



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE OFFICE

APPLICATION PROCESSING AND CALCULATIONS

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P/O

Legal Owner  
or Operator:

TREND OFFSET PRINTING SERVICES, INC.  
3722-382 CATALINA STREET  
LOS ALAMITOS, CA 90720

ID: 53729

Equipment  
Location:

3722-382 CATALINA STREET, LOS ALAMITOS, CA 90720

Equipment Description:

Equipment	ID No.	Connected To	Source Type/ Monitoring Unit	Emissions * And Requirements	Conditions
<b>Process 1: Lithographic Printing</b>					
PRINTING PRESS, LITHOGRAPHIC, ROCKWELL/GOSS, MODEL NO. C-450A, FOUR COLOR, 48 INCH WIDTH A/N: 450549  (REMOVED)	D11			VOC: (9) [RULE 1130, 10-8-1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]	B163.1, B163.4, H23.3, K67.1
DRYER, NATURAL GAS, 5.2 MMBTU/HR A/N: 450549  (REMOVED)	D12	C27-C59	NOX: PROCESS UNIT**	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]	E133.1
PRINTING PRESS, LITHOGRAPHIC, ROCKWELL/GOSS, MODEL NO. C-450B, FOUR COLOR, 48 INCH WIDTH A/N: 450550  (REMOVED)	D50			VOC: (9) [RULE 1130, 10-8-1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]	B163.1, B163.4, H23.3, K67.1
DRYER, NATURAL GAS, 5.2 MMBTU/HR A/N: 450550  (REMOVED)	D13	C27-C59	NOX: PROCESS UNIT**	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]	E133.1



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<p>PRINTING PRESS, LITHOGRAPHIC, HARRIS, MODEL NO. M-110, EIGHT FOUR COLOR, 26.5 INCH WIDTH A/N: 450554 491090</p> <p>(MOVED WITHIN FACILITY)</p>	D19			VOC: (9) [RULE 1130, 10-8-1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]	B59.4, B59.5, B163.1, B163.4, H23.3, K67.1
<p>DRYER, TEC, SERIES 80, NATURAL GAS, TWO ONE ZONE, EACH 1.57 1.5 MMBTU/HR, LOW NOX BURNER A/N: 450554 491090</p> <p>(MOVED WITHIN FACILITY) (UPGRADED TO LOW NOX)</p>	D20	C26-C59 C69	NOX: PROCESS UNIT **	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM: 30 PPMV NATURAL GAS (4) [RULE 2005, 5-6-2005]	E133.1
<p>PRINTING PRESS, LITHOGRAPHIC, HARRIS, MODEL NO. M-110, EIGHT FOUR COLOR, 26.5 INCH WIDTH A/N: 450554 491089</p> <p>(MOVED WITHIN FACILITY)</p>	D67			VOC: (9) [RULE 1130, 10-8-1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]	B59.4, B59.5, B163.1, B163.4, H23.3, K67.1
<p>DRYER, TEC, SERIES 80, NATURAL GAS, ONE ZONE, 1.57 1.5 MMBTU/HR, LOW NOX BURNER A/N: 450554 491089</p> <p>(MOVED WITHIN FACILITY) (UPGRADED TO LOW NOX)</p>	D68	C26-C59 C69	NOX: PROCESS UNIT **	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM: 30 PPMV NATURAL GAS (4) [RULE 2005, 5-6-2005]	E133.1
<p>PRINTING PRESS, LITHOGRAPHIC, GOSS, MODEL NO. M-500, FOUR COLOR, 28 INCH WIDTH A/N: 491092</p>	D72			VOC: (9) [RULE 1130, 10-8-1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]; PM: 30 PPMV NATURAL GAS (4) [RULE 2005, 5-6-2005]	B59.5, B163.1, B163.4, H23.3, K67.1
<p>DRYER, GOSS, MODEL ECOWEB PLUS 89-1020, NATURAL GAS, WITH LOW NOX BURNERS, TWO ZONES, EACH 1.00 MMBTU/HR, 2.00 MMBTU/HR A/N: 491092</p>	D73	C59 C69	NOX: PROCESS UNIT **	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM: 30 PPMV NATURAL GAS (4) [RULE 2005, 5-6-2005]	B59.5, E133.1
<p>AFTERBURNER, ADWEST, REGENERATIVE THERMAL OXIDIZER, MODEL NO. RETOX 25.0 RTO95, 25,000 CFM, 13'-4" L, 10'-0" W., 5'-0" H., ONE 100 H.P. MAIN BLOWER, WITH A 7.225 MMBTU/HR NATURAL GAS</p>	C69	D7 D40 D41 D56 D57 D61 D62 D68 D20 D73	NOX: PROCESS UNIT**	CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF (1) [RULE 2012, 5-6-2005]; PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GR/SCF (5) [RULE 409, 8-7-1981]	A72.1, D12.1, D182.5, E193.2



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FIRED START-UP BURNER, MODEL MAXON KINEMAX G6, HP COMBUSTION BLOWER, AND A NATURAL GAS INJECTION SYSTEM UP TO 3.5 MMBTU/HR. A/N: 491093					
AFTERBURNER, HOT ROCK, ADVANTAGE ENERGY GROUP, MODEL PREMIER 22.5 RTO, ONE 150 H.P. EXHAUST BLOWER, NATURAL GAS, ONE 10 H.P. COMB. AIR FAN, TWO HEAT EXCHANGERS AND ONE ABSORPTION SHILLER, 6.4 MMBTU/HR A/N: 423420 491094	C59	D7 <del>D12</del> <del>D13</del> D40 D41 D56 D57 D61 D62 <u>D20 D68 D73</u>	NOX: PROCESS UNIT**	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]	A72.1, D182.4, <u>D182.5</u> , E193.2
PRINTING PRESS, LITHOGRAPHIC, HEIDELBERG HARRIS, MODEL NO. M600, EIGHT COLOR, 38 INCH WIDTH A/N: 450544 (494732)	D6			VOC: (9) [RULE 1130, 10-8- 1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]	B163.1, B163.4, H23.3, K67.1
DRYER, TEC, NATURAL GAS, TWO ZONES, EACH WITH TWO BURNERS, 9.76 MMBTU/HR A/N: 450544 (494732)	D7	C27 C59 <u>C69</u>	NOX: PROCESS UNIT **	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]	E133.1
PRINTING PRESS, LITHOGRAPHIC, HEIDELBERG HARRIS, MODEL NO. M600, DUAL WEB-FED OFFSET, FOUR COLOR PLUS UV COATER, 38 INCH WIDTH A/N: 450561 (495126)	D39			VOC: (9) [RULE 1130, 10-8- 1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]	B163.1, B163.4, H23.3, K67.1
DRYER, MODEL NO. TEC-CP-311, NATURAL GAS, 2.567 MMBTU/HR A/N: 450561 (495126)	D40	C27 C59 <u>C69</u>	NOX: PROCESS UNIT **	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]	E133.1



