

217/782-2113

CONSTRUCTION PERMIT - REVISED
NESHAP SOURCE

PERMITTEE

Material Sciences Corporation
Attn: Ed Kolozsky
2300 East Pratt Boulevard
Elk Grove Village, Illinois 60007

Application No.: 95030105 I.D. No.: 031440AGL
Applicant's Designation: Date Received: December 24, 2008
Subject: Coil Coating Lines 2, 4, and 18
Date Issued:
Location: 2300 East Pratt Boulevard, Elk Grove Village

This Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of a coil coating line 18 (prime coater and oven 1 with afterburner and finished coater and oven 2 with afterburner) and a modification to existing coil coating lines 2 and 4, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- 2a. Lines 2, 4, and 18 (the "affected coating lines") are subject to 35 IAC 218.204(d), and as provided in the above-referenced application, shall comply with these volatile organic material (VOM) emission standards by means of 35 IAC 218.207(b)(1). (See also Condition 4(a)(ii).)
- b. In addition, the affected coating lines shall continue to be subject to other applicable emission standards and requirements as set forth in the source's CAAPP permit. In particular, the affected coating lines are subject to National Emission Standards for Hazardous Air Pollutants (NESHAP) for Metal Coil Surface Coating Operations, 40 CFR 63 Subpart SSSS, which requires that the control systems on the lines achieve 98 percent reduction of hazardous air pollutant emissions.
- 3a. This permit is issued based upon the affected coating lines not being subject to the New Source Performance Standards for Coil Coating, 40 CFR 60 Subpart TT, because the affected coating lines are existing equipment, originally installed prior to January 5, 1981. In addition, the changes made to Line 18 do not constitute reconstruction since the fixed capital cost of the new components for the coating line does not exceed 50% of the fixed capital cost that would be required to construct a comparable new facility.

b. This permit is issued based on the modification to Lines 2 and 4 not being considered a major modification for purposes of the state rules for Major Stationary Sources Construction and Modification (MSSCAM), 35 IAC Part 203. This is because the VOM emissions increase attributable to the modification of Lines 2 and 4 is less than significant, i.e., less than 40 tons of VOM per year. (See also Attachment.)

4a. i. This permit is issued based on the prime and finish recirculating ovens and afterburners oxidizing VOM from the affected coating lines and exhausting to a common waste heat boiler stack and boiler bypass stack.

ii. The control system for the affected coating lines shall be operated to achieve a minimum of 98% reduction in overall emissions of VOM (combination of capture and control efficiency).

iii. The capture system and the afterburners shall be operated at all times that affected coating lines are in operation as indicated in the above-referenced application, notwithstanding 35 IAC 218.107. However, the afterburners are not required to be operating when processing coatings containing no VOM.

iv. The afterburners' combustion chamber shall be preheated to the manufacturer's recommended temperature, but not lower than 1400°F, prior to operation of an affected coating line except as provided in Condition 4(a)(iii). This temperature shall be maintained during operation of the affected coating lines. The afterburner combustion chamber temperature may be operated at a lower temperature if compliance with Conditions 4(a)(i) and (ii) can be demonstrated through a stack test at the lower temperature.

v. For Lines 2 and 4, the Permittee shall not cause or allow VOM containing cleaning materials, including used cleaning towels, to be kept, stored or disposed of in any manner other than in closed containers.

b. VOM usage and emissions for the affected coating lines shall not exceed the limits in the attached Table 1. These limits are based on representations of maximum operation and maximum actual emission rates provided in the above-referenced application. Coating VOM usage from the coaters includes VOM from all coatings used including reducing solvents. Cleanup solvent emissions were determined as the difference from the purchased cleanup solvent and the cleanup solvent remaining in inventory and reclaimed cleanup solvent shipped offsite for reprocessing.

c. The burners in line 18 fuel combustion equipment (prime oven with afterburner and finish oven with afterburner) shall be designed to emit no more than 140 pounds of nitrogen oxide (NO_x) per million cubic feet of natural gas fuel fired. Combined natural gas usage and NO_x emission from line 18 shall not exceed the following limits:

Natural Gas Usage	NO _x Emissions	
	mmft ³ /Month	Tons/Year
22.9	3,206	19.24

These limits are based on standard emission factors and the maximum natural gas usage and operating hours indicated in the above-referenced permit application.

- d. Unless specified in a particular condition, compliance with annual limits set by this permit shall be determined from a running total of 12 months of data.
- 5a. For the modification of Line 18, this permit is issued based upon a contemporaneous and creditable decrease of at least 1.3 tons of VOM emissions from existing Line 3 at the plant for each ton Line 18 is permitted to emit. Therefore even though Line 18 by itself is significant, it is not subject to the requirements for Lowest Achievable Emission Rate (LAER) of 35 IAC 203.301. The increases in emissions attributable to Line 18 are described in attached Table 1. The decreases in emissions at the plant, i.e., shutdown of Line 3, are described in attached Table 2.

