217/782-2113

CONSTRUCTION PERMIT - REVISED

PERMITTEE

Sun Chemical
Attn: Terry Harris
5020 Spring Grove Avenue
Cincinnati, Ohio 45232

Application No.: 06060001 I.D. No.: 091804AAF
Applicant's Designation: Date Received: June 20, 2007
Subject: Emission Reduction Project/Modified Varnish Production
Date Issued: May 6, 2008
Location: 3200 Festival Drive, Kankakee, Kankakee County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of an emission reduction project with addition of pollution control equipment, improved production practices, and other emission control measures for the existing ink production equipment to reduce emissions, and modifications to varnish production as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1a. This permit authorizes various changes to existing commercial ink manufacturing operations (affected operations) to reduce emissions of hazardous air pollutants (HAPs) as listed in Attachment A, including: 1) addition of vent condensers to certain process vessels, addition of carbon adsorbers to bulk solvent storage tanks, and the addition of vapor balancing, or vent condensers to certain packaging and bulk storage operations, 2) block management of production to reduce frequency of cleaning operations, and 3) implementation of a Leak Detection and Repair (LDAR) program on piping components. The purpose of these improvements is to reduce emissions of HAPs, so that the source is not a major source of HAP emissions for purposes of 40 CFR Part 63, Subpart HHHHH, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Coating Manufacturing (compliance date December 11, 2006) and control requirements of these regulations will not apply to ink manufacturing operations at the source. This permit limits emissions from the plant, based on the implementation of these improvements, so that the plant will no longer be a major source of HAP.

b. This permit authorizes an increase in production of raw material grade varnish, including use of mix vessel M-40, controlled by Condenser #3, and storage tank STK-16, controlled by Condenser 13, and an increase in the throughput of the associated loading equipment for raw material grade varnish product that is shipped off-site, controlled by vapor balancing.

c. This permit does not authorize any other modifications to the affected operations to increase production or emissions.

2a. i. The Permittee shall implement block management production and a leak detection and repair program, and install additional control equipment on affected operations to reduce toluene emissions to less than 10 tons/year, so as to be a minor source for purposes of 40 CFR 63, Subpart HHHHH.

ii. By December 31, 2007, the Permittee shall install condensers on at least five production systems and vapor balance, condenser, or carbon adsorption controls on the raw material bulk storage tanks and the finished product tanker loading system.

3a. i. Beginning December 2007, the annual usage of toluene by the affected operations, determined in accordance with Condition 3(a)(iii), shall not exceed 103.5 million pounds per year.

ii. Beginning December 2007, emissions of HAPs from the source, determined in accordance with Condition 3(a)(iii), shall be less than 10.0 tons/year for each individual HAP and less than 25 tons/year for all HAPs combined.

iii. Compliance with these limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total). The first compliance determination shall address the period from December 2006 through November 2007 (or December 11, 2006 through December 10, 2007).

b. i. Toluene emissions shall not exceed the following limits beginning in calendar year 2008:

	Toluene Emissions		
	"Uncontrolled" Emissions, prior to Control Measures	Emissions with Controls	
Activity	(Tons/Year)	(Tons/Year)	(Tons/Month)
Process Units (Production)	34.33	4.04	0.67
Bulk Storage & Transfer	13.68	2.79	0.47
Equipment Leaks	9.0	1.55	0.26
Miscellaneous (Filter Changes, Tanker Truck Washing, etc.)	0.60	0.60	0.10
Totals	57.57	8.98	1.50

ii. Beginning in 2008, the Permittee shall achieve an overall average control efficiency for toluene of 84% comparing controlled and uncontrolled emissions.

c. i. Production of varnish shall not exceed 22,900,000 pounds/year.

ii. This permit is issued based on no significant increase for purposes of the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21, when comparing past actual to future projected actual emissions.

4. At all times, the Permittee shall maintain and operate the affected operations in a manner consistent with good air pollution control practice for minimizing emissions.

5. The Permittee shall conduct monitoring and operation measurements as follows:

a. i. The Permittee shall install, operate, and maintain a continuous monitoring device to record the temperature of the coolant supply to the condensers.

ii. The Permittee shall install, operate and maintain instrumentation on each condenser to measure inlet and outlet gas temperatures for each new condenser

b. The Permittee shall measure the VOM concentration in the exhaust from the canister in each carbon adsorber on a regular basis until breakthrough occurs and the adsorbent is replaced. These requirements shall be conducted on a weekly basis until 80 percent of the theoretical adsorption capacity is reached, based on appropriate engineering calculations and records. Thereafter measurements shall be conducted on a daily basis.

6a. The Permittee shall implement a Leak Detection and Repair (LDAR) Program for all readily accessible components in VOM service at the plant that meets the requirements of Attachment 1.

b. The Permittee shall verify (confirm correct connection and operation of) vapor balance lines during each bulk loading and unloading transfer.

7a. The Permittee shall keep a file containing its applicability determination for the NESHAP, 40 CFR 63, Subpart HHHHH. This determination shall include a detailed analysis showing why the source is not subject to the NESHAP.

b. The Permittee shall keep a file of its schedule for installation of additional control equipment as necessary to achieve and maintain status as a non-major source for HAPs.

c. These files shall be kept current and be updated as circumstances change.

8a. The Permittee shall keep a file that contains records of the HAP content of each HAP containing material used, with source of data and date, and supporting documentation, e.g., analysis data, supplier formulation data, an MSDS, etc.

b. The Permittee shall keep records of the amount of varnish produced (pounds/month and pounds/year).

c. The Permittee shall keep records of usage of toluene and any other individual HAP used in significant quantities at the plant (pounds/month and pounds/year).

d. For each operation controlled by a condenser and/or a carbon adsorber, the Permittee shall keep:

   i. Operating records.

   ii. A file with design information and either engineering calculations or specifications for the performance of the device.

   iii. For each carbon adsorber, a file containing the length of operation in days until the capacity of a canister is reached (or break through occurs), based on the capacity of the canister and the maximum daily rate of VOM generating from the units being controlled.

   iv. An operating log or other records, that includes detailed information for any malfunction or breakdown.

   v. Logs of inspection, maintenance, and repairs.

   vi. Records of emissions (tons/month and tons/year) with supporting calculations.

e. For each operation controlled by vapor balancing, the Permittee shall keep:

   i. Operating records.

   ii. A file with design information and engineering calculations for the performance of the vapor balancing.

   iii. An operating log or other records, that includes detailed information for any malfunction or breakdown.

   iv. Logs of inspection, maintenance, and repairs.

   v. Records of HAP emissions (tons/month and tons/year) with supporting calculations.

f. For each unit subject to the LDAR program, the Permittee shall keep:

   i. A file with design information and engineering calculations including applicable emission factors, HAP content and number of monitored components.

ii. Records documenting performance of required leak monitoring.

iii. Records for other leaks, which are identified by means other than monitoring.

iv. Records documenting timely repair of leaks and performance of follow-up monitoring.

v. Records of HAP emissions (tons/month and tons/year) with supporting calculations.

g. For each uncontrolled operation, the Permittee shall keep:

i. Operating records.

ii. Logs of inspection, maintenance, and repairs.

iii. Records of HAP emissions (tons/month and tons/year) with supporting calculations.

h. For purposes of these records:

i. Operating records shall include records of hours of operation or raw material usage or production, so as to be able to determine actual uncontrolled emissions from the affected operation.

ii. Records of HAP emissions shall separately address toluene and other individual HAPs, as necessary to demonstrate that the source is not a major source for HAPs.

9a. The Permittee shall promptly notify the Illinois EPA of any deviation from the requirements of this permit, consistent with provisions in its CAAPP permit, e.g., reports shall describe the probable cause of such deviations, and corrective actions and any preventive measures taken.

b. The Permittee shall submit quarterly progress reports to the Illinois EPA describing implementation and completion of activities authorized by this permit. The first such progress report shall be submitted not later that 90 days after the issue date of this permit, with subsequent reports submitted quarterly thereafter until all construction authorized by this permit is completed.

c. The Permittee shall notify the Illinois EPA within 30 days if, based on the records required by Condition 8, it will not be able to achieve or maintain status as a non-major source for HAPs.

10. This permit does not relax or otherwise revise any requirements and conditions that apply to the operation of the source, including applicable monitoring, testing, recordkeeping, and reporting requirements in the current CAAPP permit for the source.

11. The Permittee is allowed to operate the affected operations under this construction permit until final action is taken to address the emission reduction project in a renewal of the source's CAAPP Permit or an application for a Federally Enforceable State Operation Permit (FESOP), provided however that the Permittee submits a timely and complete application for such operating permit.

Please note that this permit has been revised to provide for control of tanker truck loading emissions by either vapor balancing to storage tanks which are controlled by condensers or by directly controlling emissions with condensers. This permit also addresses an increase in varnish production, due to production of material grade varnish in existing equipment.

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

Edwin C. Bakowski, P.E. Date Signed: _____
Acting Manager, Permit Section
Division of Air Pollution Control

ECB:KTH:jws

cc: Region 1

Attachment A: List of Process Equipment and Required and Optional Emission Control Measures

