

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

DRAFT -Air Permit Review - DRAFT

Permit Issue Date: XX XX, 2004

Region: Winston-Salem Regional Office
County: Guilford
NC Facility ID: 4100823
Inspector's Name: Eric Hudson
Date of Last Inspection: 05/26/2004
Compliance Code: B/In Violation W/regard To Em & Compl

Facility Data			Permit Applicability (this application only)	
Applicant (Facility's Name): Greensboro Flexible Packaging LLC dba North State Flexibles Facility Address: Greensboro Flexible Packaging LLC dba North State Flexibles 2600 Phoenix Drive Greensboro, NC 27406 SIC: 2759 / Commercial Printing, Nec NAICS: 323112 / Commercial Flexographic Printing Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: N/A NSPS: N/A NESHAP: N/A PSD: N/A PSD Avoidance: Yes NC Toxics: N/A 112(r): N/A Other: N/A	
Contact Data			Application Data	
Facility Contact	Authorized Contact	Technical Contact	Application Number: 4100823.04B Date Received: 09/30/2004 Application Type: Modification Application Schedule: TV-Sign-501(d)(2) Existing Permit Data Existing Permit Number: 02221/T13 Existing Permit Issue Date: 09/24/2004 Existing Permit Expiration Date: 04/30/2006	
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Review Engineer: Judy Lee Review Engineer's Signature: _____ Date: _____		Comments / Recommendations: Issue 02221/T14 Permit Issue Date: XX XX, 2004 Permit Expiration Date: April 30, 2006		

1. Purpose of Application:

Greensboro Flexible Packaging LLC dba North State Flexibles is a contract package printing facility which produces multicolor plastic packaging materials. North State Flexibles operates printing presses that utilize ink and solvents to print on flexible plastic that will be used for packaging. The facility includes several printing stations, a print plate shop, seam and shear stations, and a solvent recovery area. The facility operates 24 hours per day, five to seven days per week, 52 weeks per year.

The facility is currently operating under **Permit No. 02221T13**. Presses (ID Nos. ES-C7 and ES-MA20) are currently operating under a 64 ton per year (tpy) Prevention of Significant Deterioration (PSD) Avoidance limit. This modification request is to modify the existing monitoring, recordkeeping and reporting requirements under Section 2.1-A.4. (PSD Avoidance limit) in order to allow the facility to claim the emissions reduction achieved from routing press C7 to a control device (ID No. CD-1). The requested modification should reduce emissions from the press (ID No. ES-C7) being routed to a Regenerative Thermal Oxidizer (RTO) and bring the facility back into compliance with their current PSD Avoidance limit. This modification request involves a PSD avoidance condition and this change would contravene or conflict with their current permit terms and conditions; therefore, this change is considered to be a significant modification

(See 15A NCAC 2Q .0516) and will be processed as a significant modification following the procedures in 15A NCAC 2Q .0501(d).

The facility previously submitted a request for routing existing press (ID No. ES-C7) to currently permitted control device (ID No. CD-1). This request was processed as a 502(b)(10) modification to permit No. **02221T12** issued September 24, 2004. This allows the facility to construct and operate the control device with VOC emissions from press ES-C7 routed to it. However, this did not allow the facility to claim the emission reduction achieved from routing press ES-C7 to the RTO, hence this modification request.

Addition of control device (ID No. CD-1) along with the addition of a new press (ID No. ES-WH12) were permitted during a significant modification (15A NCAC 2Q 501(c)(2)) to permit No. **02221T11**. Pursuant to NCAC 2Q .0501(c)(2), the facility was required to submit a full Title V application for the new equipment within 12 months of operating press WH12 and CD-1. This current modification request also serves as the second part of the significant modification for application 4100823.03A and satisfies Specific Condition 2.3, Part II of Permit Number **02221T12**. At that time the facility had not chosen a control device and were permitted for either a Regenerative Thermal Oxidizer (RTO) or a Catalytic Oxidizer.

