



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8
999 18TH STREET- SUITE 300
DENVER, CO 80202-2466
Phone 800-227-8917
<http://www.epa.gov/region08>

Ref: 8P-AR

MAY - 3 2006

Mr. Carl McKay
CEO and President
Sioux Manufacturing Corporation
P.O. Box 400
Fort Totten, ND 58335

Re: Prevention of Significant Deterioration
Final Permit
Sioux Manufacturing Corporation (SMC)
Kevlar Coating Facility
Permit # PSD-SLS-0001-05.00

Dear Mr. McKay:

This is regarding the Prevention of Significant Deterioration (PSD) permit for SMC's Kevlar Coating Facility. The public comment period for this permit action ended on May 1, 2006.

Based on our review of the permit application, the U.S. Environmental Protection Agency hereby issues a PSD permit for the Kevlar Coating Facility. Enclosed you will find the final permit and Statement of Basis. Please review each permit condition carefully and note any restrictions placed on this facility.

If you have any questions concerning the enclosed final permit or Statement of Basis, you may contact Kathleen Paser, of my staff, at (303) 312-6526.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen S. Tuber".

Stephen S. Tuber
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

Enclosures

cc: Dr. Dana T. Grow, R & D Manager, Sioux Manufacturing Corporation
Mr. Frank Blackcloud, Air Program Manager, Spirit Lake Tribe

United States Environmental Protection Agency
Region VIII
Air and Radiation Program
999 18th Street, Suite 300
Denver, Colorado 80202



Air Pollution Control
Prevention of Significant Deterioration (PSD)
Permit to Construct
Final

PSD- SLS-0001-05.00

May 2006

Sioux Manufacturing Corporation
Kevlar Coating Facility

Spirit Lake Nation
Benson County
Highway 57, Main Street
Fort Totten, North Dakota

I. Introduction

The Sioux Manufacturing Corporation (herein after **Athe Applicant@**) proposed to install state of the art emission control equipment on its existing fabric coating line and associated process units located at the Kevlar Coating Facility (herein after "the Source"). The coating facility is located in Benson County, North Dakota, which is situated on the Spirit Lake Indian Reservation.

On January 18, 2005, the Applicant requested that a PSD permit be issued by the U.S. Environmental Protection Agency, Region VIII (herein after **ÆEPA@**) for its Source pursuant to 40 CFR Section 52.21(i) (Review of Major Stationary Sources and Major Modifications). The application was deemed complete on January 18, 2005. An addendum to the application was received on September 1, 2005, providing additional technical information necessary to complete this action. The draft permit was made available for public comment from March 31, 2006 to May 1, 2006. No comments were received on the proposed permit.

II. Findings

On the basis of the information in the administrative record, EPA has determined that, through the adherence to this permit:

- A. The Applicant will meet all of the applicable requirements of the PSD regulations (40 CFR 52.21);
- B. No applicable emission standard, PSD increment, or national ambient air quality standard will be violated by the emissions from the Source; and
- C. The Applicant can comply with the conditions of this permit.

By issuing this permit, EPA does not assume any risk of loss which may occur as a result of the operation of the Source by the Applicant, if the conditions of this permit are not met by the Applicant.

III. Conditional Permit to Construct

A. General Information

Permit number: PSD-SLS-0001-05.00

AFS number: 038-005-00001

SIC Code and SIC Description: 2295 – Coated Fabrics, Not Rubberized; Manufacturing and finishing impregnated textiles; weaving, coating, molding, cutting, painting.

Site Location

Kevlar Coating Facility
Highway 57 Mainstreet
Fort Totten, ND58335

Corporate Office Location

Sioux Manufacturing Corporation
Highway 57 Mainstreet
Fort Totten, ND 58335

The equipment listed in this permit shall be operated by Sioux Manufacturing Corporation at the following location:

Sec 17, T152N, R65W
Spirit Lake Indian Reservation
Benson County

Description of Operations

SMC is a Kevlar coating facility owned and operated by the Spirit Lake Nation. The facility has been in operation since 1973 and has been producing items for the military for more than 25 years. SMC produces aircraft armor, body armor and ablative tile used to protect the missile launchers of US Navy cruisers and destroyers.

SMC operates a gravure surface coating line to coat fabrics such as Kevlar, S-2 Glass, and Spectra cloth. These fabrics are woven on Sulzer and Dornier Looms in widths from 21 to 130 inches. Annual production is in excess of 1,000,000 yards of cloth per year. Broad-goods up to 90 inches wide can be coated at a speed of up to 50 feet per minute. The gravure coating process is a two-station continuous process. Loading and unloading is accomplished on the fly with the use of festoons for accumulators at each end of the coating line. In the coating process, one side of the cloth is coated and dried in a gas-fired oven and is then coated again and dried in a second oven. The cloth is then brought to the front of the line and coated on the other side so that two passes are necessary to coat both sides. The second pass is then dried again. Solvent solutions are used for applying the phenolic resins toughened with polyvinyl butyral (PVB) to the fabric. The PVB/phenolic resin is mixed in a room adjacent to the line using isopropanol and methyl ethyl ketone (MEK) to solubilize the rubber phase and achieve the correct solids content. The resin is then pumped to tanks on the coating line with diaphragm pumps.