Note: This permit was originally issued based upon Line 18's emissions being "internally" offset by reductions at Lines 2, 3, and 4. This revised permit is based on the shutdown of Line 3 offsetting Line 18 entirely, such that reductions at Line 2 and 4 are no longer necessary. As such, Lines 2 and 4 are now relieved of the offset requirement and may accommodate an increase in permitted VOM emissions, as addressed below in Condition 5(b).

- b. The Lines 2 and 4 VOM emission limitations specified in Table 1 supersede the limitations in the source's Clean Air Act Permit Program Permit (CAAPP) (Permit No. 96030091).
- c. The Permittee shall apply for a revision to the source's CAAPP Permit for the modification to Lines 2 and 4 and the changes to the offset requirements for Line 18.
- 6a. Line 18 shall not begin operation until construction, including construction of any air pollution control equipment, is complete, and reasonable measures short of actual operation have been taken to verify proper operation.
- b. The Permittee shall notify the Permit Section in writing of the initial startup date within 10 days of the initial startup of Line 18.
- 7a. i. Within 180 days of the initial startup or 60 days of achieving the maximum production rate, whichever is earlier, of Line 18, tests shall be performed that will allow evaluation of compliance with 35 IAC 218.207(b)(1) and permit Condition 4(a)(ii).

- ii. Within 90 days of a written request from the Illinois EPA, tests shall be performed that will allow evaluation of compliance of Line 18, or any existing line, with 35 IAC 218.207(b)(1) and Conditions 4 and 5.
- b. These tests shall be performed by an approved testing service, under conditions which are representative of maximum emissions.
- c. These tests shall be performed to measure overall VOM control efficiency, determined by comparing the VOM in applied coatings as measured by USEPA Method 204F at the prime and finish coaters to the fugitive TTE enclosures exhaust (uncontrolled) and the afterburners exhausts (controlled) as measured by USEPA Method 18 or 25. Any other VOM test methods used shall be test methods listed in 35 IAC 218.105.
- d. This federally enforceable permit allows the use of USEPA Method 204F, which is an alternative test method.
- e. The Illinois EPA shall be notified in writing a minimum of thirty (30) days prior to the expected date of these tests and further notified a minimum of five (5) working days prior to the test of the exact date, time and place of these tests, to enable the Illinois EPA to witness these tests. These notifications shall be provided to the compliance unit and the following offices of the Illinois EPA.

Illinois Environmental Protection Agency
Division of Air Pollution Control
Source Monitoring Unit, Third Floor
9511 Harrison Street
Des Plaines, Illinois 60016

and

Illinois Environmental Protection Agency
Division of Air Pollution Control - Regional Office
9511 West Harrison
Des Plaines, Illinois 60016

- f. Three copies of the Final Report(s) for these tests shall be submitted to the Illinois EPA within 14 days after the test results are compiled and finalized.

The Final Report shall include as a minimum:

- i. A summary of results.
- ii. General information.
- iii. Description of test method(s), including description of sampling points, sampling train, analysis equipment, and test schedule.
- iv. Detailed description of test conditions, including:

- A. Process information, i.e., mode(s) of operation, process rate, e.g. raw material consumption and VOM content.
 - B. Control equipment information, i.e., equipment condition and operating parameters during testing.
- v. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.
- 8a. Pursuant to 35 IAC 218.105(d), each afterburner shall be equipped with an Illinois EPA and USEPA approved continuous monitoring device which is installed, calibrated, maintained, and operated according to vendor specifications at all times the afterburner is in use. This continuous monitoring equipment shall monitor the combustion chamber temperature.
- b. The monitoring systems shall be equipped with a strip chart recorder or disk storage for the afterburner combustion chamber temperature. The Permittee shall retain all records of equipment operation and strip charts or disk storage for at least three years from the date of occurrence. These records shall be available for inspection by the Illinois EPA and USEPA.
- 9a. Pursuant to 35 IAC 218.211(e), the Permittee shall collect and record all of the following information each day for the affected coating lines.
- i. Afterburner monitoring data.
 - ii. A log of operating time and shutdown time for the capture system, afterburner, monitoring equipment and the associated coating line.
 - iii. A maintenance log for the capture system, afterburner and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
- b. The Permittee shall maintain records of the following items:
- i. A. Time and date VOM coating begins and ends and the total gallons applied.
 - B. Time and date no-VOM coating begins and ends and the total gallons applied.
 - C. Coating VOM usage from all coatings including reducing solvents for Lines 2 and 4 combined and Line 18 (tons/month and ton/year).
 - D. Cleanup solvents usage as calculated by the difference in

purchased cleanup solvent and cleanup solvent remaining in inventory (tons/month and tons/year).