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DRYER, MODEL NO. TEC-CP-311, NATURAL GAS, 2.567 MMBTU/HR A/N: 450564 (495127)	D41	C27 C59 <u>C69</u>	NOX: PROCESS UNIT **	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]	E133.1
PRINTING PRESS, LITHOGRAPHIC, HEIDELBERG-HARRIS, MODEL NO. M-655, WEB-FED OFFSET, EIGHT COLOR, 38 INCH WIDTH, WITH AUTOMATIC BLANKET WASH SYSTEM A/N: 450566 (494737)	D53			VOC: (9) [RULE 1130, 10-8-1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]	B59.4, B163.1, B163.4, H23.3, K67.1
DRYER, HEIDELBERG CONTIWEB, MODEL ECOWEB PLUS 106-1020, NATURAL GAS, WITH LOW NOX BURNER, 2.4 MMBTU/HR A/N: 450566 (494737)	D56	C27 C59 <u>C69</u>	NOX: PROCESS UNIT **	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]	E133.1
PRINTING PRESS, LITHOGRAPHIC, HEIDELBERG-HARRIS, MODEL NO. M-655, WEB-FED OFFSET, EIGHT COLOR, 38 INCH WIDTH, WITH AUTOMATIC BLANKET WASH SYSTEM A/N: 475157 (495127)	D65			VOC: (9) [RULE 1130, 10-8-1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]	B59.4, B163.1, B163.4, H23.3, K67.1
DRYER, HEIDELBERG CONTIWEB, MODEL ECOWEB PLUS 106-1020, NATURAL GAS, WITH LOW NOX BURNER, 2.4 MMBTU/HR A/N: 475157 (495127)	D57	C27 C59 <u>C69</u>	NOX: PROCESS UNIT **	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]	E133.1



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PRINTING PRESS, LITHOGRAPHIC, HEIDELBERG- HARRIS, MODEL SUNDAY 2000, WEB-FED OFFSET, EIGHT COLOR, 57 INCH WIDTH, WIDTH AUTOMATIC BLANKET WASH SYSTEM A/N: 450568 (494734)	D60			VOC: (9) [RULE 1130, 10-8- 1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]	B59.4, B163.1, B163.4, H23.3, K67.1
DRYER, HEIDELBERG CONTIWEB BV, MODEL ECOCOL/W 130-1460, NATURAL GAS, WITH LOW NOX BURNER, 4.9 MMBTU/HR A/N: 450568 (494734)	D61	C27 C59 <u>C69</u>	NOX: PROCESS UNIT **	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]	E133.1
PRINTING PRESS, LITHOGRAPHIC, HEIDELBERG- HARRIS, MODEL SUNDAY 2000, WEB-FED OFFSET, EIGHT COLOR, 57 INCH WIDTH, WIDTH AUTOMATIC BLANKET WASH SYSTEM A/N: 475160 (494736)	D66			VOC: (9) [RULE 1130, 10-8- 1999, RULE 1171, 11-7-2003; RULE 1171, 5-6-2005]	B59.4, B163.1, B163.4, H23.3, K67.1
DRYER, HEIDELBERG CONTIWEB BV, MODEL ECOCOL/W 130-1460, NATURAL GAS, WITH LOW NOX BURNER, 4.9 MMBTU/HR A/N: 475160 (494736)	D62	C27 C59 <u>C69</u>	NOX: PROCESS UNIT **	CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 130 LBS/MMSCF NATURAL GAS (1) [RULE 2012, 12-5-2003; RULE 2012, 1-7-2005]  PM: (9) [RULE 404, 2-7-1986]; PM: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]	E133.1

History

The company is a large lithographic printer, currently permitted to operate fourteen heat-set lithographic printing lines with the following operational status:



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Printer Line No.	Printer(s)	Dryer(s)	Existing A/N	Control Equipment	Operational Status
1	D6	D7	450544	C27 C59	active
2	D8	D9 D10	450547	C26	active
3	<del>D11</del>	<del>D12</del>	450549	C27 C59	replaced
4	<del>D50</del>	<del>D13</del>	450550	C27 C59	replaced
5	D14	D15	450551	C26	active
6	D16	D17 D18	450553	C26	active
7	D19	D20	450554	C26	relocated within facility
8	D19x (D67)	D20x (D68)	491089	C26	relocated within facility
9	D39	D40 D41	450561	C27 C59	active
10	D51	D52	450563	C26	active
11	D53	D56	450566	C27 C59	active
12	D65	D57	475157	C27 C59	active
13	D60	D61	450568	C27 C59	active
14	D66	D62	475160	C27 C59	active

and three cold-set lithographic presses (D37, D38 & D58), plus a solvent recovery centrifuge (D63).

Originally the applicant was proposing to add three new heat-set lithographic printing lines and one new oxidizer. Two of the three printing lines were identical printing system consisting of an M-110 press and a 6 mmbtu/hr dryer each, while the third is a M500 press and 2 mmbtu/hr dryer, and a 7.225 mmbtu/hr regenerative thermal oxidizer.

On 3-12-09, the applicant revised the proposed project with the following updates:

1. Instead of purchasing two new printing lines (with M-110 presses), the applicant has relocated two existing M-110 presses (D19 & D19x) and two associated dryers (D20 & D20x), currently permitted under A/N 450554, from one building to another building within the same facility.
2. Burners in the relocated dryers (D20 & D20x), each previously rated 1.57 MMBTU/hr, have been replaced by new low-NOx burners, each rated 1.5 MMBTU/hr,



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guaranteed by the manufacturer to meet a NOx limit of 30 ppmv at 3% O2.

