

217/782-2113

CONSTRUCTION PERMIT/PSD APPROVAL
NESHAP SOURCE

PERMITTEE

Viscofan USA, Inc.
Attn: J. W. Webster
915 North Michigan Avenue
Danville, Illinois 61832-0597

Application No.: 08110034 I.D. No.: 183804AAL
Applicant's Designation: Date Received: November 18, 2008
Subject: Machine 7A and 8 casing line modification
Date Issued: December 24, 2009
Location: 915 North Michigan Avenue, Danville

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of modification to existing machines 7A and 8 as described in the above referenced application. This Permit is subject to the following condition(s):

In conjunction with this permit, approval is given with respect to the Prevention of Significant Deterioration of Air Quality Regulations (PSD) for the above referenced project, in that the Illinois Environmental Protection Agency (Illinois EPA) finds that the application fulfills all applicable requirements of 40 CFR 52.21. This approval is issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et. seq., the Federal regulations promulgated thereunder at 40 CFR 52.21 for Prevention of Significant Deterioration of Air Quality (PSD), and a Delegation of Authority agreement between the United States Environmental Protection Agency and the Illinois EPA for the administration of the PSD Program. This approval becomes effective in accordance with the provisions of 40 CFR 124.15 and may be appealed in accordance with the provisions of 40 CFR 124.19. This approval is based upon and subject to the following findings and conditions. This approval is also subject to the general requirement that the project be developed and operated consistent with the specifications and data included in the application and any significant departure from the terms expressed in the application, if not otherwise authorized by this permit, must receive prior written authorization from the Illinois EPA.

If you have any questions on this permit, please call Shashi Shah at 217/782-2113.

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

Date Signed: _____

ECB:SRS:psj

cc: Region 3 and USEPA Region V

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INTRODUCTION: FINDINGS

- 1a. At its Danville plant, Viscofan operates a number of machines that produce the cellulose casings used in the manufacture of hot dogs and other processed meats. Viscofan has requested a permit to increase production from existing line 7A and 8. Physical Modifications to line 7A would include gearbox changes, additional dryer coils and scrubber piping, etc. Physical changes to Machine 8 would include pump assembly, slurry system, line drive improvements, dryer improvements, tank, paper and guide system.
- b. The project would be accompanied by increased throughput by the existing facilities at the plant that handle increased throughput for cellulose casings. Also equipment additions such as slurry tanks, vissolvers, ripening tanks will occur in the chemical department to support increased production by lines 7A and 8.
2. The source is located in Danville Township in Vermilion County. The area is designated attainment for all criteria pollutants.
- 3a. The project is subject to PSD review for emissions of VOM and RSC because the potential increase in VOM and RSC emissions from the project is significant, as described in Attachment 1.
- b. The project is not subject to PSD for H₂S and other PSD pollutants because the increases in emissions are not significant (e.g. H₂S).
4. After reviewing the materials submitted by Viscofan, the Illinois EPA has determined that the project, as proposed, would be designed to (i) comply with applicable state and federal emission standards and (ii) utilize Best Available Control Technology (BACT) for emissions of VOM and RSC (Refer to the BACT determinations in Conditions 1.4 and 2.1.3-2. In making its BACT determination, the Illinois EPA considered the VOM emissions as ozone precursors and the particular nature and impacts of the particular volatile organic compound emitted by Viscofan, i.e., carbon disulfide. The Illinois EPA has also determined that the project would comply with all applicable Illinois Pollution Control Board Regulations and the federal PSD rules, 40 CFR 52.21.
5. A copy of the application and a summary of the Illinois EPA's review of the application and a draft of this permit were placed in a location in the vicinity of the project, and the public was given notice and an opportunity to examine this material and to submit comments and to request a public hearing on this matter.

The Illinois EPA is issuing approval to Viscofan to construct the proposed project subject to the following conditions and consistent with the specifications and data included in the application. Any departure from the conditions of this approval or terms expressed in the application must receive prior written authorization of the Illinois EPA. The Illinois EPA has determined that the project, as proposed, would comply with all applicable Illinois Pollution Control Board Regulations and the federal PSD rules, 40 CFR 52.21.