- E. Coating VOM emissions from each coater as calculated by the actual solvent usage and the overall control efficiency as tested and indicated in Table 1 (tons/month and tons/year).
 - F. VOM emissions from cleanup solvents as calculated by the difference in cleanup solvents usage and reclaimed cleanup solvent shipped offsite for reprocessing (tons/month and tons/year).
- ii. A. Natural gas usage from Line 18 (mmscf/month).
 - B. NO_x emissions from Line 18 as calculated by the actual natural gas usage and standard AP-42 emission factor: 140 lb/mmft³ (lb/month and ton/yr).
- 10a. All records required by this permit shall be retained at a readily accessible location at the source for at least 3 years from the date of entry and shall be made available for inspection and copying by the Illinois EPA and USEPA upon request.
- b. Any records retained in a computer shall be capable of being retrieved and printed on paper during normal plant office hours, so as to be able to respond to an Illinois EPA and USEPA request for information during the course of a plant inspection.
- 11a. Any record showing violation of 35 IAC 218.207 shall be reported by sending a copy of such record to the Illinois EPA within 30 days following the occurrence of the violation, pursuant to 35 IAC 218.211(e)(3).
- b. Any exceedance of the limits specified in Conditions 4 and 5 shall be reported to the Illinois EPA by sending a copy of the limitation and the exceedance within 30 days of the exceedance.
 - c. The Permittee shall submit the following additional information with the Annual Emission Report, due May 1st of each year: Coating VOM usage and emissions and cleanup solvent emissions from each coater, and natural gas usage and NO_x emissions from Line 18 from the prior calendar year. If there have been no exceedances during the prior calendar year the Annual Emission Report shall include a statement to that effect.
 - d. All required reports shall be submitted to the Illinois EPA at the address indicated below.

Illinois Environmental Protection Agency
Bureau of Air
Compliance and Enforcement Section
P.O. Box 19276
Springfield, Illinois 62794-9276

12. The equipment addressed by this project may be operated under this construction permit until renewal of the source's CAAPP permit. This condition supersedes Standard Condition 6.

It should be noted that this permit has been revised to adjust the offset demonstration for the modification of Line 18 such that all offsets for the modifications at Line 18 come from Line 3, which has been shut down. This permit has also been revised to increase the permitted emissions of existing Lines 2 and 4.

If you have any questions on this, please call Jason Schnepf at 217/782-2113.

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

ECB:JMS:

Attachment

cc: Region 1

Table 1: Limitations for Lines 2, 4, and 18

Emission Unit	Overall Control Efficiency	Coating VOM Usage	Coating VOM Emissions	Cleanup Solvent VOM Emissions	VOM Emissions	
	%	Tons/Mo	Tons/Mo	Tons/Mo	Tons/Mo	Tons/Yr
Line 2 prime coater	98	322.5	6.5	1.8	8.2	98.0 ^a
Line 2 finish coater						
Line 4 prime coater						
Line 4 finish coater						
Line 18 prime coater	98	265.5	5.3	0.8	6.1	73.2 ^b
Line 18 finish coater						

Table 2: Offset Demonstration

Emission Unit	Coating VOM Usage	Coating VOM Emissions	Cleanup Solvent VOM Emissions	Total Past Actual VOM ^c	Permitted VOM Emissions
	Tons/Year	Tons/Year	Tons/Year	Tons/Year	Tons/Year
Line 3 prime coater	165.11	26.42	10.43	36.85	0
Line 3 finish coater	379.36	60.70	10.43	71.13	0
Totals	544.47	87.12	20.86	107.98 ^b	0

Notes:

- a. The increase in emissions at Lines 2 and 4 is calculated by comparing the future emissions (98.0 tons/year) with the actual emissions (58.93 tons/year, based on data from calendar years 2006 and 2007). This results is $98.0 - 58.93 = 39.07$ tons/year. Note that this increase is less than significant, i.e., less than 40 tons/year.
- b. Total emission offset required for changes to Line 18: $73.2 \times 1.3 = 95.2$ tons/year
Total emission decrease available for internal offsets: 107.98 tons/year
- c. Actual VOM emissions using data from 1994 prior to permanent total enclosure of Line 3 with 84% overall control achieved on the line. Cleanup solvent VOM emissions are based upon the difference from the purchased cleanup solvent and the cleanup solvent remaining in inventory and reclaimed cleanup solvent shipped offsite for reprocessing.

JMS:

