Special Conditions

Permit Number 108176

1. This permit authorizes the operation of a flexographic printing plant. These facilities are located at 9600 West Wingfoot Road, Houston, Harris County. This permit covers only those sources of emissions listed on the maximum allowable emission rates table (MAERT) and those sources are limited to the emission limits and other conditions specified in the attached table. The annual rates are based on any consecutive 12-month period.

2. This permit includes maintenance, startup, or shutdown (MSS) activities as represented in the emission calculations and explained in the permit application dated June 2022. Other MSS activities not represented in the permit application are authorized by a permit-by-rule (PBR) under Title 30 Texas Administrative Code (30 TAC) Chapter 106, standard exemption, exemption from permitting, or are a de minimis source listed under 30 TAC § 116.119.

3. A copy of this permit shall be kept at the site and made available at the request of personnel from the Texas Commission on Environmental Quality (TCEQ) or any other air pollution control agency with jurisdiction.

4. With the exception of fugitive sources, the holder of this permit shall clearly label all equipment at the property that has the potential of emitting air contaminants. Permitted emission points shall be clearly labeled corresponding to the emission point numbering on the MAERT.

Emission Limitations

5. Opacity shall not exceed five percent averaged over a six-minute period from each exhaust stack or vent emission point and the determination shall be made as follows:

    a. Observe for visible emissions while each facility is in operation. Observations shall be made at least 15 feet and no more than 0.25 miles from the emission points. **{as applicable -** Up to three emission points may be read concurrently, provided that all three emission points are within a 70 degree viewing sector or angle in front of the observer such that the sun position is at the observer's back and can be maintained for all three emission points.**}** Contributions from uncombined water shall not be included in determining compliance with this condition.

    b. Observations shall be performed and recorded quarterly. If visible emissions are observed from an emission point, then the opacity shall be determined and documented within 24 hours for that emission point using Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Appendix A, Test Method 9.

    c. If the opacity exceeds five percent, corrective action to eliminate the cause of the excessive visible emissions shall be taken promptly. Corrective action shall be documented within one week of the first visible emission observation. After corrective action has been taken, another visible emissions observation shall be performed and recorded to ensure the visible emissions have been eliminated.

6. The solvent-containing inks used in the facilities covered by this permit shall comply with the volatile organic compounds (VOC) content limits and vapor control requirements specified in §115.432(c)(1), regardless of whether the facilities would otherwise qualify for an exemption from control under 30 TAC Chapter 115, Supchapter E, Division 3 for Flexographic and Rotogravure Printing. Compliance with the VOC content limits shall be demonstrated on a daily weighted average basis per line for all inks as applied. **(06/24)**

Operational Limitations

7. Printing presses shall be equipped with a ventilation system that is designed to capture all emissions from the printing operations and shall route the emissions to a thermal control device (e.g., thermal oxidizer) which meets the following requirements:

    a. The thermal control device shall achieve a 99.11 percent or greater destruction efficiency for organic compounds emissions.

    b. The thermal control device shall be equipped with a monitor (temperature sensor) that continuously measures and records the temperature of the thermal control device combustion chamber or in the duct immediately downstream of the combustion chamber before any substantial heat exchange occurs) and shall be accurate to within ± 5°F. The combustion chamber temperature of EPN OX-1 shall be maintained at greater than or equal 1603 °F based on a 3-hour average temperature over four equally spaced measurement points per hour. The combustion chamber temperature of EPNs OX-2 and OX-3 shall be maintained at greater than or equal 1538 °F based on a 3-hour average temperature over four equally spaced measurement points per hour.

    c. Once every quarter an accuracy audit shall be conducted to determine if the temperature sensor is still functioning properly. Accuracy audit methods include comparisons of sensor output to redundant temperature sensors, to calibrated temperature measurement devices, or to temperature simulation devices. The temperature sensor shall be replaced with a new sensor either if the sensor looks damaged and/or broken or the sensor is no longer accurate to within ± 5°F.