Prior to the significant modification to add press WH12 and CD-1, the facility submitted a request for the addition of one new press (ID No. ES-WH11) in exchange for the shutdown and removal of four existing presses (ID Nos. ES-K5, ES-K6, ES-U8 and ES-U9). This modification to the facility's initial Title V Permit (Permit No. **02221T10**) was processed as a significant modification per 2Q .0501(c)(2) under application number 4100823.01A, with the requirement for the facility to submit a full Title V application for the new equipment within 12 months of operating press WH11, Specific Condition 2.4, Part II of Permit Number **02221T11**. This requirement was satisfied on March 25, 2003 along with the request to add press WH12 and CD-1.

This current permit modification request (application number 4100823.04B) has been combined with the second part of the significant modification (application 4100823.01A) that was submitted on March 25, 2003 (application 4100823.03B). Once Title V Permit Number **02221T14** is issued, this significant modification request along with all previous modifications listed above processed as a significant modification following the procedures in 15A NCAC 2Q .0501(c)(2) to North State Flexibles initial Title V Permit (**02221T10**) will be sent to notice and the Permit Shield in General Condition R, Part I will apply.

The following table represents the changes to the current Title V permit as proposed to complete this permit modification:

Old Page No.	New Page No.	Condition No.	Change
		Cover letter and Attachments	Modified to reflect current permit number, effective date, and associated application information/changes
Page 1	Page 1	Cover page	Modified to reflect current permit number, issue and effective date, and associated application information.
Page 3	Page 3	Section 1	Removed "*" asterisks and footnotes
Page 4 through Page 11	Page 4 through Page 10	Section 2.1-A.	Removed "*" asterisks and footnotes throughout section
Page 7	Page 6 through Page 8	Section 2.1-A.4.	Separated presses ES-C7 and ES-MA20 from ES-WH11 and ES-U10. Modified monitoring/recordkeeping/reporting requirements for press ES-C7 and ES-MA20 to allow for use of RTO. Changed quarterly reporting to semi-annual.
Page 7	Page 8	Section 2.1-A.5.	Separated presses ES-WH11 and ES-U10 from ES-C7 and ES-MA20. Changed quarterly reporting to semi-annual.
Page 8	Page 9&10	Section 2.1-A.6.	Renumbered section and modified language for press ES-WH12 to include specific MRR to assure compliance with 2D .0530 by continuously monitoring the combustion temperature. Changed quarterly reporting to semi-annual.
Page 8 through	--	Section 2.1-A.6.	Removed CAM requirements due to exemption.

Old Page No.	New Page No.	Condition No.	Change
Page 11			
Page 16 through Page 24	Page 15 through Page 23	Section 3	Updated General Conditions and List of Acronyms
Page 25 through Page 27	--	Part II Section 1,2&3	Removed Part II because all notices have been made and this modification takes everything to notice.

2. Application Chronology:

The application chronology is detailed on the attached IMPAQ Comprehensive Application Report and email correspondence.

3. New Equipment/Change in Emissions and Regulatory Review:

Equipment Modification

Modify existing PSD Avoidance Condition to allow for the VOC emissions reduction achieved by routing VOC emissions from an existing press (ID Nos. ES-C7) to the Oxidizer (ID No. CD-1). - This press utilizes ink and solvents to print on flexible plastic that will be used for packaging. The control device of choice is an RTO (2.9 mmBTU/hr heat input). The RTO is a MegTec, Cleanswitch 150-95, Regenerative Thermal Oxidizer, 15,000 SCFM.

One 65" Wide Web Flexographic Printing Press with eight printing stations and two bake ovens fired by natural gas with a total maximum heat input of 2.0 million Btu per hour controlled by one Natural Gas Fired Regenerative Thermal Oxidizer (2.9 million Btu per hour heat input)

This modification will have the potential to reduce VOC emissions from the existing press by at least 80% while the oxidizer is in operation.

Potential Emissions

Under PSD Avoidance, the two presses ES-C7 and ES-MA20 are limited to 64 tons per year.