Section 1: Conditions for the Project

1.1. Effect of Permit

- a. This permit does not relieve the Permittee of the responsibility to comply with all applicable local, state and federal requirements which are part of Illinois State implementation Plan, as well as all other applicable local, state and federal requirements.

1.2 Validity of Permit and Commencement of Construction

- a. This permit shall expire if construction is not commenced within 18 months of the effectiveness of the permit or is not pursued in a reasonable manner thereafter, as provided by 40 CFR 52.21(r) (2).

1.3 BACT Determination - General Requirements

The Permittee shall operate and maintain lines 7A and 8, including associated air pollution control equipment, in a manner consistent with good air pollution control practice to minimize emissions and odors, including process emissions exhausting through the scrubber system with the following practices:

- a. At all times, including periods of startup, shutdown, malfunction or breakdown, operate as practicable to minimize emissions.
- b. Air pollution control equipment shall be operated in accordance with written operating procedures that address startup and shutdown, as well as normal operation, which procedures shall be developed and maintained by the Permittee and may incorporate the manufacturer's recommended operating instructions.
- c. Conduct visual inspections of emission units and associated air pollution control.
- d. Conduct regular preventative maintenance on emission units and associated air pollution control devices as needed to assure reliable operation.
- e. Make prompt repairs to emission units and associated air pollution control devices upon identification of need either as a consequence of formal inspections or other observations.
- f. Install, operate and maintain required monitoring devices and instrumentation in accordance with good monitoring practices, following the manufacturer's recommended operating and maintenance procedures or such other procedures as are otherwise needed to assure reliable operation of such devices.
- g. Maintain records for the above inspection, maintenance, and repair activities.

1.4 Records for Required Operational Monitoring Systems and Instrumentation

- a. The Permittee shall keep records of the data measured by required monitoring systems and instrumentation. Unless otherwise provided in a particular condition of this permit, the following requirements shall apply to such recordkeeping:
 - i. For required operational monitoring systems, data shall be automatically recorded by a central data system, dedicated data logging system, chart recorder or other data recording device. During periods when the automatic recording device is out of service, data shall be recorded manually at least once every 12 hours for periods when the associated emission unit(s) is in service.
 - ii. For required instrumentation, the measured data shall be recorded manually at least once per shift, with data and time both recorded, for periods when the associated emission unit(s) are in service, provided however that if data from an instrument is recorded automatically, the above provisions for recording of data from monitoring systems shall apply.
- b. The Permittee shall maintain logs or other records for the operation and maintenance of operational monitoring systems and instrumentation required by this permit.

1.5 Retention and Availability of Records

- a. The Permittee shall retain all records required by this permit at the source for at least five years, at a location where the records are readily accessible for inspection by the Illinois EPA.
- b. The Permittee shall make all records required by this permit available for inspection at the source by the Illinois EPA, providing copies of records to the Illinois EPA upon request. For this purpose, the Permittee may keep records in a computerized data system provided that, upon request by the Illinois EPA during the sources normal working hours, requested information is retrieved and available prior to inspection completion to the Illinois EPA.

1.6 Notifications

- a. The Permittee shall notify the Illinois EPA within 30 days of the following events related to Line 7A and 8:
 - i. Commencement of construction of modification; and
 - ii. Initial startup of each modified line.

1.7 Authorization to Operate Emission Units

- a. The Modified lines 7A and 8 may be operated under this construction permit until final action is taken to incorporate these modified lines in a revision to or renewal of its CAAPP Permit, provided that the Permittee shall demonstrate initial compliance with the short-term emission limitations and emission testing in accordance with the Condition 2.1.6 of this permit.
- b. The Illinois EPA may extend this period upon request of the Permittee if additional time is needed to complete shakedown or perform emission testing.