Emission capture with catalytic oxidation will control the VOC emissions from the entire coating operation (as defined in §63.4371), with an overall control efficiency of at least 97%. Emissions will be captured from the solvent storage areas, the mixing areas, the coating application areas, and the drying ovens. The captured vapors will be directed through two ovens and then to a catalytic oxidizer.

Capture techniques in the storage and mixing will be covers, vents, and hoods. Hoods and partial and total enclosures will be used in the coating application areas, flash-off areas, and to capture fugitive emissions from the opening and closing of the drying oven doors.

B. Approved Installation

The approved installation shall consist of the following equipment:

I.D.	VOC Control Equipment
	Emissions Capture System for surface coating line and associated equipment Capture System Bypass Line, Catalytic Oxidizer, and Continuous Parameter Monitoring System
VCE1	Installed 2006
I.D.	Surface Coating Line Heaters
	Two Maniflex heating ovens, model number MX-50P; Natural gas and propane fired; Maximum design heat input of 5.0 MMBtu/hr each.
SCL1	Installed August 1, 1984
SCL2	Installed August 1, 1984
I.D.	Surface Coating Line
	Menzel rotogravure applicator, model number 90 CR; Coating area; Hot air drying method with two heating ovens (SCL1, SCL2)
SCL3	Installed April 1, 1984
I.D.	Mixing Room
	Mixing Room for SCL3
MX1	Installed April 1, 1984
I.D.	Paint Booth
	DeVilbiss booth, serial number 1905; Used to coat composite Kevlar panels using hand sprayers; Air drying method (no ovens).
PB1	Installed March 1, 2003
I.D.	Zone Heaters
	4 - 2.4 MMBtu/hr, natural gas fired Marshal & Williams heaters. Zone heaters for the Dip Coating Line.
DCL1	Installed 1997
DCL2	Installed 1997
DCL3	Installed 1997
DCL4	Installed 1997

I.D.	Coating Line Air Make-up	
	6 - natural gas fired Flexair heaters for coating line air make-up unit.	
AM1	1.61 MMBtu/hr	Installed 1981
AM2	1.56 MMBtu/hr	Installed 1981
AM3	1.56 MMBtu/hr	Installed 1981
AM4	1.56 MMBtu/hr	Installed 1981
AM5	1.56 MMBtu/hr	Installed 1981
AM6	3.52 MMBtu/hr	Installed 1981
I.D.	Miscellaneous Heaters and Boilers	
AM1	0.7 MMBtu/hr, natural gas fired Columbia hot water boiler. Installed 1995	
PPB1	1.57 MMBtu/hr, natural gas fired Press boiler. Installed 1995	
DO1	1.00 MMBtu/hr, natural gas fired draping oven. Installed 1995.	
	2 - natural gas fired hot water heaters for pre-treating fabric.	
SJ1	0.20 MMBtu/hr	Installed 1988
SJ2	0.18 MMBtu/hr	Installed 1988
I.D.	Tanks	
PRO1	18,000 gallon pressurized horizontal propane tank. Installed 2003.	
ST1	6,000 gallon methyl ethyl ketone tank. Installed 2000.	
ST2	6,000 gallon isopropyl alcohol tank. Installed 2000.	

C. Control Requirements

1. To control VOC emissions from the coating operation (SCL1, SCL2, and SCL3), the applicant shall install a permanent total enclosure capture system (capture system), capture system bypass line (bypass line), catalytic oxidizer (oxidizer), and continuous parameter monitoring systems (CPMS).
2. The capture system shall enclose the areas where coating is applied to the substrate, and the captured VOC emissions shall be ducted directly into the dryers. The dryers shall in turn be ducted directly to the oxidizer.
3. The Applicant shall install a dedicated capture system bypass line with a valve or closure mechanism and monitor. The method used to monitor or secure the valve or closure mechanism must meet the requirements of §63.4364(b).
4. The capture system, oxidizer, and CPMS shall operate at all times that the coating line is operating.
5. The Applicant shall design the mixing room ventilation system so that emissions are ventilated to the oxidizer when coating line and oxidizer are operating.
6. Mixing operations shall be conducted during periods when the coating line and oxidizer are operating.

7. VOC emissions from the tanks (ST1 and ST2), mixing vessels, drums, and conveying and cleaning operations shall be minimized according to a "work practice plan" required by §63.4293(b).