    d. The operating instructions for the thermal control device shall be established and posted such that they are readily available to all of the thermal control device operators.

    e. The thermal control device shall be operated and maintained in conformance with all of the manufacturer specifications and recommendations.

    f. The thermal control device capture system's ductwork shall be operated under negative pressure. An audio, visual, and olfactory (AVO) inspection of the capture system shall be performed monthly to check for leaking components. The capture system shall be maintained free of holes, cracks, and other conditions that would reduce the collection efficiency of the capture system.

    g. An inspection and maintenance log shall be kept for the thermal control device whereby the log shall note the date of each inspection, the name of the inspector, and any repairs and/or maintenance work performed on the thermal control device and its capture system.

    h. Materials containing halogenated organic compounds shall not be used in the surface coating operations and vented to the thermal control device.

8. All printing press emissions shall be directed through a common duct to a manifold that accesses the three thermal devices in a parallel configuration. The programable logic control of the thermal devices shall ensure no emissions are being directed to any thermal device that is not operating or undergoing maintenance that has an effect on the emission control efficiency. If the air flow volume approaches the thermal control device design capacity, the program shall shut down presses to maintain levels within the design capacities of the operating devices. The facilities being controlled by the thermal control device shall not be operated, including during planned maintenance activities, unless one or more of the three thermal control devices is running. **(06/24)**

9. Fuel for combustion equipment shall be limited to pipeline-quality, sweet natural gas.

10. The hours of operation for the printing presses shall be limited to 4555 hours per year as averaged across all printing presses.

11. The maximum flow rate of each oxidizer shall be the following:

EPN	Volumetric Flow Rate (standard cubic feet per minute)
EPN OX-1	60,000
EPN OX-2	30,000
EPN OX-3	55,000

12. Only one storage tank (EPNs T-1, T-2, and T-3) shall be filled at a time. Each tank shall be painted white and equipped with a submerged fill pipe as defined in 30 TAC §101.1.

Material Usage Flexibility

13. In addition to the materials represented in the permit application submitted in June 2022, other materials/air contaminants that meet all of 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 is exempt from Special Condition Nos. 13D and 13E if:

        (1) It is emitted at a rate and has a short-term effects screening level (ESL) and an annual ESL as stated in the following table; or

Emission Rate (lbs/hr)	Short-term ESL ($\mu g/m^3$)	Annual ESL ($\mu g/m^3$)
≤ 0.04	≥ 2 and < 500	≥ 0.2 and < 50
≤ 0.10	≥ 500 and < 3,500	≥ 50 and < 350
≤ 0.40	≥ 3,500	≥ 350

        (2) it is not sprayed and it has at least one of the following physical characteristics:

            (a) a vapor pressure less than 0.01 mm Hg (0.0002 psi) at 68°F;

            (b) a boiling point at atmospheric pressure that is above 400°F (204°C), provided the compound is not heated above room temperature in the process; or

            (c) a molecular weight that is above 200 g/g-mol, provided the compound is not heated above room temperature in the process.

    D. For all other new or increased air contaminants, the following procedure shall be completed to determine if the short-term impacts are acceptable.

        (1) Determine the emission rate 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 Number	Unit Impacts ($\mu g/m^3$ per lb/hr)
OX-1	26.28
OX-2	30.31
OX-3	29.95
FUG-1/FUG1 _INK	77.58 *
FUG-1/FUG1 _CLEAN	234.2 *
T-1	239.4 *
T-2	239.4 *
T-3	239.4 *
T-4	239.4 *

*Unit impact multiplier (r) with 0.6 fugitive factor.

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

(4) Compare the total off-property impact to the short-term ESL for the air contaminant as shown below to determine if it is less than or equal to the ESL.

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

Where:

Total GLC_{MAX} = The sum of the short-term GLCs from each emission point.

ESL_{SHORT} = The short-term ESL of the new or increased ingredient air contaminant from the most current ESL list published by the Texas Commission on Environmental Quality (TCEQ) or as specifically derived by TCEQ Toxicology Division. The ESL shall be obtained in writing prior to the use of the new or increased air contaminant.

E. For all other new or increased air contaminants, the following procedure shall be completed to determine if the annual impacts are acceptable.

(1) Multiply the total off-property impact (Total GLC_{MAX}) determined in Special Condition No. 13D(4) by 0.08 to determine an annual off-property impact (Annual GLC_{MAX}) for the new or increased air contaminant.

(2) Compare the annual off-property impact to the annual ESL for the air contaminant shown below to determine if it is less than or equal to the ESL.

$$\text{Annual } GLC_{MAX} \leq ESL_{ANNUAL}$$

Where:

ESL_{ANNUAL} = The annual ESL of the new or increased ingredient air contaminant from the most current ESL list published by the TCEQ or as specifically derived by TCEQ Toxicology Division.

F. The short-term or annual emission rates from new or increased air contaminants shall not cause any increases in the short-term or annual emission rates as listed on the MAERT.

G. This special condition does not authorize the use of any chlorinated or fluorinated compounds.

Recordkeeping

14. General Condition No. 8 regarding information and data to be maintained on file is supplemented as follows and shall be used to demonstrate compliance with special conditions and the MAERT.

    A. Environmental Data Sheets (EDS) or similar documentation (including material safety data sheets) for all inks and solvents used in the printing operations. The EDS or similar documentation for materials shall indicate the maximum composition of all constituents.

    B. Data shall be recorded as follows:

        (1) Monthly total of ink and solvent usage;

        (2) Actual hours of printing operations for each press.

        (3) As applied volatile organic compounds (VOC) content for each ink and solvent.

    C. The data recorded in paragraph [B] of this special condition shall be used to produce a monthly summary. The monthly summary shall be completed and available for review no later than the 15th day of each month for the previous month's activities and should reflect:

        (1) VOC emissions in lb/hr as a monthly basis. Hourly emission rate may be computed by calculating monthly emission rate and dividing by actual monthly hours of printing operations;

        (2) VOC emissions in tons per year (tpy) over the previous 12 consecutive months; and

        (3) Hazardous air pollutant (HAP) emissions in tpy over the previous 12 months for each individual HAP and total HAPs.

    D. Field records of visible emissions observation and/or opacity measurements. Records of any corrective action taken.

    E. Records sufficient to demonstrate compliance with the applicable requirements of 30 TAC Chapter 115.

    F. Records of the combustion chamber temperature for the thermal control device.

    G. Records of the thermal control device temperature sensor accuracy audit and visual inspection (if applicable). Records of temperature sensor replacement.

    H. Records of AVO inspections and a maintenance log for the thermal control device capture system.

    I. Records of the inspections and maintenance performed on the thermal control device.

    J. Records and calculations demonstrating compliance with Material Usage Flexibility condition for the introduction of any new materials.

    K. A copy of initial test reports and any records of subsequent testing performed shall be kept for the life of the permit.

15. The records required by the special conditions shall be maintained in hard copy or electronic format and shall be maintained for five years rather than the two-year period specified in General Condition No. 8. The recordkeeping summary required shall contain examples of the calculations performed (including units, conversion factors, transfer efficiency, and emission factors), any assumptions made in the calculations, and the basis for those assumptions. These records shall be

kept on-site and made available for review upon request by representatives of the TCEQ or any air pollution control agency with appropriate jurisdiction.

Pollution Prevention

16. All waste materials containing potential air contaminants shall be stored in covered or closed containers until removed from site. Sponges or cloths that have been used for cleaning shall be stored in covered or closed containers until removed from site.
17. Any spills of materials containing potential air contaminants shall be cleaned up as soon as possible after the area has been declared safe for employees to conduct the cleanup.
18. All equipment with potential to release air contaminants shall be maintained according to manufacturers' instructions as modified by good engineering practices to address site-specific conditions and equipment services.

Date: June 26, 2024