This modification is to allow emissions reduction credit for routing VOC emissions from press ES-C7 to an RTO. Based on the permit application, the RTO will have a capture efficiency of 85%, control device efficiency of 95% for an overall system efficiency of 80%. Press ES-C7 has an uncontrolled hourly emission rate of 75.92 pounds per hour, therefore:

$$75.92 \text{ lbs/hr} * 8760 \text{ hrs/yr} * 1 \text{ ton}/2000\text{lbs} = 332.53 \text{ tons per year (tpy) potential VOC emissions}$$

$$332 \text{ tpy VOC emissions} * 85\% \text{ capture efficiency} = 282.2 \text{ tpy VOC emissions to control device}$$

$$332 \text{ tpy VOC emissions} * 15\% \text{ released to atmosphere} = 49.8 \text{ tpy VOC emissions uncontrolled}$$

$$282.2 \text{ tpy VOC emission} * 95\% \text{ destruction efficiency} = 268.1 \text{ tpy VOC emissions destroyed}$$

$$(282.2 - 268.1) \text{ tpy VOC emissions} = 14.11 \text{ tpy VOC emissions released to atmosphere after controls}$$

$$14.11 \text{ tpy VOC emission} + 49.8 \text{ VOC emissions} = 63.91 \text{ tpy potential VOC emissions after controls from Press ES-C7}$$

The PSD Avoidance condition for presses ES-C7 and ES-MA20 will be modified to allow credit for the emissions reduction and the following language will be placed in the permit:

15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS for

4. 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

- a. *In order to avoid applicability of 15A NCAC 2D .0530 as requested by the Permittee, the volatile organic compound (VOC) emissions from the flexographic printing presses (ID Nos. ES-C7 and ES-MA20) shall be less than 64 tons per consecutive twelve month period. [15A NCAC 2D .0530]:*

Testing

- b. *If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501 and General Condition JJ. If the results of this test are above the limit given in Section 2.1-A. 4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.*
- c. *Under the provisions of NCGS 143-215.108, the Permittee shall conduct a performance test to establish the destruction efficiency of the regenerative thermal oxidizer (RTO) (ID No. CD-1) and establish the proper temperature ranges and/or operational parameters. The Permittee shall demonstrate compliance with the emission limit(s) above by testing the RTO (ID No. CD-1) for volatile organic compound (VOC) emissions from flexographic printing press (ID No. ES-C7) in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. **Testing shall be completed and the results submitted within 120 days of routing press (ID No. ES-C7) to the RTO (ID No. CD-1).** If the results of this test are above the limit given in Section 2.1-A. 4. a. (ID No. ES-C7) above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.*

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- d. *The Permittee shall calculate the VOC emissions from flexographic printing press (ID No. ES-MA20) on a monthly basis to ensure compliance with condition 2.1 A. 4. a. above. VOC emissions shall be determined by multiplying the total amount of each type of VOC-containing material consumed during the month by the VOC content of the material from each press in operation. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of VOC containing materials or the VOC emissions are not monitored and recorded.*
- e. *The Permittee shall calculate the VOC emissions from flexographic printing press (ID No. ES-C7) on a monthly basis to ensure compliance with condition 2.1-A. 4. a. above. The oxidizer is required to be operated only as necessary to achieve compliance with the VOC limitation in Specific Condition 2.1-A. 4. a. above. VOC emissions shall be determined by the following:*
- i. *When the regenerative thermal oxidizer (RTO) is in operation, the VOC emissions shall be calculated by multiplying the total amount of each type of VOC-containing material consumed during the period in which the regenerative thermal oxidizer is operational by the VOC content of the material and multiplying by 0.20. (The 0.20 value is the product of the assumed capture efficiency (85%) and assumed destruction efficiency (95%)). The Permittee shall record and maintain records of the hours of operation of the oxidizer. In order to ensure proper operation and destruction efficiency of the regenerative thermal oxidizer the permittee shall maintain a minimum chamber temperature of **1500** degrees F. The Permittee shall record the chamber temperature on a continuous basis when the oxidizer is operational. **[Upon receipt of an approved test that demonstrates a different efficiency or minimum chamber temperature, the Permittee may request that the assumed efficiencies or chamber temperature be changed administratively within 60 days of approved test results]***
- ii. *When the RTO is operated at a temperature below the minimum chamber temperature specified above or if the temperature is not monitored, the RTO shall be deemed not in operation and the VOC emissions shall be determined as specified per condition 2.1-A. 4. d.(iii.) below.*
- iii. *When the RTO is not in operation, the VOC emissions shall be determined by multiplying the total amount of each type of VOC-containing material consumed during the period by the VOC content of the material.*

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of VOC containing materials and/or the VOC emissions are not monitored and recorded.