- 3. The new M500 printing line (D72 & D73) and new oxidizer (C69) were installed and in operation.

In addition to the above, the applicant removed from service two heat-set printing lines consisting of presses D11 and D50 and associated dryers D12 and D13. The equipment was removed from service in November 2008.

The new oxidizer C69 vents emissions from the new dryer D73 and emissions from existing driers that are currently vented to oxidizer C27 and C59 (C27 is only used as a backup unit for C59). The existing oxidizer C59 will also vents emissions from the new dryer D73. Basically the exhaust ductworks from C59 and C69 are tied together so that untreated air flows will be automatically directed to either oxidizer to ensure that each oxidizer will not be operated beyond its designed air flow capacity. The backup oxidizer C27 will not be used to vent emissions from D73. As a result, the applicant submitted the following applications which will allow for the following existing lines to be vented to the new oxidizer:

<i>Device No.</i>	<i>Existing A/N</i>	<i>Pending A/N</i>
<i>D6, D7</i>	<i>450544</i>	<i>494732</i>
<i>D60, D61</i>	<i>450568</i>	<i>494734</i>
<i>D65, D67</i>	<i>475157</i>	<i>495127</i>
<i>D66, D62</i>	<i>475160</i>	<i>494736</i>
<i>D53, D56</i>	<i>450566</i>	<i>494737</i>
<i>D39, D40, D41</i>	<i>450561</i>	<i>495126</i>

Further, during the last revision to the Title V permit, the applicant inactivated a heat-set press line consisting of press D8 and associated dryers D9 and D10 in error. The applicant re-instated the permit for the printing line and as a result, devices D8, D9, and D10 will be added back in Section D of the permit.

The applicant has proposed to keep the existing facility-wide limit of 10,890 lbs per month of ROG. Therefore, the proposed new addition will not result in ROG emission increase from the facility.

Trend Offset is a Title V and NOx RECLAIM facility. This permit revision is the 4<sup>th</sup> revision to the Title V renewal permit that was issued to this facility on May 9, 2005. A review of District



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compliance records indicates that there are no Notice of Violations or Citizen complaints filed against this facility during the last two years. However, the company was issued a Notice to Comply on July 15, 2008 requiring the applicant to provide records to show compliance with various permit conditions. The company provided the requested information and is currently operating in compliance with the permit conditions and applicable rules and regulations.

## Process Description

### General Lithographic Printing:

The company uses various graphic art materials such as inks, fountain solution and washes. Printing inks consist of pigments, binders, and solvents. Pigments are composed of finely divided organic and inorganic materials, which produce desired colors. Binders are composed of organic resins and polymers or oils and resins, which lock pigments to the substrate. Solvents are usually composed of organic compounds, which dissolve and disperse the pigments and binders. During the ink drying process, small portions of organic materials are released to the atmosphere.

In lithography, plate cylinders contain both the image and nonimage areas. The image area is ink wettable and water repellent. The nonimage area is chemically repellent to ink. First, to create the nonimage area, a fountain solution is applied on the plate cylinder in a desirable pattern. The fountain solution dampens the plate cylinder, making it repellent to ink in those areas that will not be printed. Then, applying ink to the dampened plate cylinder creates the image area. The applied ink only sticks to the areas of the plate cylinder that have not been covered with the fountain solution.

During printing, the ink from the image area is first transferred to another cylinder, known as a blanket cylinder. The blanket cylinder is a metal cylinder covered with a soft rubber layer. The soft rubber surface is used here to provide a clearer impression on papers with a variety of textures. The printing process is completed when ink from the soft rubber is transferred to a substrate. Thus, the ink from the plate cylinders is not directly transferred to the substrate as in normal printing, but must be transferring via the blanket cylinder. Hence, this printing method is called offset printing.

Paper to be printed is either in a continuous roll or separate sheets. If a continuous roll of paper is fed to the printer then it is called webfed printing or else it called sheetfed.

Printed inks can be cured by the following methods:



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1. Coldset: Air dried
2. Heatset: Dried inside a gas-fired oven
3. Quickset: Dried inside either infrared (IR) or electric ovens

The Printing presses operate on average 16 hour/day and 7 days/week with maximum operation at 24 hours/day and 7 days/week. The new oxidizer is a regenerative type with two ceramic beds and a 7.225 MMbtu/hr start-up burner. The unit is capable of handling an exhaust flow of 25,000 CFM. During low levels of VOC in the emissions stream, the main burner will not be used to supplement heat, but a natural-gas injection system is used instead to provide additional heat, maintaining the combustion chamber at or above 1500 °F. The C69 oxidizer is expected to achieve a minimum destruction efficiency of 95%.

### Control Equipment Evaluation

#### General Description

A 100-HP exhaust fan is used to pull 25,000 CFM of VOC-laden process gas through the oxidizer. Inside the combustion chamber with the temperature above 1500 °F, VOCs in the inlet gas stream are converted into carbon dioxide and water. In order to reduce fuel cost, this oxidizer is equipped with two ceramic beds serving as heat exchange media.

At startup, the C69 oxidizer is equipped with dampers that only allow fresh air to enter the oxidizer. The main burner rated at 7.225 MMBTU/hr raises the combustion chamber to 1500 °F in about one hour. Afterward, the fresh air damper is closed and the inlet damper is opened, allowing the process gas to enter the oxidizer.

In operation, a valve arrangement provides for alternating and reversing the oxidizer influent and effluent through each ceramic bed. While the No. 1 bed is undergoing the heat absorption mode, the No. 2 bed is preheating the influent chamber. The cycles continue and the switching occurs automatically.

The heat recovery from these two beds is expected to be 95% efficient. The system heat loss can be offset by the combustion of VOC present in the emission streams. During low levels of VOC in the emissions stream, the main burner will not be used to supplement heat, but a natural-gas injection system is used instead to provide additional heat, maintaining the combustion chamber at above 1500 °F.

The C69 oxidizer is expected to achieve a minimum destruction efficiency of 95%. A source test will be conducted to confirm the control efficiency of the equipment in meeting the BACT requirement for VOC.



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Burner Capacity:

Combustion/Retention Chamber Temperature ( $T_c$ ) = 1500 °F

Emission Stream Temperature ( $T_e$ ) = 350 °F

Heat Exchanger Temperature ( $T_{he}$ )

$$= (\% \text{ heat recovery})(T_c) + (1 - \% \text{ heat recovery})(T_e)$$

$$= 95\%(1500)+5\%(350) \text{ °F} = 1443 \text{ °F}$$

Enthalpy at 1443 °F  $\cong$  26.13 BTU/scf --(Table D4, Appendix D, AP40)

Enthalpy at 1500 °F = 28.24 BTU/scf --(Table D4, Appendix D, AP40)

Net Enthalpy = 2.11 BTU/scf (28.24-26.13)

Startup Flow Rate = 25,000 scfm

Net Heat ( $Q_{net}$ )

$$= (25,000)(60)(2.11) \text{ BTU/hr} = 3.17 \text{ MMBTU/hr}$$

Available Heat for Natural Gas at 1500 °F with Assumed 50% Primary Air

$$= 789 \text{ BTU} \text{ --(Table C1, Appendix C, AP40 \& Worst Case Assumption)}$$

Jacket Heat Loss = 10% --(Assumption)

Total Heat Required ( $Q_{total}$ )

$$= (3.17)(110\%)(1050/789) \text{ MMBTU/hr} = 4.64 \text{ MMBTU/hr}$$

Therefore, the proposed burner rated at 7.225 MMBTU/hr is expected to provide sufficient heat during startup.

Retention Time Check

Flow Rate = 25,000 cfm

Volume of Gases at 1500 °F (1950 °R)

$$= (25,000 + 0)(1950)/(530)(60) \text{ cfs} = 1533 \text{ cfs}$$

Volume of Combustion/Retention Chamber

$$= 13'4" \times 10' \times 5' = 666.67 \text{ cu. Ft} \text{ --(Applicant Data)}$$

Estimated Retention Time

$$= (666.67)/(1533) \text{ sec} = 0.43 \text{ sec.}$$

Therefore, the minimum retention time of 0.3 sec is met.



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Designed Flow Capacity Check

The proposed new RTO has a design capacity of treating up to 25,000 SCFM, same as the existing C59 RTO, for a combined total of 50,000 SCFM. The following are emission stream flow rates from each dryer:

<i>Dryer(s)</i>	<i>Measured Flow Rates (SCFM)</i>
D7	3,750
D19	1,600
D40	956
D41	956
D56	2,596
D57	2,596
D61	4,417
D62	4,417
D68	1,600
D73	2,100
TOTAL =	24,988

Therefore, each RTO, either C59 or C69, has a design capacity that can handle all emission streams from all of the existing dryers as well as the new dryer.

Emission Calculations

COMBUSTION RELATED EMISSIONS:

The following table summarizes the changes in burner ratings due to the proposed changes:

Removed		Added		Delta (MBTU/hr)
Device No.	MMBTU/hr	Device No.	MMBTU/hr	
D12 & D13	10.4			-10.4
D20 & D68	3.14	D20 & D68	3	-0.14
		D73	2	2
		C69	7.225	7.225
TOTAL =				-1.315

In addition, the new burners in dryers D20, D68, and D73 are low-NOx burners guaranteed by the manufacturers to meet 30 ppmv NOx.



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Combustion Emission Factors for VOC, NOx, CO, PM10, and Sox were obtained from AQMD's Emission Fee Billing guidelines. NOx emission factor for low-NOx burners were based on manufacturer's data:

- NOx: 30 ppmv for units equipped with low-NOx burners
- NOX: 130 lb/mmcf (EFB Factor)
- CO: 35 lb/mmcf (EFB Factor)
- VOC: 7 lb/mmcf (EFB Factor)
- PM=PM10: 7.5 lb/mmcf (EFB Factor)
- SOx: 0.83 lb/mmcf (EFB Factor)

Pollutant	EF lb/mmcf	D20 (1.5 mmbtu/hr) lbs/hr New	D68 (1.5 mmbtu/hr) lbs/hr New	D20 (1.57 mmbtu/hr) lbs/hr Removed	D68 (1.57 mmbtu/hr) lbs/hr Removed	D73 (2 mmbtu/hr) lbs/hr New	C69 (7.225 mmbtu/hr) lbs/hr New	D12 (5.2 mmbtu/hr) lbs/hr Removed	D13 (5.2 mmbtu/hr) lbs/hr Removed
ROG	7	0.01	0.01	-0.01	-0.01	0.013	0.48	-0.034	-0.034
NOx	39	0.056	0.056			0.074			
NOx	130			-0.194	-0.194		0.89	-0.64	-0.64
CO	35	0.05	0.05	-0.05	-0.05	0.067	0.24	-0.173	-0.173
PM	7.5	0.011	0.011	-0.011	-0.011	0.014	0.052	-0.037	-0.037
SOx	0.83	0.001	0.001	-0.001	-0.001	0.002	0.006	-0.004	-0.004

The Main burner in the new thermal oxidizer C69 will be limited to a natural gas usage of 7,690 ft3 per day and it will be used during cold start-up to bring the unit temperature to 1500 F. The manufacturer guarantees a NOx concentration of 2 ppm from the unit during non start-up mode.

$$\begin{aligned}
 \text{NOx} &= (130 \text{ lb/mmcf} * 0.00769 \text{ mmcf/day(start-up)}) + (0.36 \text{ lb/hr} * 22.88 \text{ hrs/day}) \\
 &= 9.23 \text{ lb/day}
 \end{aligned}$$

Emission Increase

Equipment	ROG lb/day	NOx lb/day	CO lb/day	PM10 lb/day	Sox lb/day
D20 (Modified Dryer)	0	-3.31	0	0	0
D68 (Modified Dryer)	0	-3.31	0	0	0
D73 (New Dryer)	0.31	1.77	1.6	0.33	0.05
C69 (New RTO)	0.48	9.23	5.76	1.25	0.144



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Equipment	ROG lb/day	NOx lb/day	CO lb/day	PM10 lb/day	Sox lb/day
D12 (Removed Dryer)	-0.81	-15.36	-4.15	-0.88	-0.096
D13 (Removed Dryer)	-0.81	-15.36	-4.15	-0.88	-0.096
<b>Total</b>	-0.83	-26.34	-0.94	-0.18	-0.002

Therefore, there are reductions in combustion related emissions resulting from this project, in both criteria pollutants and combustion related toxic air contaminants.

ROG EMISSIONS:

The emission sources are primarily organic solvents contained in ink, fountain solution, washes (washes of blankets, rollers, and trays), and other related equipment cleaners.

The company proposes to continue to comply with the current facility limit of 10,890 pounds of ROG per month. The ROG emissions from the two M-110 printing systems will remain unchanged. The new M500 printing system replaced the two C450 printing systems. The ROG emissions are:

Printing press	Average ROG Emissions (Lbs/day)	Maximum ROG Emissions (Lbs/day)
M110	8.89	44.43
M110	8.89	44.43
M500	31.82	97.73
C450 Combined	34	106.2

The 30-day average ROG emissions from this equipment is however manually set to zero in NSR since there will be no new emissions increase as a result of the above modifications/replacement of the printing lines.

Rule 1401 Evaluation

Inks and Wash Solutions:

Since the applicant is not proposing to make any changes other than the replacement of the burners in the two M110 printing lines, the modification of the two permit units will not result in an emission increase.



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The applicant is proposing to use the same type of material used in the removed C450 printing presses in the new M500 printing press and as a result, the operation of the new printing press is not expected to result in an increase in toxics emissions.

All proposed inks and wash solutions do not contain any toxic air contaminants (TAC) as identified in Rule 1401, amended 3-7-08, based on submitted MSDS, except Starfount WP-936, which contains up to 5% by weight of ethylene glycol butyl ether (EGBE, CAS No. 111-76-2).

The company is proposing to use the following quantities of Starfount WP-936 in each proposed printing press:

Printing Press	Quantities (lbs/day)	
	Average	Maximum
M110 Unit 1	15	75
M110 Unit 2	15	75
M 500	15	75

Therefore, the maximum levels of EGBE emissions from each printing press can be estimated as followed:

$$MDU = MDC = 75 * 5\% \text{ lbs/day} = 3.75 \text{ lbs/day}$$

$$MHU = MHC = 3.75 / 24 \text{ lbs/hr} = 0.156 \text{ lbs/hr}$$

$$MYU = MYC = 3.75 * 365/2000 \text{ tons/yr} = 0.68 \text{ tons/yr}$$

And the average levels of EGBE emissions from each printing press can be estimated as followed:

$$ADU = ADC = 15 * 5\% \text{ lbs/day} = 0.56 \text{ lbs/day}$$

$$AHU = AHC = 0.56 / 24 \text{ lbs/hr} = 0.023 \text{ lbs/hr}$$

$$AYU = AYC = 0.56 * 365/2000 \text{ tons/yr} = 0.10 \text{ tons/yr}$$

The attached Excel worksheet calculates MICRs, HIAs and HICs for the above TACs, for both residential and off-site worker receptors, which are less than 1E-6, 1.0 and 1.0 respectively. Therefore, the use of inks and solvents in this project is expected to be in compliance with Rule 1401.

Combustion Related Toxics Emissions:

Since the applicant is not proposing to make any changes other than the replacement of the burners in the two M110 printing lines,



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the modification of the two permit units will result in slight emission reduction due to the reduced rating of the new Low-NOx burners.

Further, the addition of the M500 printing line and oxidizer C69 and the removal of the two C450 printing lines will result in a reduction of combustion related toxics emission due to the reduced rating of the equipment.

This project is considered a contemporaneous risk reduction, pursuant to Rule 1401(g)(2)(A) and (B), meeting the following criteria:

1. No receptor location will experience a total increase in MICR of greater than  $1E-6$  due to the cumulative impact of both the permit units and the contemporaneous risk reduction; and
2. No receptor location will experience an increase in total acute and chronic HI of more than 1.0 due to the cumulative impact of both the permit units and the contemporaneous risk reduction;
3. The contemporaneous risk reduction occurs within 100 meters of the permit unit.

Therefore, the emissions from this project are exempt from the requirements of paragraphs (d)(1), (d)(2), (d)(3) and (d)(4) of Rule 1401.

## BACT Evaluation

### VOC BACT:

The company is proposing to use a fountain solution mixture that may contain up to 8% of VOC by volume for certain printing jobs. A condition of 8% VOC by volume will be imposed as a permit condition.

The composite vapor pressure for blanket and roller washes that can be used for these presses ranges between 2 to 5 mm Hg. As a result, the permits will be conditioned to use materials with maximum composite vapor pressure of 10 mm Hg to comply with BACT requirement.

The modified dryers of the M110 printing lines and the dryer of M500 line are each vented to the proposed new RTO and the existing C59 RTO, which are expected to achieve a minimum 95% overall control efficiency, in compliance with BACT.



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NO<sub>x</sub> BACT:

Burners used in dryers are low NO<sub>x</sub>, emitting less than 30 ppm NO<sub>x</sub> at 3% O<sub>2</sub>, based on burner manufacturer literature. Therefore, these burners are considered BACT.

For the burner used in the oxidizer C69, the applicant has agreed to limit daily natural gas usage to less than 7690 cubic feet, which results in NO<sub>x</sub> emission of less than one pound per day. The oxidizer main burner is only needed during start-up modes, heating the oxidizer chamber to 1500 °F. Whenever influent VOC concentration is insufficient to maintain the combustion temperature above 1500 °F, the main burner will not be fired, but instead a natural-gas injection system is used to provide the additional heat.

Emission Offset Evaluation

The relocation and modification of the two M110 printing lines will result in an emission reduction due to the reduced ratings and the utilization of low-NO<sub>x</sub> burners in the two dryers.

The replacement of the two C450 printing lines with the new M500 line is a functional identical replacement which will also result in an emission reduction due to the smaller rating and the utilization of low-NO<sub>x</sub> burner.

The emissions associated with the installation of the new air pollution control equipment oxidizer C69 are exempt from emission offsets.

In addition, the company is not proposing to increase any ROG emissions facility wide. It will manage its graphic art material usages from all printing lines so to comply with the existing facility ROG emission cap of 10,890 pounds per month.