SECTION 2: UNIT SPECIFIC CONDITIONS

2.1 Unit Lines 7A and 8
Control Caustic Scrubbers and process control

2.1.1 Description

Viscofan uses the "viscose process" in the manufacture of its regenerated cellulose sausage casings. Wood pulp is reacted with sodium hydroxide, then carbon disulfide, and then dissolved in dilute sodium hydroxide to produce viscose. The viscose is then extruded through a dilute acid/salt solution to form regenerated cellulose, carbon disulfide, (CS₂), and hydrogen sulfide, (H₂S). A majority of the H₂S is removed by a caustic scrubber, but CS₂ is not removed. CS₂ is HAP as well as a VOM and compliance with a NESHAP is required.

Existing Lines 7A and 8 will be modified to increase production on the current lines. Modification to line 8 will allow producing fibrous casings in addition to producing larger diameter products, increasing potential emissions.

2.1.2 List of Emission Units and Air Pollution Control Equipment

Emission Unit	Description	Emission Control Equipment
#7A line	Cellulose Casing Process Machine	Scrubber (PCD7A)
#8 line	Cellulose/Fibrous Casing Process Machine	Scrubber (PCD8)

2.1.3-1 Applicability Provisions

- a. An "affected unit" for the purpose of these unit specific conditions is the modified unit described in Conditions 2.1.1 and 2.1.2.
- b. Except for affected units, this permit does not revise limits and other provisions for existing units in the affected plant.

2.1.3-2 BACT Determination

- a. The affected units and associated chemical process equipment shall be operated using the conventional viscose and fibrous chemical process, as described in the application or an enhanced process, as approved by the Illinois EPA.
- b. The affected units are subject to the limitations in Condition 2.1.5(a), (b) and (c). For Line 7A these limits supersedes the limit in Construction Permit 07020091. For Line 8, these limits supersede the limits in Construction permit/PSD Approval 97090100, issued on September 7, 2000.

2.1.1.2-3 Applicable Federal Requirements

The affected plant is subject to 40 CFR 63 Subpart UUUU, National Emission Standards for Hazardous Air Pollutants (NESHAP): Cellulose Products Manufacturing. The affected process and the Permittee shall comply with all applicable provisions of the NESHAP.

The standards include that the existing cellulose products manufacturing facilities must reduce total uncontrolled sulfide by at least 25% based on a 6-month rolling average. Uncontrolled sulfide includes CS₂ and H₂S.

2.1.1.3-4 Applicable State Regulations

Each affected casing line is subject to 35 IAC 215.301. This rule requires that emissions of organic material not exceed 8 lbs/hour if the material is photochemically reactive pursuant to the definition in 35 IAC 211.4690 or there is an odor nuisance. The organic material in this process is not photochemically reactive and there currently is no odor nuisance attributable to these emission units.

2.1.1.4 Control Requirements and Work Practices

Each scrubber on each affected unit shall have a design efficiency of 90% removal of H₂S and be operated in accordance with the manufacturer's instruction and good maintenance practices.

2.1.1.5 Emission Limitations

- a. The emissions of CS₂ from Line 7A and 8 shall not exceed the following limits. It should be noted that these limits do address emissions from associated chemical process equipment.

Line	CS ₂ Emissions		
	Lbs/Day	Tons/Month	Tons/Year
7A	2,496	38.7	453
8	2,112	32.7	182

- b. Emissions of hydrogen sulfide (H₂S) from the affected unit should be controlled by scrubbers with a design removal efficiency of at least 90 percent.
 - i. Emissions of hydrogen sulfide (H₂S) from Line 7A shall not exceed 2.0 pounds per hour, after the emissions control device.
 - ii. Emissions of H₂S attributed to Line 8 shall not exceed 2.4 pounds per hour, after the emissions control device.