- f. *The VOC emissions from the flexographic printing press (ID No. ES-C7) shall be controlled by the RTO, as necessary to achieve compliance with the VOC limitation in Specific Condition 2.1-A. 4. a. above. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer, if any. As a minimum, the inspection and maintenance program shall include:*
- i. *monthly external inspection of the structural integrity of the oxidizer;*

- ii. annual (for each 12 month period following the initial inspection) internal inspection of the oxidizer noting the structural integrity, including inspection of the valves for leakage; and
 - iii. annual (for each 12 month period following the initial inspection) inspection of the burner.
The RTO shall be deemed not in operation and the VOC emissions shall be determined as specified per condition 2.1-A. 4. d.(iii.) above, if the RTO is not inspected and maintained.
- g. The results of inspection and maintenance for the RTO shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
- i. the date and time of each recorded action;
 - ii. the results of each inspection; and
 - iii. the results of maintenance performed on any filters.
The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.
- h. Calculations and the total amount of VOC emissions from flexographic printing presses (**ID No. ES-C7 and ES-MA20**) shall be recorded monthly in a logbook (written or electronic format), maintained on-site and made available to officials of the Division of Air Quality, upon request. The Permittee must keep each entry in the log and all required records on file for a minimum of five years. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the VOC emissions exceed the limit in Specific Condition 2.1-A. 4. a. above.

Reporting [15A NCAC 2Q .0508(f)]

- i. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The report shall contain the following:
 - i. The monthly VOC emissions shall be totaled for the previous seventeen months. The emissions shall be calculated for each of the twelve month periods over the previous seventeen months.

The facility is subject to the following regulations:

- 2D .0515 “Particulates from Miscellaneous Industrial Processes”
- 2D .0516 “Sulfur Dioxide Emissions from Combustion Sources”
- 2D .0521 “Control Of Visible Emissions”
- 2D .0530 “Prevention of Significant Deterioration”
- 2D .0535 “Excess Emissions Reporting and Malfunctions”
- 2D .0614 “Compliance Assurance Monitoring” (40 CFR 64)
- 2D .0958 “Work Practices for Sources of Volatile Organic Compounds”
- 2D .1111 “Maximum Achievable Control Technology” (40 CFR 63, Subpart KK Printing and Publishing NESHAP)
- 2D .1806 “Control and Prohibition of Odorous Emissions”
- 2Q .0317 “AVOIDANCE CONDITIONS”
- 2Q .0711 “Emission Rates Requiring a Permit”

Regulations applying to this modification are:

2D .0515 “Particulates from Miscellaneous Industrial Processes” - The allowable emission rate for particulate matter from any stack, vent, or outlet of any industrial process for which no other emissions control standards are applicable shall not exceed the level calculated with the following equation:

For process weights less than or equal to 60,000 pounds per hour (30 tons per hour):

$$E=4.10P^{0.67}$$

where: E = allowable emission rate for particulate matter in pounds per hour, and
P = process weight in tons per hour

NOTE: The only source of particulate matter emissions expected from the existing flexographic printing press (ID Nos. ES-C7) is from the combustion of natural gas from the bake ovens and associated control device (ID No. CD-1).

Particulate matter emissions from the combustion of natural gas are negligible. Therefore, compliance with any allowable emission limit is expected for these emission sources.

2D .0516 “Sulfur Dioxide Emissions from Combustion Sources” - Sulfur dioxide emissions from any source of combustion that is discharged from any vent, stack or chimney shall not exceed 2.3 pounds of sulfur dioxide per million BTU heat input.

Natural gas is an inherently low sulfur emitting fuel. Emissions of sulfur dioxide from the combustion of natural gas will always be less than the emission limit. Therefore, compliance is demonstrated with this regulation since estimated emissions are less than the allowable.