Furthermore, the entire project is considered a concurrent facility modification that results in a net emission decrease from the facility. The following are the calculated emission changes due to this project:

Pollutant	ROG	NO <sub>x</sub>	CO	PM10	SO <sub>x</sub>
Lb/day	-0.83	-26.34	-0.94	-0.18	-0.002



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### Air Quality Modeling Evaluation

Further modeling analysis is not required since the hourly emissions are less than the limits specified in Table A-1 of Rule 1303:

MHC (lb/hr)						
LIMIT				Estimated		
Rating (BTU/hr)	NO <sub>x</sub> (lb/hr) Limit	CO (lb/hr) Limit	PM <sub>10</sub> (lb/hr) Limit	NO <sub>x</sub> (lb/hr) Calculated	CO (lb/hr) Calculated	PM <sub>10</sub> (lb/hr) Calculated
>2 <5	0.31	17.1	1.9	0.074 (D73)	0.067 (D73)	0.014 (D73)
>5 <10	0.47	25.9	2.8	0.38 (C69)	0.24 (C69)	0.052 (C69)

### Rule Evaluation

Rule 212(c)(1):

This section requires a public notice for all new or modified permit units that may emit air contaminants located within 1,000 feet from the outer boundary of a school.

Los Alamitos Elementary School at 10862 Bloomfield Street is within 1000 feet of the proposed project. In addition, McAuliffe Middle School at 4112 Cerritos Avenue is within a quarter mile of the proposed project.

The modification to the facility will result in lower emissions of criteria pollutant and toxic air contaminant from the facility. However, the modification to the facility resulted in emissions being released closer to the Los Alamitos Elementary school due to the relocation of the two M110 printing press lines. Therefore, a public notice is required.

Rule 212(c)(2):

This section requires a public notice for all new or modified facilities that have on-site emission increases exceeding any of the daily maximums as specified by Rule 212(g).



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	Maximum Controlled Emissions (lb/dy)					
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	SO <sub>2</sub>	CO	Pb
This Project	0	0	0	0	0	0
MAX Limit	<b>30</b>	<b>40</b>	<b>30</b>	<b>60</b>	<b>220</b>	<b>3</b>
Required Public Notice	No	No	No	No	No	No

The above table summarizes the emission limits and increases. Since emission increases are less than the limits, a public notice will not be required per this section.

Rule 212(c)(3):

The proposed project will not result in an emission increase of toxic emissions in excess of an Acute or chronic Hazard index of 1.0 or nor will there be an increase MICR in excess of one in a million. Therefore Public Notice is not required under this section of the rule.

Rule 212(g):

This section requires a public notice for all new or modified sources that have equipment emission increases exceeding any of the daily maximums as specified by Rule 212(g).

The following table summarizes the limit and Potential-to-Emit (PTE) emissions per equipment:

	Controlled Emissions (lb/dy)					
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	SO <sub>2</sub>	CO	Pb
Per equipment	0	0	0	0	0	0
MAX Limit	<b>30</b>	<b>40</b>	<b>30</b>	<b>60</b>	<b>220</b>	<b>3</b>
Required Public Notice	No	No	No	No	No	No

The modification to the two M110 printing lines will result in an emission decrease due to the utilization of Low-NOx burners and the reduced ratings of the burners. Further, the replacement of the two C450 printing lines with the new M500 printing line and the addition of the new oxidizer C69 will also result in an emission decrease from the printing operation and combustion emissions. Thus, a public notice will not be required per this section.

Rule 401:

Visible emissions are not expected with the proper operation and maintenance of the equipment.



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Rule 402: Nuisance is not expected with the proper operation and maintenance of the equipment.

Rule 1130: The printing presses use complying fountain solution with VOC < 8% by volume, and blanket wash with VOC cpp < 10 mmHg. Inks with a VOC content > 300g/l are used and therefore it will be vented to an approved air pollution control system. A permit condition will be imposed to ensure compliance.

Rule 1171: The presses use complying cleaning solvents. A permit condition requires compliance.

Rule 1303(a): Please see BACT Evaluation section.

Rule 1303(b)(1): Please see Air Quality Modeling Evaluation section.

Rule 1303(b)(2): Please see Emission Offset Evaluation section.

Rule 1401: Please see Toxic Evaluation section.

REGULATION XX: REGIONAL CLEAN AIR INCENTIVE MARKET (RECLAIM)

RULE 2005(c)(1)(A): The two modified dryers associated with the relocated printing lines M110 and the new dryer associated with printing line M500 will be equipped with a low-NOx natural-gas fired burners. The burners are designed to operate at 30 ppm of NOx or less. Therefore, the ovens are expected to operate in compliance with BACT requirements.

The regenerative thermal oxidizer start-up burner will be limited to a natural gas usage of 7,690 cubic feet per day to maintain the NOx emissions below one pound per day.

RULE 2005(c)(1)(B), MODELING

The Screening Analysis limit was taken from the values in Table A-1 of this rule. Further modeling analysis is not required since the hourly NOx emissions are less than the limits specified in the Table:

MHC (lb/hr)
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Rating (BTU/hr)	LIMIT			Estimated		
	NO <sub>x</sub> (lb/hr) <u>Limit</u>	CO (lb/hr) <u>Limit</u>	PM <sub>10</sub> (lb/hr) <u>Limit</u>	NO <sub>x</sub> (lb/hr) <u>Calculated</u>	CO (lb/hr) <u>Calculated</u>	PM <sub>10</sub> (lb/hr) <u>Calculated</u>
>2 <5	0.31	17.1	1.9	0.074 (D73)	0.067 (D73)	0.014 (D73)
>5 <10	0.47	25.9	2.8	0.38 (C69)	0.24 (C69)	0.052 (C69)

RULE 2005(c)(2): The modification to the facility will result in an overall NO<sub>x</sub> emission reduction. Compliance with this rule is expected.

RULE 2005(g)(1) - ADDITIONAL REQUIREMENTS FOR MAJOR STATIONARY SOURCES  
The facility does not qualify as a major stationary source pursuant to the applicable definition and is not subject to the requirements of this subsection.

40 CFR PART 64: COMPLIANCE ASSURANCE MONITORING

The VOC emissions from the printing lines are vented to air pollution control equipment thermal oxidizer. The uncontrolled VOC emissions to the oxidizer is greater than the major source threshold for VOC of 10 tons per year. As a result, the thermal oxidizer is subject to the Compliance Assurance Monitoring (CAM) requirements of 40 CFR Part 64. Permit conditions have been added to satisfy the CAM requirements. Such permit conditions were developed using the design criteria and other pertinent requirements identified in 40 CFR 64- Compliance Assurance Monitoring and Technical Guidance Document and in the August 1998 Revised Draft CAM.

REGULATION XXX: TITLE V

The proposed project is considered as a "de minimis significant permit revision" and the 4<sup>th</sup> revision to the renewed Title V permit issued on May 9, 2005. Rule 3000(b)(6) defines a "de minimis significant permit revision" as any Title V permit revision where the cumulative emission increases of non-RECLAIM pollutants or hazardous air pollutants (HAP) from each permit revision during the term of the permit are not greater than any of the following emission threshold levels:



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Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30
NOx	40
PM10	30
Sox	60
CO	220

The cumulative emission increases resulting from the proposed permit revision are summarized as follows:

REVISION DESCRIPTION	HAP	VOC	NOx*	PM <sub>10</sub>	SOx	CO
1 <sup>ST</sup> Revision: Change of conditions to add HAPs and to increase facility VOC cap.	30	30	0	0	0	0
2 <sup>ND</sup> Revision: Adjustment of oven exhaust flow rates and collection efficiency in permit conditions to reflect actual operating conditions.	0	0	0	0	0	0
3 <sup>RD</sup> Revision: Creation of two new device numbers for existing presses to split two dual-web presses into proper permit unit groupings.	0	0	0	0	0	0
4 <sup>TH</sup> Revision/Current: Modification to two printing lines, addition of a new printing line and oxidizer, and the removal of two printing lines.	0	0	0	0	0	0
CUMULATIVE TOTAL =	30	30	0	0	0	0
Maximum Daily Limit =	30	30	40	30	60	220

\*RECLAIM pollutant (Trend Offset is in NOx RECLAIM program)

Since NO<sub>x</sub> is a RECLAIM pollutant for this facility, an analysis must be made to ensure that the proposed permit revision is not considered a "significant permit revision". Rule 3000(b)(28)(D) defines a "significant permit revision" as any modification at a RECLAIM facility that results in an emission increase of RECLAIM pollutants over the facility's starting Allocation plus the Non-Tradable Allocations. With an increase of zero pounds of NO<sub>x</sub> emissions from the proposed permit revision, the proposed permit revision is considered as a "minor permit revision" for RECLAIM pollutants.



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Recommendation

The proposed project is expected to comply with all applicable District rules and regulations. Since the proposed project is considered as a "de minimis significant permit revision," it is exempt from the public participation requirements under Rule 3006(b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not have any objections within the review period, a revised Title V permit will be issued to this facility.

**Permit Conditions:**

A72. 1 The operator shall maintain this equipment to achieve a minimum overall control efficiency of 95 percent for VOC during the normal operation of the equipment it vents.

[ 1303(a) (1)-BACT, 5-10-1996; RULE 1 303(a)( 1)-BACT, 12-6-2002]

[ subject to this condition : C26, C27, C59, C69]

B59.5 The operator shall not use the following material(s) in this device

Materials containing any toxic air contaminants (TAC) identified in Rule 1401, Table 1, with an effective date of March 7, 2008 or earlier, except ethylene glycol butyl ether (CAS No. 111-76-2).

[ 1401, 3-7-2008]

[ subject to this condition : D67, D68, D19, D20, D72, D73]

B 163.1 The operator shall not use fountain solution containing the following:

more than 8 percent by volume of volatile organic compounds (VOC) as applied.

[ 1303(a) (1)-BACT, 5-10-1996; RULE 1 303(a)( 1)-BACT, 12-6-2002]

[ subject to this condition: D6, D8, D14, D16, D37, D38, D39, D51, D53, D58, D60, D65, D66, D67, D19, D72]

B163 .4 The operator shall not use equipment clean-up solvent containing the following:

more than 10 mm Hg VOC composite partial pressure.

[ 1303(a) (1)-BACT, 5-10-1996; RULE 1 303(a)( 1)-BACT, 12-6-2002]

[ subject to this condition : D6, D8, D14, D16, D37, D38, D39, D51, D53, D58, D60, D65, D66, D67, D19, D72]

D12.1 The operator shall install and main a(n) non-resettable totalizing fuel flow meter to accurately indicate the fuel usage in the natural-gas fired startup burner of the afterburner.

The natural gas usage being monitored shall be recorded at the end of each day. A hard copy of the daily natural gas usage log shall be maintained as part of the facility operating records.



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The daily natural gas usage being monitored shall not exceed 7690 cubic feet of natural gas.

[ 1303(a) (1)-BACT, 5-10-1996; RULE 1 303(a)( 1)-BACT, 12-6-2002]

[ subject to this condition : C69]

D182.4 The operator shall test this equipment in accordance with the following specifications:

A. The test shall be conducted no later than May 8, 2009 unless otherwise approved in writing by the District.

B. The test shall be conducted to determine the voc emissions using an approved District method to demonstrate compliance with all applicable permit condition(s), rules and regulations.

C. The source test shall be conducted while the oxidizer is operating at a temperature of not less than the minimum operating temperature specified in this permit. If the operating temperature during the source test is greater than the minimum operating temperature specified in this permit, the minimum operating temperature specified in this permit may be increased to reflect the operating temperature during the source test.

D. The operator shall comply with administrative conditions nos. 8, 9, and 10 of section E of this facility permit.

E. The operator shall submit two complete copies of the source test report specified in condition no. 9 of section E of this facility permit to the District Engineering and Compliance Division.

F. The Engineering copy of the report shall be sent to: South Coast Air Quality Management District, Coating, Printing and Aerospace Operations, attn: Air Quality and Compliance Supervisor, 21865 Copley Drive, Diamond Bar, CA 91765.

G. The Compliance copy of the report shall be sent to: South Coast Air Quality management District, p.o. box 4941, Diamond Bar, CA 91765

[ 1130, 10-8-1999; RULE 3004(a) (4)-Periodic Monitoring, 12-12-1997]

[ subject to this condition: C26, C27, C59, C69]

**D182.5 THE OPERATOR SHALL TEST THIS EQUIPMENT IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS:**

The source tests shall be conducted no later than April 30, 2010.