- c. i. Compliance with annual limits shall be determined from a running total of 365 days of data.
- ii. Emissions of each affected unit shall be determined using plant-specific emission factors as follows, until such time as further testing is conducted in accordance with Condition 2.1.6 to establish new factors.

$$\text{CS}_2 \text{ Emissions} = (0.81 \text{ lb CS}_2 \text{ emissions/lb CS}_2 \text{ used}) \times (\text{lb CS}_2 \text{ equivalent in viscose solution used})$$

$$\text{H}_2\text{S Emissions} = (0.16 \text{ lb H}_2\text{S/lb CS}_2 \text{ used}) \times [(1 - \text{overall control efficiency}^*/100) \times (\text{lb CS}_2 \text{ equivalent in viscose solution used})]$$

* Efficiency expressed in percent.

2.1.6 Within 90 days of a written request from the Illinois EPA the emissions of carbon disulfide and hydrogen sulfide from an emission source shall be measured by an approved independent testing service. This time period may be extended by the Illinois EPA upon request by the Permittee, e.g., if additional time is needed to schedule the test.

- a. These tests shall be conducted, documented, and reported in accordance with a formal testing program approved by the Illinois EPA.
- b. The following methods and procedures shall be used for testing of emissions, unless another method is approved by the Illinois EPA: Refer to 40 CFR 60, Appendix A, and 40 CFR 61, Appendix B, for USEPA test methods.

Location of Sample Points	USEPA Method 1
Gas Flow and Velocity	USEPA Method 2
Flue Gas Weight	USEPA Method 3
Moisture	USEPA Method 4
Volatile Organic Material	USEPA Method 25, 25A if outlet VOM cont. < 50 ppmv as C Non CH ₄
Hydrogen sulfide and Carbon Disulfide (Reduced Sulfur compounds)	USEPA Method 15

- c. Prior to carrying out any emission tests, the Illinois EPA's regional office and the Illinois EPA's Source Emission Test Specialist shall be notified 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.

- d. Three (3) copies of the Final Report(s) for any tests shall be submitted to the Illinois EPA within 14 days after the test results are compiled and finalized.
- 2.1.7 The H₂S scrubbers shall be equipped with a continuous monitor for differential pressure across the scrubber to reasonably assure that H₂S scrubbers are operating correctly, (i.e., between 0.2 and 4.0 inches water column).
- a. The Permittee shall maintain and operate H₂S monitors on the four stacks through which the various hydrogen sulfide scrubbers discharge; these monitors shall be operated pursuant to written procedures to obtain continuous measurements to verify the proper operation of each of the H₂S scrubbers.
 - b.
 - i. The Permittee shall keep a log of operating time for the capture system, control device, monitoring equipment and the associated emission units.
 - ii. The Permittee shall keep a maintenance log for the capture system, control device and monitoring equipment detailing all routine and non-routine maintenance performed including dates and duration of any outages.
 - c. At least 90 days in advance of any significant change to the monitoring program, the Permittee shall submit the proposed change to the Illinois EPA for review and comment.
- 2.1.8
- a. The Permittee shall keep operating records for the following items:
 - i. Carbon disulfide deliveries to the affected units (tons/month and tons/year).
 - ii. Production of viscose solution, lbs/batch.
 - iii. Number of batches, batches/day.
 - iv. Viscose mixture consumption for casing line 7A, and 8, pounds per day.
 - b. The Permittee shall keep records of the H₂S monitoring data collected pursuant to Condition 2.1.7.
 - i. Calculated daily VOM, H₂S and RSC emissions.
 - ii. Calculated monthly VOM, H₂S and RSC emissions.
 - c. The Permittee shall keep compliance records for the following items, with supporting calculations:
 - i. CS₂ emissions from casing lines 7A, and 8, lbs/day from daily production records.