2D .0521 “Control Of Visible Emissions” - The intent of this rule is to prevent, abate and control emissions generated from fuel burning operations and industrial processes where an emission is expected to occur, except during startups made according to procedures approved under 2D .0535. This existing press and associated control device will be operated after July 1, 1971, therefore visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period except that six-minute averaging not more than 87 percent opacity may occur not more than once any hour nor more than four times in any 24-hour period.

During the last inspection, no visible emissions were observed. Therefore the facility is expected to be in compliance with 2D .0521.

2Q .0317 Avoidance Condition for 2D .0530 “Prevention of Significant Deterioration”

This facility is a PSD major stationary source for VOC emissions. The facility currently has a PSD Avoidance limit of 64 tons VOC per consecutive 12 months for two presses (ID Nos. ES-C7 and ES-MA20), which was exceeded. In order to bring the facility back into compliance with their 64 tpy limit, the facility requested to route an existing press (ID No. ES-C7) to a previously permitted control device (ID No. CD-1) and change their monitoring, recordkeeping and reporting (MRR) requirements to allow credit for the emissions reduction achieved from the control device of choice (an RTO).

Based on the information submitted with this permit modification and the facility’s compliance history, compliance with 2D .0530 is expected once the press is routed properly to the control device. However, testing will be required to demonstrate compliance.

During the facility’s last inspection, the inspector, Mr. Hudson, stated that the facility was out of compliance with this standard. Routing press ES-C7 to an RTO, should bring the facility back into compliance.

2D .0614 “Compliance Assurance Monitoring” (40 CFR 64)

This facility is a Title V facility with potential emissions that exceed the Title V major source levels without considering controls. A Compliance Assurance Monitoring (CAM) determination is required for this modification because it is a significant permit revision; the presses are subject to an emission limitation or standard for VOC (of less than 64 tons per year); this modification requires a control device to achieve compliance with 2Q .0317; and presses ES-C7 and ES-MA20 have potential pre-controlled VOC emissions greater than 100 tons per year.

In order to determine when CAM requirements apply, we look at the pollutant specific emission unit (PSEU). A PSEU is considered a large unit when the post control emissions are greater than 100 tons per year. This modification looks at PSEU 1 (see attached diagram), which is not considered a large unit because the post control emissions are less than 100 tons per year. Therefore, the facility is not subject to CAM requirements with this permit modification, however; since the facility is installing an RTO and will be required to monitor

the combustion temperature we are addressing CAM at this time. We are exempting them from CAM because the control device will be operated as necessary to comply with the PSD Avoidance limit and because a continuous compliance determination method (CCDM) based on combustion chamber temperature and performance testing will be placed in the permit. The facility will be required to conduct monitoring that satisfies criteria established in the CAM rule to provide reasonable assurance of compliance with applicable requirements by:

- Continuously monitoring and recording of combustion zone (chamber) temperature with a thermocouple system;
- Periodic internal and external inspection of the structural integrity of the control device and of the process; and
- Performance test

The facility will be required to test the existing press (ID No. ES-C7) controlled by an RTO (ID No. CD-1) within 120 days of routing VOC emissions from press C7 to the RTO to assure compliance with their PSD Avoidance limit. The operating parameters placed in the current permit are based on the manufacturers suggested operating parameters. The manufacturer suggested a combustion chamber temperature of 1,600 degrees Fahrenheit (+/- 100 degrees). Therefore, a minimum combustion chamber temperature of 1,500 degrees F will be placed in the permit under Specific Condition 2.1-A.4. The facility will be required to monitor the chamber temperature on a continuous basis when the oxidizer is operational. If the RTO is operated below the minimum combustion chamber temperature required in the permit, the facility will be in noncompliance with 15A NCAC 2D .0530 and the VOC emissions will be based on no controls during that time (See Section 3 above for PSD Avoidance language placed in permit).

