MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

May 9, 2016

PERMIT TO INSTALL
114-01D

ISSUED TO
Rogers Printing, Inc.

LOCATED AT
3350 Main Street
Ravenna, Michigan

IN THE COUNTY OF
Muskegon

STATE REGISTRATION NUMBER
A4216

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **April 27, 2016**	
DATE PERMIT TO INSTALL APPROVED: **May 9, 2016**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

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Common Abbreviations / Acronyms

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO_2e	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
		gr	Grains
EU	Emission Unit	HAP	Hazardous Air Pollutant
FG	Flexible Group	Hg	Mercury
GACS	Gallons of Applied Coating Solids	hr	Hour
GC	General Condition	HP	Horsepower
GHGs	Greenhouse Gases	H_2S	Hydrogen Sulfide
HVLP	High Volume Low Pressure*	kW	Kilowatt
ID	Identification	lb	Pound
IRSL	Initial Risk Screening Level	m	Meter
ITSL	Initial Threshold Screening Level	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	NMOC	Non-methane Organic Compounds
MDEQ	Michigan Department of Environmental Quality	NO_x	Oxides of Nitrogen
		ng	Nanogram
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NA	Not Applicable	PM10	Particulate Matter equal to or less than 10 microns in diameter
NAAQS	National Ambient Air Quality Standards		
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonable Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO_2	Sulfur Dioxide
SCR	Selective Catalytic Reduction	TAC	Toxic Air Contaminant
SNCR	Selective Non-Catalytic Reduction	Temp	Temperature
SRN	State Registration Number	THC	Total Hydrocarbons
TEQ	Toxicity Equivalence Quotient	tpy	Tons per year
USEPA/EPA	United States Environmental Protection Agency	µg	Microgram
		µm	Micrometer or Micron
VE	Visible Emissions	VOC	Volatile Organic Compounds
		yr	Year

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
    a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b) A visible emission limit specified by an applicable federal new source performance standard.
    c) A visible emission limit specified as a condition of this Permit to Install.

12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUHEIDELBERG01	Heidelberg SM-74 heatset sheetfed lithographic printing press with solvent usage. Manual wash.	6-1-1996	FGOFFSET1
EUMISCELLANEOUS	Bindery, pre-press and adhesive operations.	6-1-1990	FGOFFSET1
EUHEIDELBERG02	Heidelberg M-130 heatset webfed lithographic printing press with high temperature oven and solvent usage. Manual wash.	9-1-2001, 8-20-2013	FGOFFSET2
EUHARRIS	Harris M-200 heatset webfed lithographic printing press with high temperature oven and solvent usage. Manual wash.	6-1-1992, 8-20-2013	FGOFFSET2
EUHEIDELBERG03	Heidelberg M-600 heatset webfed offset lithographic printing press with an integrated recuperative thermal oxidizer as part of the dryer. Automatic wash system.	8-4-2015	N/A
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.			

The following conditions apply to: EUHEIDELBERG03

DESCRIPTION: Heidelberg M-600 heatset webfed offset lithographic printing press with an integrated recuperative thermal oxidizer as part of the dryer. Automatic wash system.

Flexible Group ID: N/A

POLLUTION CONTROL EQUIPMENT: Recuperative Thermal Oxidizer

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	11.5 tpy	12-month rolling time period as determined at the end of each calendar month	EUHEIDELBERG03	SC VI.1, SC VI.3	R 336.1702(a)
2. VOC	20 ppmv as hexane on a dry basis	Test Protocol*	EUHEIDELBERG03	SC V.2	R 336.1702(a)
* Test Protocol shall specify averaging time					

II. MATERIAL LIMITS

N/A

III. PROCESS/OPERATIONAL RESTRICTIONS

1. All VOC-containing inks, fountain solution, coatings, cleaning solvents such as blanket and roller washes, used shop towels, etc. (materials) shall be stored in closed containers and disposed of in an acceptable manner, in compliance with all applicable state rules and federal regulations. **(R 336.1224, R 336.1225, R 336.1702(a))**

2. The permittee shall handle all VOC and/or HAP containing materials, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. **(R 336.1224, R 336.1225, R 336.1702(a))**

3. All printing press-related cleaning solvents shall have composite partial vapor pressures that do not exceed 10 mmHg @ 20°C (68°F). **(R 336.1702(a))**

4. The permittee shall not operate the recuperative thermal oxidizer for EUHEIDELBERG03 unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted within 90 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
   a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b. An identification of the sources and air cleaning operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
   c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.
   d. A description of the procedures to capture, handle, and dispose of all materials to minimize the generation of fugitive emissions per SC III.1 and III.2.

