. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles or containers which solvents are dispensed without a propellant-induced force. [District Rule 4607] Federally Enforceable Through Title V Permit
14. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, draining procedures, and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607] Federally Enforceable Through Title V Permit
15. Permittee shall store or 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] Federally Enforceable Through Title V Permit
16. The permittee shall properly use and operate all graphic arts printing technologies as directed and/or specified by the manufacturer of the printer or graphic arts material. [District Rule 4607] Federally Enforceable Through Title V Permit
17. VOC emissions from the printing inks and solvents shall not exceed 69.1 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

18. NO<sub>x</sub> emissions from the drying oven shall not exceed 4.3 ppmvd @ 19% O<sub>2</sub> (referenced as NO<sub>2</sub>). [District Rules 2201] Federally Enforceable Through Title V Permit
19. CO emissions from the drying oven shall not exceed 25.0 ppmvd @ 19% O<sub>2</sub>. [District Rules 2201] Federally Enforceable Through Title V Permit
20. Emissions from the drying oven shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
21. NO<sub>x</sub> emissions from the regenerative thermal oxidizers shall not exceed 4.3 ppmvd @ 19% O<sub>2</sub> (referenced as NO<sub>2</sub>). [District Rules 2201] Federally Enforceable Through Title V Permit
22. CO emissions from the regenerative thermal oxidizers shall not exceed 25.0 ppmvd @ 19% O<sub>2</sub>. [District Rules 2201] Federally Enforceable Through Title V Permit
23. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
24. Total VOC emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 235.6 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
25. Total NO<sub>x</sub> emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 150 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
26. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
27. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit
28. Source testing to measure NO<sub>x</sub> and CO emissions from the drying ovens shall be conducted at the exhaust of the associated regenerative thermal oxidizer within 60 days of initial start-up and at least once every 24 months thereafter. [District Rules 2201 and 4309] Federally Enforceable Through Title V Permit
29. All test results for NO<sub>x</sub> and CO shall be reported in ppmv @ 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), corrected to dry stack conditions. [District Rule 4309] Federally Enforceable Through Title V Permit
30. NO<sub>x</sub> emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309] Federally Enforceable Through Title V Permit
31. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309] Federally Enforceable Through Title V Permit
32. Stack gas oxygen (O<sub>2</sub>) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309] Federally Enforceable Through Title V Permit
33. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rule 4309] Federally Enforceable Through Title V Permit
34. 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 4309] Federally Enforceable Through Title V Permit
35. 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] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

36. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
37. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309] Federally Enforceable Through Title V Permit
38. If either the NO<sub>x</sub> or CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309] Federally Enforceable Through Title V Permit
39. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309] Federally Enforceable Through Title V Permit
40. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range [District Rule 4309] Federally Enforceable Through Title V Permit
41. 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] Federally Enforceable Through Title V Permit
42. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
43. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/18/08 version of Rule 4607). [District Rule 4607] Federally Enforceable Through Title V Permit
44. The permittee shall record on a monthly basis, the type and amount of each ink, coating, adhesive, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
45. The permittee 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
46. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) by each drying oven and each thermal oxidizer at the facility; (4) Operational temperature of each regenerative thermal oxidizer. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
47. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2320, and 4607, and 4309] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

48. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. Upon determining an excursion from this requirement, the permittee shall investigate the excursion and take corrective action to minimize emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
49. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64] Federally Enforceable Through Title V Permit
50. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64] Federally Enforceable Through Title V Permit
51. If the District or EPA determine that a Quality improvement plan is required under 40 CFR part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64] Federally Enforceable Through Title V Permit
52. {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] Federally Enforceable Through Title V Permit
53. {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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

ISSUANCE DATE: DRAFT  
**DRAFT**

PERMIT NO: N-1646-38-3

LEGAL OWNER OR OPERATOR: QUEBECOR WORLD  
MAILING ADDRESS: 2201 COOPER AVE  
MERCED, CA 95348

LOCATION: 2201 COOPER AVE  
MERCED, CA

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF THE GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE MAN ROLAND MODEL ROTOMAN S 64" WIDE 8-COLOR HEATSET OFFSET LITHOGRAPHIC PRINTING PRESS (PRESS #523) WITH ONE 9.4 MMBTU/HR NATURAL GAS FIRED MEGTEC MODEL DD III-135-2080 DRYING OVEN #1 (WITH MAXON LOW NOX BURNERS) AND ONE 9.0 MMBTU/HR NATURAL GAS FIRED MEGTEC MODEL DD III-135-2080 DRYING OVEN #2 (WITH MAXON LOW NOX BURNERS) EACH SERVED BY THE 9.5 MMBTU/HR MEGTEC ENTERPRISE II OR THE 18 MMBTU/HR REECO RETHERM MODEL E NATURAL GAS FIRED REGENERATIVE THERMAL OXIDIZER (RTOS) TO LIMIT THE NOX EMISSION RATE LIMIT TO 4.3 PPMV @ 19% O2 AND THE CO EMISSION RATE TO 25 PPMV @ 19% O2 AT THE ASSOCIATED DRYING OVENS AND SHARED RTOS. THE APPLICANT IS ALSO PROPOSING TO VERIFY COMPLIANCE AT THE EXHAUST OF THE SHARED RTOS AND INCLUDE PERMIT CONDITIONS TO COMPLY WITH DISTRICT RULE 4309 (DRYERS, DEHYDRATORS, & OVENS)..

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {2306} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (11/15/01). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] 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**

DAVID WARNER, Director of Permit Services

N-1646-38-3 : Dec 23 2009 10:52AM - CHANK : Joint Inspection NOT Required

5. The drying ovens and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District Rule 2201] Federally Enforceable Through Title V Permit
6. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in each drying oven shall be installed, utilized and maintained. [District Rules 2201] Federally Enforceable Through Title V Permit
7. The drying ovens serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryers are being air purged. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap (flapper ok), roof overhang, or any other obstruction. [District Rule 4102] Federally Enforceable Through Title V Permit
9. The collection system for the dryer exhausts and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District Rule 2201] Federally Enforceable Through Title V Permit
10. Each thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District Rule 2201] Federally Enforceable Through Title V Permit
11. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District Rule 2201] Federally Enforceable Through Title V Permit
12. Each thermal oxidizer shall be equipped with an operational continuous temperature monitoring and recording instrument. [District Rule 2201] Federally Enforceable Through Title V Permit
13. The VOC content of the materials shall not exceed the following: inks less than 45% VOC by weight (less water and exempt compounds) and fountain solutions less than 15% by volume. [District Rule 2201] Federally Enforceable Through Title V Permit
14. The VOC content of organic solvents used to perform surface preparation or solvent cleaning shall not exceed the VOC content limits specified in Table 7 of Rule 4607 (Graphic Arts and Paper, Film, Foil, and Fabric Coatings - 12/18/08 version). [District Rule 4607] Federally Enforceable Through Title V Permit
15. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) 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
16. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles or containers which solvents are dispensed without a propellant-induced force. [District Rule 4607] Federally Enforceable Through Title V Permit
17. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, draining procedures, and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

18. Permittee shall store or 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] Federally Enforceable Through Title V Permit
19. The permittee shall properly use and operate all graphic arts printing technologies as directed and/or specified by the manufacturer of the printer or graphic arts material. [District Rule 4607] Federally Enforceable Through Title V Permit
20. VOC emissions from the printing inks and solvents shall not exceed 50.0 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
21. NOx emissions from the drying ovens shall not exceed 4.3 ppmvd @ 19% O2 (referenced as NO2). [District Rules 2201] Federally Enforceable Through Title V Permit
22. CO emissions from the drying ovens shall not exceed 25.0 ppmvd @ 19% O2. [District Rules 2201] Federally Enforceable Through Title V Permit
23. Emissions from the drying ovens shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
24. NOx emissions from the regenerative thermal oxidizers shall not exceed 4.3 ppmvd @ 19% O2 (referenced as NO2). [District Rules 2201] Federally Enforceable Through Title V Permit
25. CO emissions from the regenerative thermal oxidizers shall not exceed 25.0 ppmvd @ 19% O2. [District Rules 2201] Federally Enforceable Through Title V Permit
26. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
27. The total quantity of natural gas used in the drying ovens under this permit unit shall not exceed 137,000 cubic feet in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
28. The total quantity of natural gas used in the drying ovens under this permit unit shall not exceed 50.0 million cubic feet in any one calendar year. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Total VOC emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 235.6 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
30. Total NOx emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 150 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
31. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit
33. Source testing to measure NOx and CO emissions from the drying ovens shall be conducted at the exhaust of the associated regenerative thermal oxidizer within 60 days of initial start-up and at least once every 24 months thereafter. [District Rules 2201 and 4309] Federally Enforceable Through Title V Permit
34. All test results for NOx and CO shall be reported in ppmv @ 19% O2 (or no correction if measured above 19% O2), corrected to dry stack conditions. [District Rule 4309] Federally Enforceable Through Title V Permit
35. NOx emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis. [District Rule 4309] Federally Enforceable Through Title V Permit
36. CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rule 4309] Federally Enforceable Through Title V Permit
37. Stack gas oxygen (O2) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rule 4309] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