North State Flexibles previously issued permit (**02221T12**) for the addition of press WH12 and control device CD-1 (PSEU 2 of attached diagram) included CAM requirements for the new press because the new source: had potential pre-controlled emissions greater than 100 tons per year; was subject to an emission limitation or standard; and required a control device to comply with the 40 tpy PSD Avoidance limit. During the review for this significant modification and additional review of the CAM rule, the new emission source will be exempt from CAM requirements. The facility is exempt from CAM because the control device will be operated as necessary to comply with the PSD Avoidance limit and because a continuous compliance determination method (CCDM) based on combustion chamber temperature and performance testing will be placed in the permit. CAM requirements (Specific Condition 2.1-A.6.) in the current permit (originally added to Permit Number 02221T12) for Press WH12 controlled by CD-1 will be removed from the permit at this time. The facility will be required to conduct monitoring that satisfies criteria established in the CAM rule to provide reasonable assurance of compliance with applicable requirements as specified above for press C7.

The facility will be required to test the new press (ID No. ES-WH12) controlled by an RTO (ID No. CD-1) within 120 days of commencing operation to assure compliance with their PSD Avoidance limit. The operating parameters placed in the current permit are based on the manufacturers suggested operating parameters. The manufacturer suggested a combustion chamber temperature of 1,600 degrees Fahrenheit (+/- 100 degrees). Therefore, a minimum combustion chamber temperature of 1,500 degrees F will be placed in the permit under Specific Condition 2.1-A.6. The facility will be required to monitor the chamber temperature on a continuous basis when the oxidizer is operational. If the RTO is operated below the minimum combustion chamber temperature required in the permit, the facility will be in noncompliance with 15A NCAC 2D .0530 and the VOC emissions will be based on no controls during that time (See Section 3 above for PSD Avoidance language placed in permit).

CAM requirements will be removed and the PSD Avoidance condition for press ES-WH12 will be modified to include continuous compliance monitoring. The following language will be placed in the permit:

15A NCAC 2Q. 0317: AVOIDANCE CONDITIONS for

6. 15A NCAC 2D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

- a. *In order to avoid applicability of 15A NCAC 2D .0530 as requested by the Permittee, the combined volatile organic compound (VOC) emissions from the flexographic printing press (ID No. ES-WH12) shall be less than 40 tons per consecutive twelve month period. [15A NCAC 2D .0530]*

Testing

- b. *If emissions testing is required, the testing shall be performed in accordance with 15A NCAC 2D .0501 and General Condition JJ. If the results of this test are above the limit given in Section 2.1-A. 6. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.*
- c. *Under the provisions of NCGS 143-215.108, the Permittee shall conduct a performance test to establish the destruction efficiency of the regenerative thermal oxidizer (RTO) (ID No. CD-1) and establish the proper temperature ranges and/or operational parameters. The Permittee shall demonstrate compliance with the emission limit(s) above by testing the RTO (ID No. CD-1) for volatile organic compound (VOC) emissions from flexographic printing press (ID No. ES-WH12) in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and requirements can be found in Section 3 - General Condition JJ. **Testing shall be completed and the results submitted within 120 days of installation of press (ID No. ES-WH12).** If the results of this test are above the limit given in Section 2.1-A. 6. a. (ID No. ES-WH12) above, the Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530.*

Monitoring/Recordkeeping [15A NCAC 2Q .0508(f)]

- d. *The Permittee shall calculate the VOC emissions on a monthly basis to ensure compliance with condition 2.1-A. 6. a. above. The oxidizer is required to be operated only as necessary to achieve compliance with the VOC limitation in Specific Condition 2.1-A. 6. a. above. VOC emissions shall be determined by the following:*
- i. *When the regenerative thermal oxidizer (RTO) is in operation, the VOC emissions shall be calculated by multiplying the total amount of each type of VOC-containing material consumed during the period in which the regenerative thermal oxidizer is operational by the VOC content of the material and multiplying by 0.20. (The 0.20 value is the product of the assumed capture efficiency (85%) and assumed destruction efficiency (95%)). The Permittee shall record and maintain records of the hours of operation of the oxidizer. In order to ensure proper operation and destruction efficiency of the regenerative thermal oxidizer the permittee shall maintain a minimum chamber temperature of **1500** degrees F. The Permittee shall record the chamber temperature on a continuous basis when the oxidizer is operational. **[Upon receipt of an approved test that demonstrates a different efficiency or minimum chamber temperature, the Permittee may request that the assumed efficiencies or chamber temperature be changed administratively within 60 days of approved test results]***
- ii. *When the RTO is operated at a temperature below the minimum chamber temperature specified above or if the temperature is not monitored, the RTO shall be deemed not in operation and the VOC emissions shall be determined as specified per condition 2.1-A. 6. d.(iii.) below.*
- iii. *When the RTO is not in operation, the VOC emissions shall be determined by multiplying the total amount of each type of VOC-containing material consumed during the period by the VOC content of the material.*

The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the amounts of VOC containing materials and/or the VOC emissions are not monitored and recorded.