   If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate EUHEIDELBERG03 unless the recuperative thermal oxidizer is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the recuperative thermal oxidizer includes a minimum VOC destruction efficiency of 95 percent (by weight), or a maximum oxidizer VOC outlet concentration of 20 ppmv as hexane on a dry basis (SC I.2), a minimum retention time of 0.5 seconds, a minimum combustion temperature of 1418°F, or the minimum temperature during the most recent acceptable stack test, and in accordance with the MAP required in SC III.4. **(R 336.1702(a), R 336.1910)**

2. The permittee shall not operate EUHEIDELBERG03 unless the dryer is installed, maintained and operated in a satisfactory manner. Satisfactory operation requires that the dryer is operating at a pressure lower than all adjacent areas, so that air flows into the non-fugitive enclosure through all natural draft openings (NDOs). NDO is defined as any opening that is not connected to a duct in which a fan or blower is installed. This shall be achieved by using the existing built-in interlock system which will trigger automatically and shut off the press if the dryer is not operating in negative pressure. **(R 336.1702(a), R 336.1910)**

3. The permittee shall install, calibrate, maintain and operate a temperature monitoring device in the combustion chamber of the recuperative thermal oxidizer in a satisfactory manner. The monitoring device shall monitor the temperature on a continuous basis during the operation of EUHEIDELBERG03. **(R 336.1702(a))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall verify the VOC content of any ink, coating, fountain solution, cleaning solvent, *etc.* (material), as received and as applied, using federal Reference Test Method 24 or 24A pursuant to Rule 1040(5). Upon prior written approval by the AQD District Supervisor, VOC content may be determined from manufacturer's formulation data. If the Method 24 or 24A and the formulation values should differ, the Method 24 or 24A results shall be used to determine compliance. **(R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**

2. Within 180 days from issuance of this permit, the permittee shall verify, by testing at the owner's expense and in accordance with Department requirements, the destruction efficiency of the recuperative thermal oxidizer, or the VOC outlet concentration as specified in SC I.2, for EUHEIDELBERG03. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. Verification of the destruction efficiency includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1225, R 336.1702(a))**

2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each VOC containing material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1225, R 336.1702)**

3. The permittee shall keep the following information on a monthly basis for EUHEIDELBERG03:
   a. The type of each VOC containing material used and reclaimed (heatset inks, coatings, fountain solutions, cleaning solutions, etc.).
   b. The amount (in pounds or gallons) of each VOC containing material used and reclaimed.
   c. The VOC content of each material as received (in percent by weight or pounds per gallon).
   d. VOC mass emission calculations determining the monthly emission rate in tons per calendar month. (Retention factors from Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing, EPA-453/R-06-002, September 2006 may be used or an alternate factor approved by the AQD District Supervisor)
   e. VOC emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month. (Retention factors from Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing, EPA-453/R-06-002, September 2006 may be used or an alternate factor approved by the AQD District Supervisor)

   The permittee shall keep the records using mass balance, or a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1702(a))**

4. The permittee shall record, in a satisfactory manner, the temperature in the combustion zone of the recuperative thermal oxidizer on a continuous basis during operation of EUHEIDELBERG03. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUHEIDELBERG03. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVTO (Thermal Oxidizer)	24	47	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENTS

N/A

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGOFFSET1	One heatset sheetfed lithographic printing press, bindery, pre-press and adhesive operations. The printers are cleaned manually with blanket wash.	EUHEIDELBERG01, EUMISCELLANEOUS
FGOFFSET2	Two heatset webfed lithographic printing presses controlled by a regenerative thermal oxidizer (RTO). The printing presses are manually washed with blanket wash.	EUHEIDELBERG02, EUHARRIS
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	All process equipment source-wide

The following Flexible Group conditions apply to: FGOFFSET1

DESCRIPTION: One non-heatset sheetfed lithographic printing press, bindery, pre-press and adhesive operations. The printers are cleaned manually with blanket wash.

Emission Units: EUHEIDELBERG01, EUMISCELLANEOUS

POLLUTION CONTROL EQUIPMENT: N/A

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	10.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGOFFSET1	SC VI.1, SC VI.3	R 336.1225, R 336.1702(a)

II. MATERIAL LIMITS

N/A

III. PROCESS/OPERATIONAL RESTRICTIONS

1. All VOC-containing inks, fountain solution, cleaning solvents such as blanket and roller washes, used shop towels, etc. (materials) shall be stored in closed containers and shall be handled / disposed of in an acceptable manner, in compliance with all applicable state Air Quality rules and federal Air Quality regulations. **(R 336.1224, R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

N/A

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall verify the VOC content of any ink, fountain solution, cleaning solvent, flash oil, etc. (material), as received and as applied, using federal Reference Test Method 24 (inks, coatings, fountain solution additives and cleaning solvents) or 24A (only applies to solvent-borne inks and related coatings used in the publication rotogravure industry) pursuant to Rule 1040(5). Upon prior written approval by the AQD District Supervisor, VOC content may be determined from manufacturer's formulation data. If the Method 24 or 24A and the formulation values should differ, the Method 24 or 24A results shall be used to determine compliance. **(R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1225, R 336.1702(a))

2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material including the weight percentage of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both. (R 336.1225, R 336.1702(a))

3. The permittee shall keep the following information for FGOFFSET1 on a calendar month basis:
   a. The type of material.
   b. The VOC content of each material with water (in percent by weight or pounds per gallon) as received and as applied.
   c. The usage rate (in pounds or gallons) of each material as applied.
   d. The amount (in pounds) of blanket wash reclaimed.
   e. VOC emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month (Retention factors from Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing, EPA-453/R-06-002, September 2006 may be used or an alternate factor approved by the AQD District Supervisor).

   The permittee shall keep the records using mass balance, or a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. (R 336.1702(a))

VII. REPORTING

N/A

VIII. STACK/VENT RESTRICTIONS

N/A

IX. OTHER REQUIREMENTS

N/A

The following Flexible Group conditions apply to: FGOFFSET2

DESCRIPTION: Two heatset webfed lithographic printing presses controlled by a regenerative thermal oxidizer (RTO). The printing presses are manually washed with blanket wash.

Emission Units: EUHEIDELBERG02, EUHARRIS

POLLUTION CONTROL EQUIPMENT: Regenerative Thermal Oxidizer (RTO)

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC	4.3 pph	Test Protocol	FGOFFSET2	SC V.3	R 336.1205, R 336.1702(a)
2. VOC	17.8 tpy	12-month rolling time period as determined at the end of each calendar month	FGOFFSET2	SC VI.1, SC VI.3	R 336.1225, R 336.1702(a)

II. MATERIAL LIMITS

N/A

III. PROCESS/OPERATIONAL RESTRICTIONS

1. All VOC-containing inks, fountain solution, cleaning solvents such as blanket and roller washes, used shop towels, etc. (materials) shall be stored in closed containers and shall be handled / disposed of in an acceptable manner, in compliance with all applicable state Air Quality rules and federal Air Quality regulations. **(R 336.1225, R 336.1702(a))**

2. The permittee shall handle all VOC and/or HAP containing materials, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. **(R 336.1225, R 336.1702(a))**

3. All printing press-related cleaning solvents shall have composite partial vapor pressures that do not exceed 10 mmHg @ 20°C (68°F). **(R 336.1702(a))**

4. The permittee shall not operate the regenerative thermal oxidizer (RTO) for FGOFFSET2 unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted within 90 days of permit issuance, and is implemented and maintained. The MAP shall, at a minimum, specify the following:
   a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b. An identification of the FGOFFSET2 and RTO operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
   c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.
   d. A description of the procedures to capture, handle, and dispose of all materials to minimize the generation of fugitive emissions per SC numbers III.1 and III.2.