38. All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4309. [District Rule 4309] Federally Enforceable Through Title V Permit
39. 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 4309] Federally Enforceable Through Title V Permit
40. 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] Federally Enforceable Through Title V Permit
41. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
42. The permittee shall monitor and record the stack concentration of NO<sub>x</sub>, CO, and O<sub>2</sub> at least once every month (in which a source test is not performed) using a portable emission monitor that meets District specifications. Monitoring shall not be required if the unit is not in operation, i.e. the unit need not be started solely to perform monitoring. Monitoring shall be performed within 5 days of restarting the unit unless monitoring has been performed within the last month. [District Rule 4309] Federally Enforceable Through Title V Permit
43. If either the NO<sub>x</sub> or CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), as measured by the portable analyzer, exceed the allowable emissions concentration, the permittee shall return the emissions to within the acceptable range as soon as possible, but no longer than 1 hour of operation after detection. If the portable analyzer readings continue to exceed the allowable emissions concentration after 1 hour of operation after detection, the permittee shall notify the District within the following 1 hour and conduct a certified source test within 60 days of the first exceedance. In lieu of conducting a source test, the permittee may stipulate a violation has occurred, subject to enforcement action. The permittee must then correct the violation, show compliance has been re-established, and resume monitoring procedures. If the deviations are the result of a qualifying breakdown condition pursuant to Rule 1100, the permittee may fully comply with Rule 1100 in lieu of performing the notification and testing required by this condition. [District Rule 4309] Federally Enforceable Through Title V Permit
44. All alternate monitoring parameter emission readings shall be taken with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. The analyzer shall be calibrated, maintained, and operated in accordance with the manufacturer's specifications and recommendations or a protocol approved by the APCO. Emission readings taken shall be averaged over a 15 consecutive-minute period by either taking a cumulative 15 consecutive-minute sample reading or by taking at least five readings, evenly spaced out over the 15 consecutive-minute period. [District Rule 4309] Federally Enforceable Through Title V Permit
45. The permittee shall maintain records of: (1) the date and time of NO<sub>x</sub>, CO, and O<sub>2</sub> measurements, (2) the O<sub>2</sub> concentration in percent and the measured NO<sub>x</sub> and CO concentrations corrected to 19% O<sub>2</sub> (or no correction if measured above 19% O<sub>2</sub>), (3) make and model of exhaust gas analyzer, (4) exhaust gas analyzer calibration records, and (5) a description of any corrective action taken to maintain the emissions within the acceptable range [District Rule 4309] Federally Enforceable Through Title V Permit
46. 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] Federally Enforceable Through Title V Permit
47. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
48. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/18/08 version of Rule 4607). [District Rule 4607] Federally Enforceable Through Title V Permit
49. The permittee shall record on a monthly basis, the type and amount of each ink, coating, adhesive, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

50. The permittee 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
51. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) by each drying oven and each thermal oxidizer at the facility; (4) Operational temperature of each regenerative thermal oxidizer. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
52. The permittee shall maintain a record of the cumulative annual quantity of natural gas used (in cubic feet) by the drying ovens under this permit. The cumulative total quantity of natural gas used shall be updated monthly. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
53. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, and 4607, and 4309] Federally Enforceable Through Title V Permit
54. {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] Federally Enforceable Through Title V Permit
55. {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

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San Joaquin Valley  
Air Pollution Control District

**AUTHORITY TO CONSTRUCT**

**DRAFT**  
ISSUANCE DATE: DRAFT

**PERMIT NO:** N-1646-39-3

**LEGAL OWNER OR OPERATOR:** QUEBECOR WORLD  
**MAILING ADDRESS:** 2201 COOPER AVE  
MERCED, CA 95348

**LOCATION:** 2201 COOPER AVE  
MERCED, CA

**EQUIPMENT DESCRIPTION:**

MODIFICATION OF THE GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE MAN ROLAND MODEL ROTOMAN N 38" WIDE 5-COLOR HEATSET OFFSET LITHOGRAPHIC PRINTING PRESS (PRESS #524) WITH ONE 4.587 MMBTU/HR NATURAL GAS FIRED THERMO WISCONSIN MODEL APOLLO A3100 DRYING OVEN SERVED BY THE SHARED 5.728 MMBTU/HR MEGTEC CLEANSWITCH MODEL CS-300-95 NATURAL GAS FIRED REGENERATIVE THERMAL OXIDIZER TO INCREASE THE DAILY VOC EMISSION LIMIT TO 50.0 LB; LIMIT THE NOX EMISSION RATE TO 4.3 PPMV @ 19% O2 AND THE CO EMISSION RATE TO 25 PPMV @ 19% O2 AT THE ASSOCIATED DRYING OVEN AND SHARED RTO.

**CONDITIONS**

1. {98} No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. {2306} No air contaminants shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark or darker than Ringelmann #1 or equivalent to 20% opacity and greater, unless specifically exempted by District Rule 4101 (11/15/01). If the equipment or operation is subject to a more stringent visible emission standard as prescribed in a permit condition, the more stringent visible emission limit shall supersede this condition. [District Rule 4101, and County Rules 401 (in all eight counties in the San Joaquin Valley)] Federally Enforceable Through Title V Permit
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
5. The drying oven and thermal oxidizer shall be fired exclusively on natural gas. [District NSR Rule] 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

**DAVID WARNER, Director of Permit Services**  
N-1646-39-3 : Dec 23 2009 10:52AM - CHANK : Joint Inspection NOT Required

6. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the drying oven shall be installed, utilized and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
7. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the thermal oxidizer shall be installed, utilized and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
8. The drying ovens serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryers are being air purged. [District NSR Rule] Federally Enforceable Through Title V Permit
9. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102] Federally Enforceable Through Title V Permit
10. The collection system for the dryer exhausts and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District NSR Rule] Federally Enforceable Through Title V Permit
11. The thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District NSR Rule] Federally Enforceable Through Title V Permit
12. The thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District NSR Rule] Federally Enforceable Through Title V Permit
13. The thermal oxidizer shall be equipped with an operational continuous temperature monitoring and recording instrument. [District NSR Rule] Federally Enforceable Through Title V Permit
14. The VOC content of organic solvents used to perform surface preparation or cleanup shall not exceed the VOC content limits specified in Table 7 of Rule 4607 (Graphic Arts and Paper, Film, Foil, and Fabric Coatings - 12/18/08 version). [District Rule 4607] Federally Enforceable Through Title V Permit
15. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) 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
16. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles or containers which solvents are dispensed without a propellant-induced force. [District Rule 4607] Federally Enforceable Through Title V Permit
17. For a permittee using any solvent containing more than 25 g/L (0.21 lb/gal) of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose spray guns, cups, nozzles, bowls, and other parts during washing, rinsing, draining procedures, and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

18. Permittee shall store or 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] Federally Enforceable Through Title V Permit
19. The permittee shall properly use and operate all graphic arts printing technologies as directed and/or specified by the manufacturer of the printer or graphic arts material. [District Rule 4607] Federally Enforceable Through Title V Permit
20. The VOC content of the materials shall not exceed the following: inks less than 45% VOC by weight (less water and exempt compounds) and fountain solutions less than 15% by volume. [District NSR Rule] Federally Enforceable Through Title V Permit
21. VOC emissions from the printing inks and solvents shall not exceed 50.0 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
22. NOx emissions from the drying oven shall not exceed 4.3 ppmvd @ 19% O2 (referenced as NO2). [District Rules 2201] Federally Enforceable Through Title V Permit
23. CO emissions from the drying oven shall not exceed 25.0 ppmvd @ 19% O2. [District Rules 2201] Federally Enforceable Through Title V Permit
24. Emissions from the drying oven shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
25. NOx emissions from the regenerative thermal oxidizer shall not exceed 4.3 ppmvd @ 19% O2 (referenced as NO2). [District Rules 2201] Federally Enforceable Through Title V Permit
26. CO emissions from the regenerative thermal oxidizer shall not exceed 25.0 ppmvd @ 19% O2. [District Rules 2201] Federally Enforceable Through Title V Permit
27. Emissions from the regenerative thermal oxidizer shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
28. Total VOC emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 235.6 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
29. Total NOx emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 150 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
30. The total quantity of natural gas used in the drying oven under this permit unit shall not exceed 11,651 million cubic feet in any one calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit
31. The total quantity of natural gas used in the thermal oxidizer shall not exceed 25,000 million cubic feet in any one calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit
32. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
33. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
34. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3] Federally Enforceable Through Title V Permit
35. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit

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CONDITIONS CONTINUE ON NEXT PAGE

36. 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] Federally Enforceable Through Title V Permit
37. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
38. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/18/08 version of Rule 4607). [District Rule 4607] Federally Enforceable Through Title V Permit
39. The permittee shall record on a monthly basis, the type and amount of each ink, coating, adhesive, wash primer, and solvent used. [District Rule 4607] Federally Enforceable Through Title V Permit
40. The permittee 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
41. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) by each drying oven and each thermal oxidizer at the facility; (4) Operational temperature of the regenerative thermal oxidizer. [District Rules 1070 and 2201] Federally Enforceable Through Title V Permit
42. The permittee shall maintain a record of the cumulative annual quantity of natural gas used (in cubic feet) by the drying oven and thermal oxidizer under this permit. The cumulative total quantity of natural gas used shall be updated monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
43. All records shall be maintained and retained on-site for a minimum of five years, and shall be made available for District inspection upon request. [District Rules 1070, 2520, and 4607] Federally Enforceable Through Title V Permit
44. {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] Federally Enforceable Through Title V Permit
45. {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

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## **Appendix B**

**Current Permit to Operate N-1646-6-2, N-1646-7-2, N-1646-16-2, N-1646-23-1,  
N-1646-24-1, N-1646-39-1 and Authority to Construct Permit N-1646-38-0**

San Joaquin Valley  
Air Pollution Control District

**COPY**

PERMIT UNIT: N-1646-6-2

EXPIRATION DATE: 09/30/2008

**EQUIPMENT DESCRIPTION:**

GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE HARRIS MODEL 1000B HEATSET OFFSET LITHOGRAPHIC PRINTING PRESS #514 SERVED BY TWO TEC NATURAL GAS FIRED DRYING OVENS (TOTAL OF 1.366 MMBTU/HR) ALL VENTED TO THE 9.5 MMBTU/HR MEG TEC ENTERPRISE II OR 18 MMBTU/HR REECO RETHERM MODEL E REGENERATIVE THERMAL OXIDIZERS

**PERMIT UNIT REQUIREMENTS**

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
2. The drying oven and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The drying oven serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryer is being air purged. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The collection system for the dryer exhaust and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
5. Each thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
6. Each thermal oxidizer shall be equipped with an operational continuous temperature monitoring and recording instrument. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
7. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
8. Solvents to perform surface preparation or cleanup shall not exceed the VOC content and composite vapor pressure limits of Rule 4607 (Graphic Arts) Table 6. [District Rule 4607, 5.8.3] Federally Enforceable Through Title V Permit
9. No owner or operator shall use organic solvents for cleaning operations that exceed the VOC content limit specified in Table 6, Rule 4607 (12/20/01 version of Rule 4607). [District Rule 4607, 5.8.3] Federally Enforceable Through Title V Permit
10. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: wipe cleaning; application of solvent using nonpropellant-induced, hand-held spray bottles; non-atomized solvent flow method, or solvent flushing method. [District Rule 4607, 5.8.6] Federally Enforceable Through Title V Permit
11. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles. [District Rule 4607, 5.8.7] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose component part(s) being cleaned during washing, rinsing, draining procedures and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607, 5.8.8] Federally Enforceable Through Title V Permit
13. Permittee shall store or 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, 5.8.9] Federally Enforceable Through Title V Permit
14. VOC emissions from the printing inks and solvents shall not exceed 20.0 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Emissions from the drying oven shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Permittee shall maintain a current file of coatings, inks, adhesives, fountain solutions, wash primers, and solvents in use and in storage. 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, density, and composite vapor pressure. [District Rule 4607, 6.1.1] Federally Enforceable Through Title V Permit
18. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rules 2201 & 4607, 6.1.2.2] Federally Enforceable Through Title V Permit
19. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/20/01 version of Rule 4607). [District Rule 4607, 6.1.2.1] Federally Enforceable Through Title V Permit
20. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) for each drying oven and each thermal oxidizer at the facility. [District Rules 1070, 4.0 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. The permittee shall maintain daily records of the thermal oxidizers operational temperature. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
22. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2520, 9.4.2 and 4607, 6.1.6] Federally Enforceable Through Title V Permit
23. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3] Federally Enforceable Through Title V Permit
26. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

27. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. Upon determining an excursion from this requirement, the permittee shall investigate the excursion and take corrective action to minimize emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
28. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64]
29. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64]
30. If the District or EPA determine that a Quality improvement plan is required under 40 CFR part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64]

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

San Joaquin Valley  
Air Pollution Control District

**COPY**

**PERMIT UNIT:** N-1646-7-2

**EXPIRATION DATE:** 09/30/2008

**EQUIPMENT DESCRIPTION:**

GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE HARRIS-WEBB MODEL M-1000A HEATSET OFFSET LITHOGRAPHIC PRINTING PRESS #515 SERVED BY TWO TEC MODEL C-2500 NATURAL GAS FIRED DRYING OVENS (TOTAL OF 1.366 MMBTU/HR) ALL VENTED TO THE 9.5 MMBTU/HR MEG TEC ENTERPRISE II OR 18 MMBTU/HR REECO RETHERM MODEL E REGENERATIVE THERMAL OXIDIZERS

**PERMIT UNIT REQUIREMENTS**

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
2. The drying oven and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The drying oven serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryer is being air purged. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The collection system for the dryer exhaust and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
5. Each thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
6. Each thermal oxidizer shall be equipped with an operational continuous temperature monitoring and recording instrument. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
7. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
8. Solvents to perform surface preparation or cleanup shall not exceed the VOC content and composite vapor pressure limits of Rule 4607 (Graphic Arts) Table 6. [District Rule 4607, 5.8.3] Federally Enforceable Through Title V Permit
9. No owner or operator shall use organic solvents for cleaning operations that exceed the VOC content limit specified in Table 6, Rule 4607 (12/20/01 version of Rule 4607). [District Rule 4607, 5.8.3] Federally Enforceable Through Title V Permit
10. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: wipe cleaning; application of solvent using nonpropellant-induced, hand-held spray bottles; non-atomized solvent flow method, or solvent flushing method. [District Rule 4607, 5.8.6] Federally Enforceable Through Title V Permit
11. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles. [District Rule 4607, 5.8.7] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose component part(s) being cleaned during washing, rinsing, draining procedures and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607, 5.8.8] Federally Enforceable Through Title V Permit
13. Permittee shall store or 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, 5.8.9] Federally Enforceable Through Title V Permit
14. VOC emissions from the printing inks and solvents shall not exceed 20.0 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Emissions from the drying oven shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Permittee shall maintain a current file of coatings, inks, adhesives, fountain solutions, wash primers, and solvents in use and in storage. 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, density, and composite vapor pressure. [District Rule 4607, 6.1.1] Federally Enforceable Through Title V Permit
18. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rules 2201 & 4607, 6.1.2.2] Federally Enforceable Through Title V Permit
19. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/20/01 version of Rule 4607). [District Rule 4607, 6.1.2.1] Federally Enforceable Through Title V Permit
20. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) for each drying oven and each thermal oxidizer at the facility. [District Rules 1070, 4.0 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. The permittee shall maintain daily records of the thermal oxidizers operational temperature. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
22. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2520, 9.4.2 and 4607, 6.1.6] Federally Enforceable Through Title V Permit
23. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3] Federally Enforceable Through Title V Permit
26. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

27. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. Upon determining an excursion from this requirement, the permittee shall investigate the excursion and take corrective action to minimize emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
28. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64]
29. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64]
30. If the District or EPA determine that a Quality improvement plan is required under 40 CFR part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64]

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

San Joaquin Valley  
Air Pollution Control District

**COPY**

PERMIT UNIT: N-1646-16-2

EXPIRATION DATE: 09/30/2008

**EQUIPMENT DESCRIPTION:**

GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE HARRIS MODEL 1000 HEATSET OFFSET LITHOGRAPHIC PRINTING PRESS #517 SERVED BY TWO TEC NATURAL GAS FIRED DRYING OVENS (TOTAL OF 1.366 MMBTU/HR) ALL VENTED TO THE 9.5 MMBTU/HR MEG TEC ENTERPRISE II OR 18 MMBTU/HR REECO RETHERM MODEL E REGENERATIVE THERMAL OXIDIZERS

**PERMIT UNIT REQUIREMENTS**

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
2. The drying oven and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The drying oven serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryer is being air purged. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The collection system for the dryer exhaust and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
5. Each thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
6. Each thermal oxidizer shall be equipped with an operational continuous temperature monitoring and recording instrument. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
7. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
8. Solvents to perform surface preparation or cleanup shall not exceed the VOC content and composite vapor pressure limits of Rule 4607 (Graphic Arts) Table 6. [District Rule 4607, 5.8.3] Federally Enforceable Through Title V Permit
9. No owner or operator shall use organic solvents for cleaning operations that exceed the VOC content limit specified in Table 6, Rule 4607 (12/20/01 version of Rule 4607). [District Rule 4607, 5.8.3] Federally Enforceable Through Title V Permit
10. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: wipe cleaning; application of solvent using nonpropellant-induced, hand-held spray bottles; non-atomized solvent flow method, or solvent flushing method. [District Rule 4607, 5.8.6] Federally Enforceable Through Title V Permit
11. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles. [District Rule 4607, 5.8.7] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

12. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose component part(s) being cleaned during washing, rinsing, draining procedures and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607, 5.8.8] Federally Enforceable Through Title V Permit
13. Permittee shall store or 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, 5.8.9] Federally Enforceable Through Title V Permit
14. VOC emissions from the printing inks and solvents shall not exceed 20.0 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
15. Emissions from the drying oven shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
16. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Permittee shall maintain a current file of coatings, inks, adhesives, fountain solutions, wash primers, and solvents in use and in storage. 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, density, and composite vapor pressure. [District Rule 4607, 6.1.1] Federally Enforceable Through Title V Permit
18. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rules 2201 & 4607, 6.1.2.2] Federally Enforceable Through Title V Permit
19. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/20/01 version of Rule 4607). [District Rule 4607, 6.1.2.1] Federally Enforceable Through Title V Permit
20. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) for each drying oven and each thermal oxidizer at the facility. [District Rules 1070, 4.0 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
21. The permittee shall maintain daily records of the thermal oxidizers operational temperature. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
22. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2520, 9.4.2 and 4607, 6.1.6] Federally Enforceable Through Title V Permit
23. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
24. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
25. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3] Federally Enforceable Through Title V Permit
26. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

27. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. Upon determining an excursion from this requirement, the permittee shall investigate the excursion and take corrective action to minimize emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
28. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64]
29. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64]
30. If the District or EPA determine that a Quality improvement plan is required under 40 CFR part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64]

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

San Joaquin Valley  
Air Pollution Control District

**COPY**

PERMIT UNIT: N-1646-23-1

EXPIRATION DATE: 09/30/2008

**EQUIPMENT DESCRIPTION:**

GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE HEIDELBERG HARRIS MODEL M-1000B HEATSET OFFSET PRINTING PRESS #519 SERVED BY ONE THERMAL ELECTRON MODEL A3406E DRYING OVEN VENTED TO THE 9.5 MMBTU/HR MEG TEC ENTERPRISE II OR 18 MMBTU/HR REECO RETHERM MODEL E REGENERATIVE THERMAL OXIDIZERS

**PERMIT UNIT REQUIREMENTS**

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
2. The drying oven and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The drying oven serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryer is being air purged. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The collection system for the dryer exhaust and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
5. Each thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
6. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
7. Each thermal incinerator shall be equipped with a continuous temperature monitoring and recording instrument. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
8. Solvents to perform surface preparation or cleanup shall not exceed the VOC content and composite vapor pressure limits of Rule 4607 (Graphic Arts) Table 6. [District Rule 4607, 5.8.3] Federally Enforceable Through Title V Permit
9. No owner or operator shall use organic solvents for cleaning operations that exceed the VOC content limit specified in Table 6, Rule 4607 (12/20/01 version of Rule 4607). [District Rule 4607, 5.8.3] Federally Enforceable Through Title V Permit
10. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: wipe cleaning; application of solvent using nonpropellant-induced, hand-held spray bottles; non-atomized solvent flow method, or solvent flushing method. [District Rule 4607, 5.8.6] Federally Enforceable Through Title V Permit
11. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles. [District Rule 4607, 5.8.7] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

12. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose component part(s) being cleaned during washing, rinsing, draining procedures and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607, 5.8.8] Federally Enforceable Through Title V Permit
13. Permittee shall store or 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, 5.8.9] Federally Enforceable Through Title V Permit
14. VOC emissions from the printing inks and solvents shall not exceed 69.1 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
15. The NOx emission concentration from the drying oven shall not exceed 65 ppmv, dry, corrected to 3% oxygen (O2). [District NSR Rule] Federally Enforceable Through Title V Permit
16. Emissions from the drying oven shall not exceed any of the following limits: 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.1 lb-NOx/MMBtu, 0.00285 lb-SOx/MMBtu, 0.0076 lb-PM10/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Permittee shall maintain a current file of coatings, inks, adhesives, fountain solutions, wash primers, and solvents in use and in storage. 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, density, and composite vapor pressure. [District Rule 4607, 6.1.1] Federally Enforceable Through Title V Permit
19. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District NSR Rules & 4607, 6.1.2.2] Federally Enforceable Through Title V Permit
20. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/20/01 version of Rule 4607). [District Rule 4607, 6.1.2.1] Federally Enforceable Through Title V Permit
21. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) for each drying oven and each thermal oxidizer at the facility. [District Rules 1070, 4.0 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. The permittee shall maintain daily records of the thermal oxidizers operational temperature. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
23. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2520, 9.4.2 and 4607, 6.1.6] Federally Enforceable Through Title V Permit
24. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

27. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit
28. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. Upon determining an excursion from this requirement, the permittee shall investigate the excursion and take corrective action to minimize emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
29. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64]
30. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64]
31. If the District or EPA determine that a Quality improvement plan is required under 40 CFR part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64]

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

San Joaquin Valley  
Air Pollution Control District

**COPY**

PERMIT UNIT: N-1646-24-1

EXPIRATION DATE: 09/30/2008

**EQUIPMENT DESCRIPTION:**

GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE KOENIG & BAUER MODEL CAMPACTA 618 HEATSET OFFSET PRINTING PRESS #507 SERVED BY ONE 8.75 MMBTU/HR THERMO ELECTRON MODEL 2700/3500 DRYING OVEN VENTED TO THE 9.5 MMBTU/HR MEG TEC ENTERPRISE II OR 18 MMBTU/HR REECO RETHERMAL REGENERATIVE THERMAL OXIDIZERS

**PERMIT UNIT REQUIREMENTS**

1. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
2. The drying oven and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The drying oven serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryer is being air purged. [District NSR Rule] Federally Enforceable Through Title V Permit
4. The collection system for the dryer exhaust and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
5. Each thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District NSR Rule and 4607, 5.5] Federally Enforceable Through Title V Permit
6. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
7. Each thermal incinerator shall be equipped with a continuous temperature monitoring and recording instrument. [District NSR Rule, 2520, 9.3.2, and 40 CFR Part 64] Federally Enforceable Through Title V Permit
8. Solvents to perform surface preparation or cleanup shall not exceed the VOC content and composite vapor pressure limits of Rule 4607 (Graphic Arts) Table 6. [District Rule 4607, 5.8.3] Federally Enforceable Through Title V Permit
9. No owner or operator shall use organic solvents for cleaning operations that exceed the VOC content limit specified in Table 6, Rule 4607 (12/20/01 version of Rule 4607). [District Rule 4607, 5.8.3] Federally Enforceable Through Title V Permit
10. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: wipe cleaning; application of solvent using nonpropellant-induced, hand-held spray bottles; non-atomized solvent flow method, or solvent flushing method. [District Rule 4607, 5.8.6] Federally Enforceable Through Title V Permit
11. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles. [District Rule 4607, 5.8.7] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

12. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose component part(s) being cleaned during washing, rinsing, draining procedures and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607, 5.8.8] Federally Enforceable Through Title V Permit
13. Permittee shall store or 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, 5.8.9] Federally Enforceable Through Title V Permit
14. VOC emissions from the printing inks and solvents shall not exceed 69.1 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
15. The NO<sub>x</sub> emission concentration from the drying oven shall not exceed 65 ppmv, dry, corrected to 3% oxygen (O<sub>2</sub>). [District NSR Rule] Federally Enforceable Through Title V Permit
16. Emissions from the drying oven shall not exceed any of the following limits: 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
17. Emissions from the regenerative thermal oxidizers shall not exceed any of the following limits: 0.1 lb-NO<sub>x</sub>/MMBtu, 0.00285 lb-SO<sub>x</sub>/MMBtu, 0.0076 lb-PM<sub>10</sub>/MMBtu, 0.084 lb-CO/MMBtu, or 0.0055 lb-VOC/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
18. Permittee shall maintain a current file of coatings, inks, adhesives, fountain solutions, wash primers, and solvents in use and in storage. 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, density, and composite vapor pressure. [District Rule 4607, 6.1.1] Federally Enforceable Through Title V Permit
19. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rules 2201 & 4607, 6.1.2.2] Federally Enforceable Through Title V Permit
20. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/20/01 version of Rule 4607). [District Rule 4607, 6.1.2.1] Federally Enforceable Through Title V Permit
21. The permittee shall maintain daily records of the following: (1) Quantity of VOC emitted (in pounds) from this printing press; (2) Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) for each drying oven and each thermal oxidizer at the facility. [District Rules 1070, 4.0 and 2520, 9.3.2] Federally Enforceable Through Title V Permit
22. The permittee shall maintain daily records of the thermal oxidizers operational temperature. [District Rule 2520, 9.3.2 and CFR Part 64] Federally Enforceable Through Title V Permit
23. All records shall be retained for a period of at least 5 years and shall be made available for District inspection upon request. [District Rules 2520, 9.4.2 and 4607, 6.1.6] Federally Enforceable Through Title V Permit
24. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District NSR Rule] Federally Enforceable Through Title V Permit
25. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081, 7.1] Federally Enforceable Through Title V Permit
26. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081, 7.3] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

27. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607, 6.4.4] Federally Enforceable Through Title V Permit
28. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. Upon determining an excursion from this requirement, the permittee shall investigate the excursion and take corrective action to minimize emissions and prevent recurrence of the excursion as expeditiously as practicable. [District Rule 2520, 9.3.2 and 40 CFR Part 64] Federally Enforceable Through Title V Permit
29. The permittee shall comply with the compliance assurance monitoring operation and maintenance requirements of 40 CFR part 64.7. [40 CFR part 64]
30. The permittee shall comply with the recordkeeping and reporting requirements of 40 CFR part 64.9. [40 CFR part 64]
31. If the District or EPA determine that a Quality improvement plan is required under 40 CFR part 64.7(d)(2), the permittee shall develop and implement the Quality Improvement Plan in accordance with 40 CFR Part 64.8. [40 CFR Part 64]

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

# San Joaquin Valley Air Pollution Control District

PERMIT UNIT: N-1646-39-1

EXPIRATION DATE: 09/30/2008

## EQUIPMENT DESCRIPTION:

GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE MAN ROLAND MODEL ROTOMAN N 38" WIDE 5-COLOR HEATSET OFFSET LITHOGRAPHIC PRINTING PRESS (PRESS #524) WITH ONE 4.587 MMBTU/HR NATURAL GAS FIRED THERMO WISCONSIN MODEL APOLLO A3100 DRYING OVEN SERVED BY THE SHARED 5.728 MMBTU/HR MEGTEC CLEANSWITCH MODEL CS-300-95 NATURAL GAS FIRED REGENERATIVE THERMAL OXIDIZER

## PERMIT UNIT REQUIREMENTS

1. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201] Federally Enforceable Through Title V Permit
2. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule] Federally Enforceable Through Title V Permit
3. The drying oven and thermal oxidizer shall be fired exclusively on natural gas. [District NSR Rule] Federally Enforceable Through Title V Permit
4. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the drying oven shall be installed, utilized and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
5. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in the thermal oxidizer shall be installed, utilized and maintained. [District NSR Rule] Federally Enforceable Through Title V Permit
6. The drying ovens serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryers are being air purged. [District NSR Rule] Federally Enforceable Through Title V Permit
7. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102] Federally Enforceable Through Title V Permit
8. The collection system for the dryer exhausts and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District NSR Rule] Federally Enforceable Through Title V Permit
9. The thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District NSR Rule] Federally Enforceable Through Title V Permit
10. The thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District NSR Rule] Federally Enforceable Through Title V Permit
11. The thermal oxidizer shall be equipped with an operational continuous temperature monitoring and recording instrument. [District NSR Rule] Federally Enforceable Through Title V Permit
12. The VOC content of the materials shall not exceed the following: inks less than 45% VOC by weight (less water and exempt compounds) and fountain solutions less than 15% by volume. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE  
These terms and conditions are part of the Facility-wide Permit to Operate.

13. Solvents to perform surface preparation or cleanup shall not exceed the VOC content and composite vapor pressure limits of Rule 4607 (Graphic Arts) Table 6. [District Rule 4607] Federally Enforceable Through Title V Permit
14. No owner or operator shall use organic solvents for cleaning operations that exceed the VOC content limit specified in Table 6, Rule 4607 (12/20/01 version of Rule 4607). [District Rule 4607] Federally Enforceable Through Title V Permit
15. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: wipe cleaning; application of solvent using nonpropellant-induced, hand-held spray bottles; non-atomized solvent flow method, or solvent flushing method. [District Rule 4607] Federally Enforceable Through Title V Permit
16. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles. [District Rule 4607] Federally Enforceable Through Title V Permit
17. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives; or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose component part(s) being cleaned during washing, rinsing, draining procedures and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607] Federally Enforceable Through Title V Permit
18. Permittee shall store or 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] Federally Enforceable Through Title V Permit
19. VOC emissions from the printing inks and solvents shall not exceed 17.0 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
20. The NOx emission concentration from the drying oven shall not exceed 0.16 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
21. The CO emissions rate from the drying oven shall not exceed 0.3 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
22. The PM10 emissions rate from the drying oven shall not exceed 0.01 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
23. The SOx emissions rate from the drying ovens shall not exceed 0.00285 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
24. The VOC emissions rate from the drying ovens shall not exceed 0.02 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
25. The NOx emission rate from the thermal oxidizer shall not exceed 0.18 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
26. The CO emissions rate from the thermal oxidizer shall not exceed 0.07 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
27. The PM10 emissions rate from the thermal oxidizer shall not exceed 0.01 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
28. The SOx emissions rate from the thermal oxidizer shall not exceed 0.00285 lbs/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit
29. The VOC emissions rate from the thermal oxidizer shall not exceed 0.02 lb/MMBtu. [District NSR Rule] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

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

30. Total VOC emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 235.6 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
31. Total NOx emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 150 pounds in any one day. [District NSR Rule] Federally Enforceable Through Title V Permit
32. The total quantity of natural gas used in the drying oven under this permit unit shall not exceed 11,651 million cubic feet in any one calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit
33. The total quantity of natural gas used in the thermal oxidizer shall not exceed 25,000 million cubic feet in any one calendar year. [District NSR Rule] Federally Enforceable Through Title V Permit
34. 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 sheets (MSDS) or product data sheets showing the material name, manufacturer's name, VOC content as applied, mixing instruction, density, and composite vapor pressure. [District Rule 4607] Federally Enforceable Through Title V Permit
35. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District NSR Rule and District Rule 4607] Federally Enforceable Through Title V Permit
36. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/20/01 version of Rule 4607). [District Rule 4607] Federally Enforceable Through Title V Permit
37. The permittee shall maintain daily records of the following: (1) Quantity of VOC emitted (in pounds) from this printing press; (2) Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) by the drying oven and each thermal oxidizer at the facility; (4) Operational temperature of each thermal oxidizer. [District Rule 1070] Federally Enforceable Through Title V Permit
38. The permittee shall maintain a record of the cumulative annual quantity of natural gas used (in cubic feet) by the drying oven and thermal oxidizer under this permit. The cumulative total quantity of natural gas used shall be updated monthly. [District NSR Rule] Federally Enforceable Through Title V Permit
39. 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] Federally Enforceable Through Title V Permit
40. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
41. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
42. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607] Federally Enforceable Through Title V Permit

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



San Joaquin Valley  
Air Pollution Control District

**COPY**

## AUTHORITY TO CONSTRUCT

PERMIT NO: N-1646-38-0

ISSUANCE DATE: 03/14/2006

LEGAL OWNER OR OPERATOR: QUEBECOR WORLD  
MAILING ADDRESS: P O BOX 3139  
MERCED, CA 95344

LOCATION: 2201 COOPER AVE  
MERCED, CA

### EQUIPMENT DESCRIPTION:

GRAPHIC ARTS PRINTING OPERATION CONSISTING OF ONE MAN ROLAND MODEL ROTOMAN S 64" WIDE 8-COLOR HEATSET OFFSET LITHOGRAPHIC PRINTING PRESS (PRESS #523) WITH ONE 9.4 MMBTU/HR NATURAL GAS FIRED MEGTEC MODEL DD III-135-2080 DRYING OVEN #1 (WITH MAXON LOW NOX BURNERS) AND ONE 9.0 MMBTU/HR NATURAL GAS FIRED MEGTEC MODEL DD III-135-2080 DRYING OVEN #2 (WITH MAXON LOW NOX BURNERS) EACH SERVED BY THE 9.5 MMBTU/HR MEGTEC ENTERPRISE II OR THE 18 MMBTU/HR REECO RETHERM MODEL E NATURAL GAS FIRED REGENERATIVE THERMAL OXIDIZER

## CONDITIONS

1. No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]
2. 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]
3. Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]
4. All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule]
5. The drying ovens and regenerative thermal oxidizers shall be fired exclusively on natural gas. [District Rule 2201]
6. A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of natural gas combusted in each drying oven shall be installed, utilized and maintained. [District Rules 2201]
7. The drying ovens serving the heatset offset printing press shall be maintained under negative pressure and shall be vented through the thermal oxidizer at all times except during periods of start-up while the dryers are being air purged. [District Rule 2201]
8. The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]

CONDITIONS CONTINUE ON NEXT PAGE

**YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-8400 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, Deputy APCO

  
DAVID WARNER, Director of Permit Services

N-1646-38-0, Mar 14 2006 10:21AM - CHANK - Joint Inspection NOT Required

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475

## Conditions for N-1646-38-0 (continued)

9. The collection system for the dryer exhausts and for all fugitive VOC emissions shall have a minimum capture efficiency of 90%. [District Rule 2201]
10. Each thermal oxidizer shall be operated with a minimum VOC destruction efficiency of 98%. [District Rule 2201]
11. Each thermal oxidizer shall be operated at a minimum temp. of 1400 deg. F. The incinerator shall be preheated to 1400 deg. F prior to the start-up of the heatset offset printing operation. [District Rule 2201]
12. Each thermal oxidizer shall be equipped with an operational continuous temperature monitoring and recording instrument. [District Rule 2201]
13. The VOC content of the materials shall not exceed the following: inks less than 45% VOC by weight (less water and exempt compounds) and fountain solutions less than 15% by volume. [District Rule 2201]
14. Solvents to perform surface preparation or cleanup shall not exceed the VOC content and composite vapor pressure limits of Rule 4607 (Graphic Arts) Table 6. [District Rule 4607]
15. No owner or operator shall use organic solvents for cleaning operations that exceed the VOC content limit specified in Table 6, Rule 4607 (12/20/01 version of Rule 4607). [District Rule 4607]
16. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, cleaning activities shall be by one of the following methods: wipe cleaning; application of solvent using nonpropellant-induced, hand-held spray bottles; non-atomized solvent flow method, or solvent flushing method. [District Rule 4607]
17. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, solvent shall not be atomized into the open air unless it is vented to a VOC control device. This provision shall not apply to operations where roller or blanket wash is applied automatically and the cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems, and cleaning with nonpropellant-induced, hand-held spray bottles. [District Rule 4607]
18. For a permittee using any solvent containing more than 50 g/L of VOC for organic solvent cleaning, the permittee shall not use VOC-containing material to clean spray equipment used for the application of coatings, adhesives, or ink, unless an enclosed system or equipment that is proven to be equally effective at controlling emissions is used for cleaning. If an enclosed system is used, it must totally enclose component part(s) being cleaned during washing, rinsing, draining procedures and it must be used according to manufacturer's recommendations and must be closed when not in use. [District Rule 4607]
19. Permittee shall store or 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]
20. VOC emissions from the printing inks and solvents shall not exceed 50.0 pounds in any one day. [District Rule 2201]
21. The NOx emission concentration from the drying ovens shall not exceed 0.036 lb/MMBtu. [District Rule 2201]
22. The CO emissions rate from the drying ovens shall not exceed 0.276 lb/MMBtu. [District Rule 2201]
23. The PM10 emissions rate from the drying ovens shall not exceed 0.0076 lb/MMBtu. [District Rule 2201]
24. The SOx emissions rate from the drying ovens shall not exceed 0.00285 lb/MMBtu. [District Rule 2201]
25. The VOC emissions rate from the drying ovens shall not exceed 0.0055 lb/MMBtu. [District Rule 2201]
26. The NOx emission rate from the regenerative thermal oxidizers shall not exceed 0.1 lb/MMBtu. [District Rule 2201]
27. The CO emissions rate from the regenerative thermal oxidizers shall not exceed 0.084 lb/MMBtu. [District Rule 2201]
28. The PM10 emissions rate from the regenerative thermal oxidizers shall not exceed 0.0076 lb/MMBtu. [District Rule 2201]
29. The SOx emissions rate from the regenerative thermal oxidizers shall not exceed 0.00285 lbs/MMBtu. [District Rule 2201]
30. The VOC emissions rate from the regenerative thermal oxidizers shall not exceed 0.0055 lb/MMBtu. [District Rule 2201]

CONDITIONS CONTINUE ON NEXT PAGE

## Conditions for N-1646-38-0 (continued)

31. Total VOC emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 235.6 pounds in any one day. [District Rule 2201]
32. Total NOx emissions from the stationary source (excluding permit unit N-1646-34) shall not exceed 150 pounds in any one day. [District Rule 2201]
33. The total quantity of natural gas used in the drying ovens under this permit unit shall not exceed 137,000 cubic feet in any one day. [District Rule 2201]
34. The total quantity of natural gas used in the drying ovens under this permit unit shall not exceed 50.0 million cubic feet in any one calendar year. [District Rule 2201]
35. 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 sheets (MSDS) or product data sheets showing the material name, manufacturer's name, VOC content as applied, mixing instruction, density, and composite vapor pressure. [District Rule 4607]
36. The permittee shall record on a daily basis, the type and amount of each coating, adhesive, fountain solution, wash primer, and solvent used. [District Rule 2201 & 4607]
37. The permittee shall record on a monthly basis, the type and amount of all inks used and their VOC content and densities, using one of the methods listed in Rule 4607, Section 6.1.2.1 (12/20/01 version of Rule 4607). [District Rule 4607]
38. The permittee shall maintain daily records of the following: (1). Quantity of VOC emitted (in pounds) from this printing press; (2). Cumulative quantity of VOC emitted (in pounds) from all graphic arts printing operations at the facility; (3) Quantity of natural gas used (in cubic feet) by each drying oven and each thermal oxidizer at the facility; (4) Operational temperature of each thermal oxidizer. [District Rule 1070]
39. The permittee shall maintain a record of the cumulative annual quantity of natural gas used (in cubic feet) by the drying ovens under this permit. The cumulative total quantity of natural gas used shall be updated monthly. [District Rule 2201]
40. 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]
41. Source testing to demonstrate compliance with the VOC destruction efficiency of each regenerative thermal oxidizer shall be conducted on an annual basis. [District Rule 2201]
42. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081]
43. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]
44. Source testing to determine the destruction efficiency of each regenerative thermal oxidizer shall be conducted using EPA Methods 2, 2A, or 2D for measuring flow rates and EPA Methods 25, 25A, or 25C for measuring total gaseous organic concentrations at the inlet and outlet of the control device. [District Rule 4607]
45. The facility shall submit an application to modify this permit to comply with the requirements of District Rule 4309 in accordance with the timeframes and procedures of District Rule 4309, Section 7.1. [District Rule 4309]
46. Prior to operating the equipment authorized by this Authority to Construct permit, the facility shall submit an application to the District for a modification to the Title V permit in accordance with District Rule 2520, Section 11.4.2. [District Rule 2520]

**Appendix C**  
**Title V Modification – Compliance Certification Form**

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San Joaquin Valley Unified Air Pollution Control District SJVAPCD NORTHERN REGION

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

- [ ] SIGNIFICANT PERMIT MODIFICATION [ ] ADMINISTRATIVE AMENDMENT
[x] MINOR PERMIT MODIFICATION

Table with 2 columns: COMPANY NAME: Quebecor World Merced Divison, FACILITY ID: N= 1646. Rows include: 1. Type of Organization, 2. Owner's Name: Quebecor World Inc., 3. Agent to the Owner: Roger Ashlock

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

- x [initials] 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).
x [initials] 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.
x [initials] Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.
x [initials] Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

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

X [Signature] Roger A. Ashlock
Signature of Responsible Official

6/10/2009
Date

Roger Ashlock

Name of Responsible Official (please print)

Environmental Coordinator

Title of Responsible Official (please print)

**Appendix D**  
**SJVAPCD BACT Guideline 4.7.1**

San Joaquin Valley  
Unified Air Pollution Control District

**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 contained 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.)	<ol style="list-style-type: none"> <li>1. VOC capture and incineration using high-end graphics heatset inks with a VOC content &lt; 45% by weight (less water and exempt compounds) and fountain solutions with a VOC content of &lt; 15% by volume</li> <li>2. VOC capture and carbon adsorption using high-end graphics heatset inks with a VOC content of &lt; 45% by weight (less water and exempt compounds) and fountain solutions with a VOC content of &lt; 15% by volume</li> <li>3. Using low VOC fountain solutions and inks compliant with District Rule 4607 (Graphic Arts)</li> </ol>	

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 - Permit Specific BACT Determinations on Next Page(s)**

**Appendix E**  
**Historical Actual Emissions (HE) and Net Emissions Change (NEC)**  
**Calculations and Determination of Highly-Utilized Emission Units**

## Historical Actual Emission (HE) Calculations for Facility Wide VOC Emissions

The Historical Actual Emissions (HE) are emissions having actually occurred and are calculated from actual ink, solvent, and fuel usage records utilizing established emission factors (EF) and actual source tested emission control efficiencies.

The following calculations will be utilized to calculate the Net Emissions Change (NEC) for VOC emissions to determine if the proposed project will be a Major Modification as discussed in Section VII.F. of this document.

In addition, the following calculations will be utilized to determine if the emission units under the facility wide Specific Limiting Condition (SLC) for VOC emissions are Highly-Utilized Emissions Units. According to District Rule 2201, Section 3.7.1.2., a Highly-Utilized Emissions Unit with an SLC are all emission units under the SLC which have an average combined annual Actual Emissions during the two consecutive years immediately prior to filing of an application for an Authority to Construct (ATC) were equal to or greater than 80% of the pre project SLC limit.

According to District Rule 2201, Section 3.8.1, the baseline period is a period of time equal to the two consecutive years of operation immediately prior to the submission date of the Complete Application. For this project the two consecutive years immediately prior to the submission date of the complete application is from April 1, 2007 to March 31, 2009 and will be referenced as the baseline period for this project. The quarterly baseline period VOC emissions from the inks, fountain solutions, blanket wash, and coatings usages were provided by the applicant as listed in the tables below. The natural gas usages (converted to MMBtu) were also provided by the applicant as listed in the tables below:

### Historical Actual Emissions from the Printing Inks:

VOC Emissions from the use of Heatset Offset Lithographic Inks (Facility Total)					
Year	1 <sup>st</sup> Qtr (lb/qtr)	2 <sup>nd</sup> Qtr (lb/qtr)	3 <sup>rd</sup> Qtr (lb/qtr)	4 <sup>th</sup> Qtr (lb/qtr)	Total Annual (lb/yr)
2007	---	5,421	5,607	3,452	---
2008	3,624	2,736	2,455	3,085	---
2009	2,274	---	---	---	---
<b>Average</b>	<b>2,949</b>	<b>4,079</b>	<b>4,031</b>	<b>3,269</b>	<b>14,328</b>

### Historical Actual Emissions from the Fountain Solution:

VOC Emissions from the use of Fountain Solutions (Facility Total)					
Year	1 <sup>st</sup> Qtr (lb/qtr)	2 <sup>nd</sup> Qtr (lb/qtr)	3 <sup>rd</sup> Qtr (lb/qtr)	4 <sup>th</sup> Qtr (lb/qtr)	Total Annual (lb/yr)
2007	---	1,640	1,699	1,269	---
2008	1,343	1,317	1,330	2,160	---
2009	1,724	---	---	---	---
<b>Average</b>	<b>1,534</b>	<b>1,479</b>	<b>1,515</b>	<b>1,715</b>	<b>6,243</b>

Historical Actual Emissions from the Blanket Wash:

VOC Emissions from the use of Blanket Washes (Facility Total)					
Year	1 <sup>st</sup> Qtr (lb/qtr)	2 <sup>nd</sup> Qtr (lb/qtr)	3 <sup>rd</sup> Qtr (lb/qtr)	4 <sup>th</sup> Qtr (lb/qtr)	Total Annual (lb/yr)
2007	---	17,290	14,216	9,289	---
2008	8,441	6,962	6,756	6,124	---
2009	4,523	---	---	---	---
<b>Average</b>	<b>6,482</b>	<b>12,126</b>	<b>10,486</b>	<b>7,707</b>	<b>36,801</b>

Historical Actual Emissions from the Roller Cleaner Solvents:

VOC Emissions from the use of Roller Cleaner Solvents (Facility Total)					
Year	1 <sup>st</sup> Qtr (lb/qtr)	2 <sup>nd</sup> Qtr (lb/qtr)	3 <sup>rd</sup> Qtr (lb/qtr)	4 <sup>th</sup> Qtr (lb/qtr)	Total Annual (lb/yr)
2007	---	1,661	1,926	1,152	---
2008	1,632	1,456	1,552	1,178	---
2009	1,046	---	---	---	---
<b>Average</b>	<b>1,339</b>	<b>1,559</b>	<b>1,739</b>	<b>1,165</b>	<b>5,802</b>

Historical Actual Emissions from the Coatings:

VOC Emissions from the use of Coatings (Facility Total)					
Year	1 <sup>st</sup> Qtr (lb/qtr)	2 <sup>nd</sup> Qtr (lb/qtr)	3 <sup>rd</sup> Qtr (lb/qtr)	4 <sup>th</sup> Qtr (lb/qtr)	Total Annual (lb/yr)
2007	---	435	986	386	---
2008	446	168	157	81	---
2009	241	---	---	---	---
<b>Average</b>	<b>344</b>	<b>302</b>	<b>572</b>	<b>234</b>	<b>1,452</b>

Historical Actual Emissions from the Ink-Jet Printer Inks:

VOC Emissions from the use of Ink-Jet Printer Inks (Facility Total)					
Year	1 <sup>st</sup> Qtr (lb/qtr)	2 <sup>nd</sup> Qtr (lb/qtr)	3 <sup>rd</sup> Qtr (lb/qtr)	4 <sup>th</sup> Qtr (lb/qtr)	Total Annual (lb/yr)
2007	---	663	686	576	---
2008	333	363	246	266	---
2009	223	---	---	---	---
<b>Average</b>	<b>278</b>	<b>513</b>	<b>466</b>	<b>421</b>	<b>1,678</b>

