

**Texas Commission on Environmental Quality
Air Permits Division**

New Source Review (NSR) Boilerplate Special Conditions

This information is maintained by the Combustion/Coatings NSR Section and is subject to change. Last update was made **October 2006**. These special conditions represent current NSR boilerplate guidelines and are provided for informational purposes only. The special conditions for any permit or amendment are subject to change through TCEQ case by case evaluation procedures [30 TAC 116.111(a)]. Please contact the appropriate Combustion/Coatings NSR Section management if there are questions related to the boilerplate guidelines.

Flexographic Printing

Permit Number _____

1. This permit authorizes facilities associated with a flexographic printing plant at _____ [ADDRESS] in _____ [CITY], _____ [COUNTY NAME] County. These facilities include the following units and associated corona treaters:

[Include a detailed list of the printing presses and control device (if there is one); for example:

- 1 - Bench Press X-4004 45" four-color flexographic press
 - 2 - Bench Press X-4006 45" six-color flexographic presses
 - 1 - Bench Press X-2806 54" six-color flexographic press
 - 1 - Trouser Press M-600 52" six-color flexographic press
 - 1 - Trouser Press M-220 45" six-color flexographic press
 - 1 - Trouser Press M-2000 54" eight-color flexographic press
 - 2 - Stand-alone laminating lines
 - 1 - Smog-Be-Gone Model 2448 Regenerative Thermal Oxidizer]
2. All sources of air contaminants shall be physically marked in a conspicuous location with the emission point numbers (EPNs) and/or the source names as identified on the maximum allowable emission rates table (MAERT).

EMISSION AND OPERATIONAL LIMITS

3. Except for those periods described in 30 Texas Administrative Code (30 TAC) §§ 101.201 and 101.211, opacity of particulate matter emissions shall not exceed five percent. This determination shall be made first by observing for visible emissions. Observations shall be made at least 15 feet and no more than 0.25 mile from the emission point(s). If visible emissions are observed from the stacks, then opacity shall be determined by Title 40 Code of Federal Regulations Part 60 (40 CFR 60), Appendix A, Test Method 9. Contributions from uncombined water shall not be included in determining compliance with this condition. Observations shall be performed and recorded quarterly.
4. The flexographic printing facilities shall comply with the provisions of 30 TAC Chapter 115, Subchapter E, Division 3 (Flexographic and Rotogravure Printing). [Applicable in 19 counties as of 2006 (see 30 TAC § 115.439) but could be extended to additional counties in the future.]
5. The flexographic printing facilities shall comply with the provisions of 40 CFR 63, Subpart KK (Printing and Publishing Industry). [Applies to major sources of hazardous air pollutants (HAPs)]
6. Fuel for the dryers and oxidizer [if there is one] is limited to pipeline-quality, sweet natural gas.
7. The dryers and oxidizer [if there is one] shall be in operation at all times during operation of the associated press. Dryer exhaust fans shall operate to maintain a negative static pressure in the dryers.
8. [If total uncontrolled VOC emissions from flexographic printing are ≥ 50 tpy from all presses at the site, then add-on controls to reduce all emissions from the flexographic presses by $\geq 95\%$ are necessary in order to satisfy BACT requirements; use the following condition.]

The dryers operated in conjunction with _____ [list the flexographic press or presses] shall capture _____ percent of the VOC emissions from the press operations and route them to an oxidizer that has a VOC destruction efficiency of at least _____ [≥ 95] percent. The oxidizer shall exhaust through a stack having a height of at least _____ feet above ground level.

[If total uncontrolled VOC emissions from flexographic printing are ≤ 50 tpy from all presses at the site, then add-on controls are not necessary in order to satisfy BACT

requirements. Instead, BACT can be met through the use of either: 1) low-solvent inks containing <25% VOC by volume; or 2) high-solids solvent-borne inks containing $\geq 60\%$ nonvolatile materials (minus water and exempt solvents) by volume. The following condition should be used if add-on controls are not used.]

Captured VOC waste streams from the printing operations of each press and dryer shall be exhausted through stacks that have minimum stack heights above ground level for the emission points as follows:

EPN	NAME	HEIGHT (feet)

[NOTE: The blanks in the table are filled in by the permit writer.]

9. The stack [or stacks] listed in Special Condition No. 8 shall have no restrictions or obstructions to vertical discharge of exhaust, such as rain caps, unless such devices are designed to automatically open when the press is [presses are] in operation.
10. [If add-on controls are not used, a special condition to address the inks should also be added, such as the following:] All printing presses covered by this permit shall utilize only water-based inks having a VOC content less than 25% by volume.

OR

All printing presses covered by this permit shall utilize only high-solids solvent-borne inks containing $\geq 60\%$ nonvolatile materials (minus water and exempt solvents) by volume.