   If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1205, R 336.1225, R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall not operate FGOFFSET2 unless the RTO is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the RTO includes a minimum a VOC destruction efficiency of 98 percent (by weight), a minimum retention time of 0.5 seconds and a minimum combustion temperature of 1500°F. The minimum combustion chamber temperature may be adjusted based on the most recent acceptable stack test which achieved a minimum overall destruction efficiency of 98 percent, and which is specified in the MAP required in SC III.4. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

2. The permittee shall install, calibrate, maintain and operate a temperature monitoring device in the combustion chamber of the RTO in a satisfactory manner. The monitoring device shall monitor and record the temperature on a continuous basis during the operation of FGOFFSET2. **(R 336.1205, R 336.1225, R 336.1702(a))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall verify the VOC content of any ink, fountain solution, cleaning solvent, flash oil, etc. (material), as received and as applied, using federal Reference Test Method 24 (inks, coatings, fountain solution additives and cleaning solvents) or 24A (only applies to solvent-borne inks and related coatings used in the publication rotogravure industry) pursuant to Rule 1040(5). Upon prior written approval by the AQD District Supervisor, VOC content may be determined from manufacturer's formulation data. If the Method 24 or 24A and the formulation values should differ, the Method 24 or 24A results shall be used to determine compliance. **(R 336.1702(a), R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**

2. Upon request from the AQD District Supervisor, the permittee shall verify, by testing at the owner’s expense and in accordance with Department requirements, the short-term (lb/hr) VOC emission rate. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. Verification of the short-term (lb/hr) VOC emission rate includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205, R 336.1702(a))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. All required calculations shall be completed in a format acceptable to the AQD District Supervisor and made available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any recordkeeping, reporting or notification special condition. **(R 336.1225, R 336.1702)**

2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each VOC containing material, including the weight percent of each component, and the composite partial vapor pressures of all press-related cleaning solvents used. The data may consist of manufacturer's formulation data as deemed acceptable by the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request. **(R 336.1225, R 336.1702)**

3. The permittee shall keep the following information for FGOFFSET2 on a calendar month basis:
   a. Identification of the category (ink, coating, blanket wash, roller wash, press wash, *etc.*) of each VOC containing material used and reclaimed.
   b. The VOC content of each material as received and as-applied (in percent by weight or pounds per gallon).
   c. The usage and reclaim (in pounds or gallons) of each VOC containing material.
   d. VOC emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month (Retention factors from Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing, EPA-453/R-06-002, September 2006 may be used or an alternate factor approved by the AQD District Supervisor).

   The permittee shall keep the records using mass balance, or a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1702(a))**

4. The permittee shall monitor and record, in a satisfactory manner, the temperature in the combustion zone of the RTO on a continuous basis in a manner and with instrumentation acceptable to the AQD. **(R 336.1205, R 336.1225)**

VII. REPORTING

N/A

VIII. STACK/VENT RESTRICTIONS

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter/ Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVRTO	18	47	R 336.1225, 40 CFR 52.21(c) & (d)

IX. OTHER REQUIREMENTS

N/A

The following conditions apply Source-Wide to: FGFACILITY

DESCRIPTION: All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.

Emission Unit ID: N/A

POLLUTION CONTROL EQUIPMENT: N/A

I. EMISSION LIMITS

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing/ Monitoring Method	Underlying Applicable Requirements
1. Each Individual HAP	Less than 9.0 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.1, SC VI.2	R 336.1205(3)
2. Aggregate HAPs	Less than 22.5 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.1, SC VI.2	R 336.1205(3)

II. MATERIAL LIMITS

N/A

III. PROCESS/OPERATIONAL RESTRICTIONS

N/A

IV. DESIGN/EQUIPMENT PARAMETERS

N/A

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall determine the HAP content of any ink, fountain solution, cleanup solution, flash oil, etc. (material) as applied and as received, using manufacturer's formulation data. Upon request of the AQD District Supervisor, the permittee shall verify the manufacturer's HAP formulation data using EPA Test Method 311. **(R 336.1205(3))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(3))**

2. The permittee shall keep the following information for FGFACILITY on a calendar month basis:
   a. Gallons or pounds of each HAP containing material used.
   b. Where applicable, gallons or pounds of each HAP containing material reclaimed.
   c. HAP content, in pounds per gallon or pounds per pound, of each HAP containing material used.
   d. Individual and aggregate HAP emission calculations determining the monthly emission rate of each in tons per calendar month (Retention factors from Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing, EPA-453/R-06-002, September 2006 may be used or an alternate factor approved by the AQD District Supervisor).
   e. Individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month (Retention factors from Control Techniques Guidelines for Offset Lithographic Printing and Letterpress Printing, EPA-453/R-06-002, September 2006 may be used or an alternate factor approved by the AQD District Supervisor).

   The permittee shall keep the records using mass balance, or a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(3))**

VII. REPORTING

N/A

VIII. STACK/VENT RESTRICTIONS

N/A

IX. OTHER REQUIREMENTS

N/A