- ii. Hourly H₂S emissions from the casing lines 7A, and 8, total calculated using daily production records.
 - d. The Permittee shall keep records of any exceedances of the limits established by this permit including date, time, duration, and the reason for the exceedance.
 - e. If there is an exceedance of the requirement of this permit as determined by the records required by this permit, the Permittee shall submit a report within 30 days after the exceedance. The report shall include a description of the exceedance, a copy of the relevant records, and measures to reduce future occurrences.
- 2.1.9
 - a. Records of testing shall be retained by the Permittee for at least 5 years following the date last relied upon for calculating emissions.
 - b. If not otherwise stated, records required by this permit shall be retained for at least three years following an event. All records shall be maintained at a readily accessible location at the plant, and be available for inspection and copying to representatives of the Illinois EPA during normal working and/or operating hours.
- 2.1.10
 - a. The Permittee shall develop a program to address odor complaints, either received directly from citizens or indirectly from the Illinois EPA. Each complaint shall be entered in a log with the complainant's name (if given), location (if known), the date and time, windspeed and direction, and general description of weather, i.e., temperature, and cloud condition.
 - b. The Permittee shall identify and investigate emission units which may be the cause of the odor complaint to determine the level of operation of the unit, the condition of the unit and any control system, and any indications whether or not the unit is contributing to the odor complaint. The results of this investigation shall also be recorded in a log. If any unit is identified as contributing to the complaint due to improper operation or malfunction, the Permittee shall also specify the actions taken to alleviate the immediate problem and remedial actions taken to prevent further occurrences.
 - c. The Permittee shall submit an annual report to the Illinois EPA's Field Operations Section in Collinsville of all complaints received during the previous year along with the specific information required by Condition 2.1.12.
- 2.1.11 With the Annual Report required by 35 Ill. Adm. Code 201.302 and Part 254; the Permittee shall also report the following information for this plant.

- a. Annual carbon disulfide emissions, with supporting data and calculations.
 - b. Annual hydrogen sulfide emissions, with supporting data and calculations.
 - c. A summary of the records required by Condition 2.1.8(d).
- 2.1.12 a. Two copies of reports and notifications required by this permit shall be sent to:
- Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276
- b. One copy of reports and notifications shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:
- Illinois Environmental Protection Agency
Division of Air Pollution Control
2009 Mall Street
Collinsville, Illinois 62234
- 2.1.13. a. In particular, this permit does not excuse the Permittee from the obligation to undertake further actions at the source as may be needed to eliminate air pollution, including nuisance due to odors, such as raising the height of stacks, using alternative scrubbant materials, installing back-up control systems or altering process conditions in emission units. Such action may become necessary or desirable following completion of the odor assessment for the machine 7A and 8 modified line.
- b. The issuance of this permit does not excuse the Permittee from taking actions, collecting information, and making submittals to the Illinois EPA as fit for the Permittee to make these demonstrations.

ATTACHMENT 1

The proposed project is subject to Prevention of Significant Deterioration (PSD), because it would entail a significant increase in VOM and RSC emissions as follows:

CS₂ Emissions (Tons/Year)

<u>Line</u>	<u>Current Actual¹</u>	<u>Future Allowed</u>	<u>Net Change Actual to Allowable</u>
7A	284	453	169
8	129	182	53
Fugitives	<u>10</u>	<u>11</u>	<u>1.0</u>
Total	423	646	223

VOM Emissions (Tons/Year)

<u>Line</u>	<u>Current Actual¹</u>	<u>Future Allowed</u>	<u>Net Change Actual to Allowable</u>
7A	284	453	169
8	129	182	53
Boilers	2.7	3.1	0.4
Fugitives	<u>10</u>	<u>11</u>	<u>1</u>
Total	426	649	223

H₂S Emissions (Tons/Year)

<u>Line</u>	<u>Current Actual¹</u>	<u>Future Allowed</u>	<u>Net Change Actual to Allowable</u>
7A	3.4	8.8	5.4
8	<u>2.6</u>	<u>4.9</u>	<u>2.3</u>
Total	6.0	13.7	7.7

Reduced Sulfur Compounds Emissions (Tons/Year)

<u>Line</u>	<u>Current Actual¹</u>	<u>Future Allowed</u>	<u>Net Change Actual to Allowable</u>
7A	287.4	461.8	175
8	131.	186.9	56
Fugitives	<u>9.6</u>	<u>11</u>	<u>1.4</u>
Total	428.0	660	232

¹ Includes demand growth emissions for Line 7A

SRS:psj