- e. *The VOC emissions from the flexographic printing press (ID No. ES-WH12) shall be controlled by the RTO, as necessary to achieve compliance with the VOC limitation in Specific Condition 2.1-A. 6. a. above. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer, if any. As a minimum, the inspection and maintenance program shall include:*
- i. *monthly external inspection of the structural integrity of the oxidizer;*
- ii. *annual (for each 12 month period following the initial inspection) internal inspection of the oxidizer noting the structural integrity, including inspection of the valves for leakage; and*
- iii. *annual (for each 12 month period following the initial inspection) inspection of the burner.*
- The RTO shall be deemed not in operation and the VOC emissions shall be determined as specified per condition 2.1-A. 6. d.(iii.) above, if the RTO is not inspected and maintained.*

- f. *The results of inspection and maintenance for the RTO shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:*
- i. *the date and time of each recorded action;*
 - ii. *the results of each inspection; and*
 - iii. *the results of maintenance performed on any filters.*
- The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if these records are not maintained.*
- g. *Calculations and the total amount of VOC emissions shall be recorded monthly in a logbook (written or electronic format), maintained on-site and made available to officials of the Division of Air Quality, upon request. The Permittee must keep each entry in the log and all required records on file for a minimum of five years. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .0530 if the VOC emissions exceed the limit in Specific Condition 2.1-A. 6. a. above.*

Reporting [15A NCAC 2Q .0508(f)]

- h. *The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The report shall contain the following:*
- i. *The monthly VOC emissions shall be totaled for the previous seventeen months. The emissions shall be calculated for each of the twelve month periods over the previous seventeen months.*

Total Facility-wide emissions based on 2002 Emission Inventory and this permit application:

Pollutant	2002 Actual Emissions (based on 2,080 hours)	Expected Potential Emissions based on Permit Modification (based on 8,760 hours)
CO	<0.5	3.5
NO _x	<0.5	4.25
PM ₁₀	<0.5	0.32
SO ₂	<0.5	0.02
TSP	<0.5	0.32
VOC	272.1	822.3
PM _{2.5}	<0.5	0.32
HAP	<3 combination	<10 each HAP <25 any combination HAPs

4. NSPS, NESHAPS, PSD, Attainment Status, 112(r), and CAM:

NSPS

New Source Performance Standards (NSPS) do not apply to this modification.

NESHAP/MACT

This facility is subject to the Maximum Achievable Control Technology (MACT) standards, in 40 CFR Part 63, Subpart KK entitled “National Emission Standards for the Printing and Publishing Industry” because the potential emissions of VOC exceed 100 tons per year; however, they are not major for hazardous air pollutants because the facility has chosen to commit to, and meet the criteria of 40 CFR 63.820(a)(2)(i) and (a)(2)(ii) for the purposes of establishing the facility as an area source with respect to this MACT standard. ***The applicant shall use less than 10 tons per each rolling 12-month period of each HAP at the facility and use less than 25 tons per rolling 12-month period of any combination of HAP at the facility***, including materials used for source categories or purposes other than printing and publishing. Area sources are not subject to any of the MACT provisions except recordkeeping.

PSD

This facility is a major PSD source for VOC emissions because it has the potential to emit greater than 250 tons per year. The permit being modified (#02221T13) includes four PSD avoidance conditions for volatile organic compound (VOC) emissions:

- flexographic presses (ID Nos. ES-C7, and ES-MA20) has a limit of 64 tons per year of VOC emissions
- flexographic press (ID No. ES-WH11) has a limit of 197 tons per year of VOC emissions
- flexographic press (ID No. ES-U10) has a limit of 85 tons per year of VOC emissions
- flexographic press (ID No. ES-WH12) has a limit of 40 tons per year of VOC emissions

This permit modification will change the monitoring, recordkeeping and reporting requirements under the PSD avoidance condition for flexographic presses ES-C7 and ES-MA20 listed above.