Historical Actual Emissions from the Ink-Jet Printer Solvents:

VOC Emissions from the use of Ink-Jet Printer Solvents (Facility Total)					
Year	1 <sup>st</sup> Qtr (lb/qtr)	2 <sup>nd</sup> Qtr (lb/qtr)	3 <sup>rd</sup> Qtr (lb/qtr)	4 <sup>th</sup> Qtr (lb/qtr)	Total Annual (lb/yr)
2007	---	1,401	1,222	698	---
2008	299	178	181	189	---
2009	58	---	---	---	---
<b>Average</b>	<b>179</b>	<b>790</b>	<b>702</b>	<b>444</b>	<b>2,115</b>

Historical Actual Emissions from the Combustion of Natural Gas:

For the drying ovens and facility shared regenerative thermal oxidizers, the VOC emissions from the combustion of natural gas will be calculated as follows:

$$HE_{VOC} = \text{Natural Gas Usage (MMBtu/qr)} \times 0.0055 \text{ lb VOC/MMBtu}$$

VOC Emissions from the Combustion of Natural Gas (Combined for the Facility Drying Ovens and Regenerative Thermal Oxidizers)					
Year	1 <sup>st</sup> Qtr (lb/qr)	2 <sup>nd</sup> Qtr (lb/qr)	3 <sup>rd</sup> Qtr (lb/qr)	4 <sup>th</sup> Qtr (lb/qr)	Total Annual (lb/yr)
2007	---	250	223	253	---
2008	208	190	183	209	---
2009	199	---	---	---	---
Average	204	220	203	231	858

HE<sub>SLC</sub> Calculations:

The HE<sub>SLC</sub> for VOC emissions will be based on the ink, fountain solution, blanket wash, coating, solvent usages and natural gas combustion from the drying ovens and regenerative thermal oxidizers. Therefore:

$$\begin{aligned} \Sigma HE_{SLC/VOC} &= 14,328 \text{ lb-VOC/yr} + 6,243 \text{ lb-VOC/yr} + 36,801 \text{ lb-VOC/yr} \\ &+ 5,802 \text{ lb-VOC/yr} + 1,452 \text{ lb-VOC/yr} + 1,678 \text{ lb-VOC/yr} \\ &+ 2,115 \text{ lb-VOC/yr} + 858 \text{ lb-VOC/yr} \\ &= \mathbf{69,277 \text{ lb VOC/yr}} \end{aligned}$$

NEC<sub>SLC</sub> Calculations:

Pursuant to the District's Draft Policy APR 1125 (Major Modification Policy), the Net Emissions Change (NEC) is defined for emission units covered by a Specific Limiting Condition (SLC), on a pollutant-by-pollutant basis, as follows:

$$NEC_{SLC} = PE_{2SLC} - HE_{SLC}, \text{ where:}$$

NEC<sub>SLC</sub> = Net Emissions Change for units covered by an SLC (pounds per year).

PE<sub>2SLC</sub> = Post-project SLC Potential to Emit for all units covered by the SLC.

HE<sub>SLC</sub> = Historical Actual Emissions for all units covered by the SLC  
or Pre-Project SLC Potential to Emit for SLC, which have been fully offset.

The PE<sub>2SLC</sub> for VOC emissions is equal to the facility wide SLC for VOC emissions of 235.6 lb/day operating at a maximum of 365 days/year. Therefore:

$$PE_{2SLC/VOC} = 235.6 \text{ lb VOC/day} \times 365 \text{ days/year} = \mathbf{85,994 \text{ lb VOC/year}}$$

$$\text{As determined above: } HE_{SLC/VOC} = \mathbf{69,277 \text{ lb VOC/yr}}$$

$$\begin{aligned} NEC_{SLC/VOC} &= 85,994 \text{ lb VOC/year} - 69,277 \text{ lb VOC/year} \\ &= \mathbf{16,717 \text{ lb VOC/year}} < 50,000 \text{ lb VOC/yr} \end{aligned}$$

The Net Emissions Change for VOC emissions from the permit units associated with this project is less than the Major Modification trigger threshold of 50,000 lb/yr. Therefore, this proposed project does not trigger the Major Modification requirements.

**Determination of Highly-Utilized Emission Units for VOC Emissions:**

The average combined annual Actual Emissions is equal to the above calculated  $\Sigma HE_{SLC/VOC}$ . Therefore:

Pollutant	Average Combined Annual Actual Emissions (lb/yr)	Pre-Project Annual SLC Limit (lb/yr)
VOC	69,277	85,994 <sup>10</sup>

$$\begin{aligned} 80\% \text{ of the Pre-Project Annual SLC Limit for VOC Emissions} &= 0.8 \times 85,994 \text{ lb/yr} \\ &= 68,795 \text{ lb/yr} \end{aligned}$$

The average combined annual actual VOC emission rate is 69,277 lb/yr, which is greater than 80% of the pre-project annual SLC of 68,795 lb/yr. In addition, these emission units have complied with all applicable emission limits and performance standards during the two year baseline period for this project. Therefore, all emission units under the facility wide SLC are Highly-Utilized Emission Units for VOC (Ref. District Rule 2201, Section 3.7.1.2 & 3.22).

<sup>10</sup> Based on a daily SLC of 235.6 lb VOC/day and operating a maximum of 365 days/yr, the annual pre-project SLC is 85,994 lb VOC/yr.

**Appendix F**  
**Risk Management Review Summary Sheet**

# San Joaquin Valley Air Pollution Control District Risk Management Review

To: Kai Chan – Permit Services  
 From: Cheryl Lawler – Technical Services  
 Date: August 26, 2009  
 Facility Name: Quebecor World  
 Location: 2201 Cooper Avenue, Merced  
 Application #(s): N-1646-6-4, 16-4, 39-3  
 Project #: N-1093258

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## A. RMR SUMMARY

RMR Summary			
Categories	Graphic Arts Printing Operation (Units 6-4, 16-4, 39-3)	Project Totals	Facility Totals
Prioritization Score	21.7	21.7	>1.0
Acute Hazard Index	0.00	0.00	0.37
Chronic Hazard Index	0.00	0.00	0.32
Maximum Individual Cancer Risk	4.95E-07	4.95E-07	8.82E-07
T-BACT Required?	No		
Special Permit Conditions?	No		

## B. RMR REPORT

### I. Project Description

Technical Services received a request on August 19, 2009, to perform a Risk Management Review for a graphic arts printing operation.

### II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the project's prioritization score was greater than one, a refined health risk assessment was required and performed. Toxic emissions from the proposed printing products were calculated after reviewing MSDS sheets supplied by the applicant to determine the speciation and presence of HAPs. AERMOD was used, with point source parameters outlined below, and meteorological data from Merced to determine maximum dispersion factors at the nearest residential and business receptors. These dispersion factors were input into the HARP model to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

<b>Analysis Parameters (Units 6-4 &amp; 16-4)</b>			
<b>Source Type</b>	Point	<b>Location Type</b>	Rural
<b>Release Height (m)</b>	13.72	<b>Closest Receptor (m)</b>	45.72
<b>Stack Gas Exit Temp. (K)</b>	450	<b>Type of Receptor</b>	Business
<b>Stack Gas Exit Velocity (m/s)</b>	7.18	<b>Stack Inside Diameter (m)</b>	1.83
<b>(Unit 39-3)</b>			
<b>Source Type</b>	Point	<b>Location Type</b>	Rural
<b>Release Height (m)</b>	9.14	<b>Closest Receptor (m)</b>	45.72
<b>Stack Gas Exit Temp. (K)</b>	422	<b>Type of Receptor</b>	Business
<b>Stack Gas Exit Velocity (m/s)</b>	17.78	<b>Stack Inside Diameter (m)</b>	1.21

### III. Conclusion

The acute and chronic indices are below 1.0; and the cancer risk is **4.95E-07**, which is less than the 1 in a million threshold. In accordance with the District's Risk Management Policy, the project is approved **without** Toxic Best Available Control Technology (T-BACT).

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