System	Unit Description	Vessel ID	Emission Control
Yellow 5 & 6	Pre-Mix	M-33	Condenser #1 and Dust Collector #5
	Feed Vessel	M-34	Condenser #1
	Feed Vessel	M-35	Condenser #1
	Storage Tank	STK-12	Condenser #12
	Storage Tank	STK-13	Condenser #12
	Storage Tank	STK-14	Condenser #12
	Storage Tank	STK-15	Condenser #12
	Storage Tank	STK-66	Condenser #9
	Storage Tank	STK-71	Condenser #9
	Storage Tank	STK-73	Condenser #9
	Blend Vessel	M-52	Condenser #16
	Blend Vessel	M-53	Condenser #16
	Blend Vessel	M-54	Condenser #16
	Packaging (Tanker Loading)	--	Vapor Balancing
	Fugitive Equipment Leaks	--	LDAR Program*
Red 8 & 9	Pre-Mix	M-39	Condenser #3 and Dust Collector #3
	Feed Vessel	M-38	Condenser #3
	Storage Tank	STK-17	Condenser #13
	Storage Tank	STK-20	Condenser #13
	Storage Tank	STK-24	Condenser #13
	Storage Tank	STK-65	Condenser #7
	Storage Tank	STK-72	Condenser #7
	Blend Vessel	M-48	Condenser #15
	Blend Vessel	M-49	Condenser #15
	Blend Vessel	M-50	Condenser #15
	Packaging (Tanker Loading)	--	Condenser #16
	Fugitive Equipment Leaks	--	LDAR Program*
Raw Material Grade Varnish Production	Pre-Mix	M-40	Condenser #3
	Storage Tank	STK-16	Condenser #13
	Packaging	---	Vapor balancing
	Fugitive Equipment Leaks	---	LDAR Program
Varnish & Wax			
	Premix	M-26	Condenser #6 and Dust Collector #9
	Storage Tank	STK-2	--
	Storage Tank	STK-19	Condenser #13
	Packaging (Tanker Loading)	--	Condenser #16
	Fugitive Equipment Leaks	---	LDAR Program
Blue 3 & 4	Premix	M-30	Condenser #4 and Dust Collector #7
	Premix	M-31	Condenser #4 and Dust Collector #6
	Feed Vessel	M-32	Condenser #4

System	Unit Description	Vessel ID	Emission Control
Blue 3 & 4 (Continued)	Feed Vessel	M-29	Condenser #4
	Storage Tank	STK-4	Condenser #11
	Storage Tank	STK-6	Condenser #11
	Storage Tank	STK-7	Condenser #10
	Storage Tank	STK-10	Condenser #11
	Storage Tank	STK-68	Condenser #8
	Storage Tank	STK-69	Condenser #8
	Blend Vessel	M-43	Condenser #15
	Blend Vessel	M-44	Condenser #15
	Blend Vessel	M-51	Condenser #16
	Packaging (Tanker Loading)	--	Vapor Balancing and Condenser #16
	Fugitive Equipment Leaks	--	LDAR Program*
Black 1, 2 & 7	Pre-Mix	M-28	Condenser #5 and Dust Collector #8
	Pre-Mix	M-37	Condenser #2 and Dust Collector #4
	Feed Vessel	M-27	Condenser #5
	Feed Vessel	M-36	Condenser #2
	Storage Tank	STK-3	Condenser #10
	Storage Tank	STK-5	Condenser #10
	Storage Tank	STK-8	Condenser #11
	Storage Tank	STK-21	Condenser #15
	Storage Tank	STK-67	Condenser #8
	Storage Tank	STK-70	Condenser #7
	Blend Vessel	M-45	Condenser #15
	Blend Vessel	M-46	Condenser #15
	Blend Vessel	M-47	Condenser #15
	Blend Vessel	M-57	Condenser #16
	Packaging (Tanker Loading)	--	Vapor Balancing and Condenser #16
	Fugitive Equipment Leaks	--	LDAR Program*
Extender	Blend Vessel	M-55	Condenser #16
	Blend Vessel	M-56	Condenser #16
	Blend Vessel	M-62	Condenser #15
	Packaging (Tanker Loading)	--	Vapor Balancing and Condenser #16
	Fugitive Equipment Leaks	--	LDAR Program*
Clay Base	Premix	M-42	Condenser #14 and Dust Collector #1
	Feed/Grind	M-41	Condenser #14
	Storage Tank	STK-11	Condenser #10
	Storage Tank	STK-18	Condenser #13
	Fugitive Equipment Leaks	--	LDAR Program*
Gilsonite	Premix	M-25	Condenser #6 and Dust Collector #10
	Truck Unloading	--	Dust Collector #17
	Storage Tank	STK-1	Condenser #6
	Storage Tank	STK-9	Condenser #6
	Fugitive Equipment Leaks	--	LDAR Program

System	Unit Description	Vessel ID	Emission Control
Equipment Cleaning	All Systems	--	Block Production Management*
Bulk Storage	Varnish Storage	TK-101A	Vapor Balancing
	Varnish Storage	TK-101B	Vapor Balancing
	Varnish Storage	TK-102	Vapor Balancing
Bulk Storage	Varnish Storage	TK-103	Vapor Balancing
	Varnish Storage	TK-104	Vapor Balancing
	Varnish Storage	TK-105	Vapor Balancing
Bulk Storage	Solvent Storage	TK-200	Carbon Unit #20; Vapor Balancing
	Solvent Storage	TK-210	Carbon Unit #20; Vapor Balancing
	Solvent Storage	TK-260	Carbon Unit #20; Vapor Balancing
Bulk Storage	Solvent Storage	TK-220	Carbon Unit #19; Vapor Balancing
	Solvent Storage	TK-230	Carbon Unit #19; Vapor Balancing
	Solvent Storage	TK-240	Carbon Unit #19; Vapor Balancing
	Solvent Storage	TK-250	Carbon Unit #19; Vapor Balancing
Bulk Storage	Varnish Storage	TK-300	Vapor Balancing
	Varnish Storage	TK-310	Vapor Balancing
	Varnish Storage	TK-320	Vapor Balancing

* Required measure

KTH:jws