The initial Title V Permit (02221T10) contained three PSD avoidance conditions for volatile organic compound (VOC) emissions:

- flexographic presses (ID Nos. ES-C7, ES-MA20, ESK5, and ES-K6) had a limit of 152 tons per year of VOC emissions
- flexographic presses (ID No. ES-U8 and ES-U9) had a limit of 250 tons per year of VOC emissions
- flexographic press (ID No. ES-U10) had a limit of 85 tons per year of VOC emissions

Based on the facilities current PSD Avoidance limits, potential emissions have been reduced from 487 tons per year of VOC to 386 tons per year of VOC emissions. A reduction of 101 tons per year VOC emissions.

Attainment

Based on the EPA's boundary designation for 8-hour ozone standards for North Carolina (4/15/04), Guilford County has been designated as nonattainment. Guilford County is participating in an early action compact (EAC); therefore, this facility modification will follow PSD regulations.

112(r)

This facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store or process any of the regulated substances in quantities above the thresholds in the Rule.

CAM

Modification of the current permit does constitute a major modification subject to CAM determinations at this time (See Section 3 under 2D .0614 above for more information regarding CAM applicability).

5. Facility-Wide Air Toxics:

As stated under number four above, the facility has chosen to commit to, and meet the criteria of 40 CFR 63.820(a)(2)(i) and (a)(2)(ii) for the purposes of establishing them as an area source. Since the facility has chosen to take a limit under Subpart KK and are considered an area source, they are not subject to any of the MACT provisions except recordkeeping. Since the facility is not subject to a MACT standard, they fall under the requirements of 2Q .0705(c), which states that the Permittee shall have 180 days to apply for a permit or permit modification for the emissions of toxic air pollutants after receiving written notification from the Director that such permit or permit modification is required.

Based on the facility's current permit and data submitted with the permit application, the facility is subject to facility-wide toxic air pollutant emissions limitations under 2Q .0711 for formaldehyde, methyl isobutyl ketone, toluene, and xylene and should be able to stay below these limits. Therefore, a facility-wide toxics evaluation is not required at this time.

6. Compliance Status:

The facility was last inspected on 5/26/04 by Eric Hudson and Jack Kitchen, WSRO. The facility was operating in violation of their PSD Avoidance limit. Presses ES-C7 and ES-MA20 are limited to 64 tons VOC per 12 months. The facility was issued an NOV/NRE on May 31, 2004 and August 12, 2004. The facility and DAQ have resolved the compliance issues and have agreed to enter into a Settlement Agreement, signed on October 26, 2004.

7. Public Notice / EPA and Affected State Review

Pursuant to 2Q .0521, a notice of the draft Title V Permit shall be placed in a newspaper of general circulation in the area where the facility is located. The notice will provide for a 30 day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 2Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also pursuant to 2Q .0522, a notice of the draft Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. There are no affected States for this facility.

Public Notice of the DRAFT Title V Permit was published in the XX on November XX, 2004 and the public comment period ran from November XX, 2004 to December XX, 2004

8. Conclusions, Comments, and Recommendations:

A professional engineers seal was required for this modification. Appendix II of the permit application were certified on June 21, 2004 by Dena L. Pittman, Professional Seal Number 025857.

A signed consistency determination was received on July 1, 2004, signed by Mr. Barry C. Levine, Zoning Enforcement Officer, City of Greensboro.

The WSRO review contained the following:

1. Include table of facility-wide emissions in review.
2. A draft permit was requested.

The WSRO recommends issuance of the permit per Mr. Eric Hudson's review received August 5, 2004. All of Mr. Hudson's recommendations were taken into consideration in this review.

A draft permit and review were sent to Mr. Hudson for review on October 25, 2004 and comments received on October 26, 2004.

A draft permit was sent to Mr. Danny Crump, North State Flexibles and Ms. Dena Pittman, S&ME, for review on October 25, 2004 and comments received on November 3, 2004.

RCO concurs with WSRO recommendation to issue air permit number **02221T14**.