11. [If there is an oxidizer] Oxidizer operating instructions shall be established and posted such that they are available for all oxidizer operators.
12. [If there is an oxidizer] The oxidizer shall operate at a minimum temperature to be determined by testing to ensure compliance with the minimum destruction efficiency required in Special Condition No. 8. After this temperature has been established, an alteration to this permit will be required to include this temperature requirement within this special condition.
13. [If there is an oxidizer, the following special condition should be applied to each press and laminator that is controlled by the oxidizer. A press that uses water-based inks or high-solids inks (or a laminator that uses water-based adhesives) in lieu of being vented to the oxidizer would be excluded from this special condition.] Materials containing halogenated organic compounds shall not be used on the presses and laminator vented through the oxidizer.
14. [If there is an oxidizer that does NOT have a bypass] The oxidizer shall not have a bypass and an audio, visual, and olfactory (AVO) inspection of the capture system duct-work shall be performed monthly.
14. [If there is an oxidizer that has a bypass, include either of the following conditions] A flow indicator shall be installed that records and verifies zero flow at least once every fifteen minutes immediately downstream of each valve that, if opened, would allow a vent stream to bypass the oxidizer and be emitted, either directly or indirectly, to the atmosphere.

OR

Once per month, the valves shall be inspected to verify the position of the valves and the condition of the car seals that prevent flow out of the bypass.

MATERIAL USAGE FLEXIBILITY

[When screening or refined modeling has been performed and unit impacts ($\mu\text{g}/\text{m}^3$ per lb/hr) are known for each emission point or emission point grouping on the MAERT, use the following condition:]

15. In addition to the materials represented in the [permit/amendment/renewal] application dated _____ or the air contaminants in the site-wide modeling report dated _____, other materials/air contaminants that meet the following sub-conditions are allowed:

- A. The new materials shall serve the same basic function and the emissions shall be from the same location as the emissions from the current materials.
- B. All the ingredients of the new material are known; i.e., the weight percentages of the ingredients add to 100 percent or more.
- C. Any air contaminant ingredient in the new material:
 - (1) That is emitted at rates of less than 0.04 pound per hour (lb/hr) and whose short-term (hourly) Effects Screening Level (ESL) is equal to or greater than $2 \mu\text{g}/\text{m}^3$, or
 - (2) That has a true vapor pressure at 68°F of less than 0.01 mm Hg and is not sprayed

is exempt from sub-condition D, below.

- D. For all other new or increased air contaminants, the following procedure shall be completed:
 - (1) Determine the emission rate (ER) of each air contaminant ingredient including emissions of the same air contaminant from currently authorized materials that may be emitted at the same time from each emission point.
 - (2) Multiply the emission rate of the air contaminant by the unit impact multiplier for each emission point from the following table to determine the off-property impact (Ground Level Concentration (GLC)) for each emission point.

Emission Point	Unit Impact ($\mu\text{g}/\text{m}^3$ per lb/hr)
EPN _____	_____
EPN _____	_____
EPN _____	_____
EPN _____	_____

[NOTE: The blanks in the table are filled in by the permit writer.]

- (3) Sum the impacts from each emission point/emission point group to determine a total off-property impact (Total GLC_{MAX}) for the new or increased air contaminant.
- (4) Compare the total off-property impact to the ESL for the air contaminant as follows:

$$\text{Total } GLC_{MAX} \leq ESL_{NEW}$$

Where:

Total GLC_{MAX} = the sum of the GLCs from each emission point.

ESL_{new} = short-term ESL of new ingredient air contaminant from the most current ESL list published by the TCEQ or as specifically derived by TCEQ Toxicology Section. The ESL shall be obtained in writing prior to the use of the new or increased air contaminant.

- E. Short-term emission rates from new or increased air contaminants shall not cause any increases in air contaminant category annual emission rates as listed on the maximum allowable emission rates table (MAERT).

MAINTENANCE

Case 1 - There are no emissions from maintenance activities:

16. Planned maintenance on the oxidizer(s) shall be performed only during periods when the facility(ies) being controlled by the oxidizer(s) are not in operation.

Case 2 - There are emissions from maintenance activities:

16. Planned maintenance on the oxidizer(s) is limited to 100 hours per year on a rolling 12 consecutive month basis.

[NOTE: Uncontrolled emission rates are listed separately from the controlled rates on the MAERT for the appropriate emission points and with footnote “uncontrolled emissions

during maintenance.” Also, the off-property impacts during the hours of operation without the oxidizer(s) MUST pass an impacts review. Operation at a reduced rate may be necessary for the Toxicology Section to be able to approve the impacts.]

TESTING [If there is an oxidizer]

17. One-time sampling of the _____ capture and add-on control systems shall be conducted within 60 days to:
 - A. Ensure all emissions from the _____ are captured and ___ percent of emissions are destroyed.
 - B. Measure total organic compound concentration from the oxidizer (EPN ___) to verify that the hourly emission rate does not exceed that specified on the MAERT.
 - C. Specific requirements are as follows:
 - (1) Submit proposed methods to accomplish the sampling required by Special Condition No. ___ A and B for approval to the Air Permits Division Director and TCEQ _____ Regional Office, with a copy to the TCEQ Compliance Support Division in Austin within 30 days after reaching normal operating conditions of the _____ and the oxidizer.
 - (2) Once the methods are approved, schedule a pretest meeting with TCEQ Regional Office at least 45 days in advance of sampling. The purpose of the meeting is to review the test details to include sampling and measuring procedures to be used, the forms required for recording the pertinent data, and the format and content of the test report as outlined in Chapter 14, TCEQ Sampling Procedures Manual.
 - (3) Sampling shall be completed no later than six months after submission of proposed sampling plans (paragraph (1) above).
 - (4) A sampling report, which shall document the enclosure capture and oxidizer destruction efficiencies and the resultant organic compound emission rate from the oxidizer in lbs/hr, shall be prepared and distributed within 30 days after completion of sampling to the TCEQ _____ Regional Office, TCEQ Austin

Compliance Support Division, and TCEQ Austin Office of Permitting,
Remediation, and Registration, Air Permits Division.

RECORDKEEPING

18. General Condition No. 7 regarding information and data to be maintained on file is supplemented as follows and shall be used to demonstrate compliance with Special Condition No(s). * , * , and * and the MAERT:
- A. Environmental Data Sheets or Material Safety Data Sheets for materials in use.
 - B. Actual daily hours of each source that emits VOC or hazardous air pollutants (HAPs) from inks, adhesives, or cleaning solutions; and daily total quantities of inks, adhesives, and cleaning solutions used.
 - C. A monthly record of the air contaminant emissions from Emission Points (specify) in lb/hr as a daily average and in tons per year (TPY) for the rolling 12 previous months.
 - D. A monthly record of individual and total HAP emissions in TPY for the rolling 12 previous months.
 - E. Records of addition/replacement of air contaminants showing how Special Condition No. is satisfied and when the addition/replacement occurred.
 - F. Field records of quarterly opacity observations as prescribed in 40 CFR 60, Appendix A, Test Method 9.
 - G. [If there is an oxidizer] Records of the temperature monitoring and annual calibration that demonstrate compliance with Special Condition No. 18. [i.e., the Compliance Assurance Monitoring special condition]
 - H. [If there is an oxidizer] Records, documentation from the manufacturer, or actual test results pertaining to the abatement equipment efficiency or completed reports from TCEQ-required compliance testing. These records shall be retained on-site for the life of the control device.
 - I. [If there is an oxidizer bypass] Records of monthly AVO inspections.

- I. [If there is an oxidizer that has a bypass, include one of the following conditions]

[If there is an oxidizer bypass flow monitor] Records of the bypass flow monitoring that demonstrates compliance with Special Condition No. ____ [the oxidizer bypass special condition], including records of all periods when flow is indicated and a description of any corrective action taken.

OR

[If the company is conducting monthly inspections in lieu of installing an oxidizer bypass flow monitor] Records of the month inspections of the oxidizer bypass valves and car seals, including records of:

- (1) The name of the inspector.
- (2) The date of each inspection.
- (3) The condition of the valves and car seals.
- (4) A description of any corrective action taken.
- (5) All times when maintenance is performed on car-sealed valves, when the car seal is broken, and when the valve position is changed (i.e., from closed to open for valves that vent the stream directly or indirectly to the atmosphere bypassing the control device).

- J. The records required by this permit may be maintained in hard copy or electronic format.

[*As applicable; there may be any number of added records required in order to verify compliance with requirements of various industry specific or add-on control special conditions.]

COMPLIANCE ASSURANCE MONITORING [if add-on controls are used]

19. [Regenerative Thermal Oxidizer] The thermal oxidizer shall be equipped with a monitor that continuously measures and records the combustion chamber temperature. The temperature shall be maintained at a 3-hour average temperature established during testing that achieves the required destruction efficiency. The monitor shall be calibrated at least once annually and shall be accurate to ± 5 degrees Fahrenheit.

OR

[Catalytic Oxidizer] The catalytic oxidizer shall be equipped with a monitors that continuously measure and record the combustion chamber/catalyst bed inlet and outlet temperatures. The temperatures shall be maintained at a 3-hour average temperature established during testing that achieves the required destruction efficiency. The monitors shall be calibrated at least once annually and shall be accurate to ± 5 degrees Fahrenheit.

POLLUTION PREVENTION

20. All spills shall be cleaned up immediately.
21. All volatile waste shall be stored in sealed containers until removed from the site in accordance with applicable regulations.
22. Towels, rags, or other absorbent materials used for cleanup shall be placed into sealed containers immediately after use and shall be kept in storage until properly removed from the site.

Dated [DATE]