A testing laboratory certified by the California Air Resources Board in the required test methods for criteria pollutants to be measure, and in compliance with District Rule 304 (no conflict of interest) shall conduct the tests.

Sampling facilities shall comply with the District guidelines for construction of sampling and testing facilities, pursuant to Rule 217.

A source test protocol shall be submitted to the District no later than 30 days from the permit issuance date and shall be approved in writing by the District before the test commences unless otherwise approved in writing by the District.

The test protocol shall include the completed District Forms ST-1 and ST-2 specifying the proposed operating conditions of the equipment during the test, the identity of the testing laboratory, a statement from the testing laboratory certifying it meets the criteria in District Rule 304(k), and a description of the sampling and analytical procedures to be used.

The source tests shall consist of, but may not be limited to, testing at the inlet and the exhaust of the oxidizer for: (1) Volatile organic compound (VOC) in ppmv and lbs/hr, (2) Oxides of nitrogen in ppmv and lbs/hr (oxidizer exhaust only), (3) Carbon monoxide in ppmv and lbs/hr (oxidizer exhaust only), (4) VOC destruction efficiency, (5) VOC collection efficiency, (6) Usage of all VOC-containing materials (coatings, inks, solvents, etc.) during the test, (7) Oxygen content, (8) Moisture content, (9) flow rate, and (10) temperature



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The source tests shall be conducted while the oxidizer is operating at a temperature of not less than the minimum operating temperature specified in this permit. If the operating temperature during the source test is greater than the minimum operating temperature specified in this permit, the minimum operating temperature specified in this permit may be increased to reflect the operating temperature during the source test.

The operating temperature in the combustion chamber shall be recorded during the entire testing period and included in the source test report.

The C59 oxidizer shall be source tested during normal operation when all printing lines served by the C59 oxidizer are in operation and while the C69 oxidizer is not in operation.

The C69 oxidizer shall be source tested during normal operation when all printing lines served by the C69 oxidizer are in operation and while the C59 oxidizer is not in operation.

A written notice of the source tests shall be submitted to the District (addressed to South Coast Air Quality Management District, P.O. Box 4941, Diamond Bar, CA 91765) at least 14 days prior to the source testing date so that an observer from the District may be present.

Two complete copies of the source test report shall be submitted to the District (addressed to South Coast Air Quality Management District, P.O. Box 4941, Diamond Bar, CA 91765) within 45 days after the source testing date. The source test report shall include by may not be limited to, all testing data required by this condition, and results of all tests (including preliminary tests) that are conducted on this equipment for informational purposes.

[ 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[ subject to this condition : C59, C69]

E193 .2 The operator shall upon completion of construction, operate and maintain this equipment according to the following requirements:

The combustion chamber temperature shall be maintained at a minimum of 1,500 degrees Fahrenheit whenever the equipment it serves is in operation.

The operator shall operate and maintain a temperature measuring and recording system to continuously measure and record the combustion chamber temperature pursuant to the operation and maintenance requirements specified in 40 CFR Part 64.7. Such a system shall have an accuracy within 1 % of the temperature being monitored and shall be inspected, maintained, and calibrated on an annual basis in accordance with the manufacturer's specifications using an applicable AQMD or EPA approved method.

For the purpose of this condition, a deviation shall be defined as when the combustion chamber temperature of less than 1,500 degrees Fahrenheit occurs during the normal operation of the equipment it serves. The operator shall review the records of the combustion chamber temperature on a daily basis to determine if a deviation occurs or shall install an alarm system to alert the operator when a deviation occurs.

Whenever a deviation occurs, the operator shall inspect this equipment to identify the cause of such a deviation, take immediate corrective actions to maintain the combustion chamber temperature at or above 1,500 degrees Fahrenheit, and keep records of the duration and cause (including unknown cause, if applicable) of the deviation and the corrective actions taken.

All deviations shall be reported to the AQMD on a semi-annual basis pursuant to the requirements specified in 40 CFR Part 64.9 and Condition Nos. 22 and 23 in Section K of this permit. The semi-annual monitoring report shall include the total operating time of this equipment and the total accumulated duration of all deviations for each semi-annual reporting period specified in Condition No. 23 in Section K of this permit.

The operator shall submit an application with an Quality Improvement Plan (QIP) in accordance with 40 CFR Part 64.8 to the AQMD if an accumulation of deviations exceeds 5 percent duration of this equipment's total operating time for any semi-annual reporting period specified in Condition No. 23 in Section K of this permit. The required QIP shall be submitted to the AQMD within 90 calendar days after the due date for the semi-annual monitoring report.



**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

**ENGINEERING AND COMPLIANCE OFFICE**

**APPLICATION PROCESSING AND CALCULATIONS**

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The operator shall inspect and maintain all components of this equipment on an annual basis in accordance with the manufacturer's specifications.

The operator shall keep adequate records in a format that is acceptable to the AQMD to demonstrate compliance with all applicable requirements specified in this condition and 40 CFR Part 64.9 for a minimum of five years.

[ 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002; RULE 3004(a)(4)-Periodic Monitoring, 12-12-1997; 40CFR Part 64, 10-22-1997]

[ subject to this condition : C59, C69]

H23.3 This equipment is subject to the applicable requirements of the following rules or regulations:

Contaminant	Rule	Rule/Subpart
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VOC	District Rule	109
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[ 109, 5-2-2003]

[ subject to this condition: D6, D8, D14, D16, D37, D38, D39, D51, D53, D58, D60, D65, D66, D67, D19, D72]

K67. 1 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

current Material Safety Data Sheets (MSDS) for all coatings and solvents used.

ink absorption factor as specified by current SCAQMD guidelines.

daily usage of inks, fountain solution including water, roller wash, blanket wash and any other materials containing volatile organic compound (VOC).

density of inks, in pounds/gallon and percentage by weight of lithographic oils in ink. VOC content of fountain solution, wash materials and any other materials, in pounds/gallon, monthly VOC emissions for each coating and solvent used in this equipment.

[ 109, 5-2-2003; RULE 1130, 10-8-1999; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]

[ subject to this condition: D6, D8, D14, D16, D37, D38, D39, D51, D53, D58, D60, D65, D66, D67, D19, D72]