D. Emission and Operational Limits

The following operating limits apply to the emission capture and control system:

1. The Applicant shall maintain an overall VOC control efficiency of the capture system and oxidizer of at least 97% for the coating operation (as defined in §63.4371).
2. All regulated materials used in the surface coating operations must be included when determining whether the VOC overall control efficiency is greater than or equal to the overall control efficiency limit, including all emissions diverted through the bypass line.
3. The oxidizer shall be operated with a minimum catalyst temperature (3-hour block average) established during the performance test.
4. The oxidizer shall be operated with a minimum temperature (3-hour block average) difference across the catalyst bed established during the performance test, or according to a site-specific inspection and maintenance plan for the oxidizer developed pursuant to §63.4363(b)(4).
5. At all times, including periods of startup, shutdown, and malfunction, all coating operations and equipment shall be maintained and operated in a manner consistent with good air pollution control practices for minimizing emissions.
6. The Applicant shall develop and implement a written start-up, shut-down, and malfunction plan according to the provisions in §63.6(e)(3).
7. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not be limited to monitoring results, review of operating and maintenance procedures, manufacturer=s specifications, industry practices, or inspection of the facility.

E. Work Practice and Work Practice Plan Requirements

1. The Applicant shall develop a "Work Practice Plan" to minimize VOC emissions from the tanks, vessels, drums, and convey and cleaning operations. The following units and operations will be subject to the work practice plan:
 - a) The outdoor solvent storage tanks (ST1 and ST2);
 - b) The mixing room mixing vessels and coating storage tanks (MX1);
 - c) Pipes used to convey coating and solvents;
 - d) Periodic cleaning of the coating line; and
 - e) Drums stored in the chemical room.

2. The "Work Practice Plan" shall include the following provisions:
 - a) All volatile organic material and waste materials will be stored in closed containers;
 - b) Spills of organic materials and waste materials will be minimized;
 - c) Volatile organic materials and waste materials will be conveyed from one location to another in closed containers or pipes;
 - d) The mixing vessels will be closed except when adding removing, or mixing the contents; and
 - e) Emissions will be minimized during cleaning of the coating, storage, mixing, and conveying equipment.
3. Bypass Line: All VOC emissions from the surface coating operations diverted from the oxidizer must be vented through a bypass line only. The Applicant must monitor or secure the bypass line valve or closure mechanism controlling the bypass line in a non-diverting position in such a way that the valve or closure mechanism cannot be opened without creating a record that the valve was opened.

F. MACT Requirements

In addition to the requirements of this permit, all the applicable provisions of 40 CFR part 63, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Categories apply as follows:

1. This facility is subject to the requirements of 40 CFR part 63, subpart A as outlined in Table 3 of 40 CFR 63, subpart OOOO. Notwithstanding conditions in this permit, the Applicant shall comply with all applicable requirements of 40 CFR part 63; and
2. This facility is subject to the requirements of 40 CFR part 63, subpart OOOO. Notwithstanding conditions in this permit, the Applicant shall comply with all applicable requirements of 40 CFR part 63, subpart OOOO.

G. Performance Testing Requirements

1. Upon completion of the installation and start-up of the emission capture systems, catalytic oxidizer, bypass system and CPMS, the Applicant shall conduct performance tests for the new systems to ensure proper operating parameters are established assuring that the system can meet the permitted level of VOC emission control.
2. The following EPA reference methods shall be used, unless alternative methods are approved by the Administrator:
 - a) Method 1 or 1A of appendix A to 40 CFR part 60, as appropriate to select sampling sites and velocity traverse points;
 - b) Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A to 40 CFR part 60, as appropriate to measure gas volumetric flow rate;
 - c) Method 3, 3A, or 3B of appendix A to 40 CFR part 60, as appropriate, for gas analysis to determine dry molecular weight;
 - d) Method 4 of appendix A to 40 CFR part 60 to determine stack gas moisture; and

- e) Method 25 or 25A of appendix A to 40 CFR part 60 to measure the volatile organic matter concentration as carbon at the inlet and outlet of the add-on control device simultaneously; Method 25 if the total gaseous organic concentration as carbon is expected to be more than 50 parts per million (ppm) at the control device outlet and Method 25A if the total gaseous organic concentration as carbon is expected to be 50 ppm or less at the control device outlet.
3. The Applicant shall establish the following control device operating parameters during the performance tests pursuant to §63.4363:
- a) Either:
 - (i) The minimum operating temperature at the inlet to the catalytic oxidizer and the temperature difference across the catalyst bed maintained during the performance test; or
 - (ii) Develop and implement an inspection and maintenance plan for the catalytic oxidizer to include annual sampling and analysis of the catalyst activity, monthly inspection of the oxidizer system, and annual internal and monthly external visual inspection of the catalyst bed; and
 - b) 100 percent capture efficiency of the emission capture system for the coating operation per §63.4363(a) using Method 204 to appendix M of 40 CFR part 51 criteria for Permanent Total Enclosure.
4. The Applicant shall provide EPA with a Testing Protocol within ninety (90) calendar days of the effective date of this permit. The Testing Protocol shall be approved by EPA prior to commencement of testing by the Applicant.
5. Initial compliance testing is required. Initial compliance with the emission limits in III.D. shall be determined by emission tests to be performed within 90 calendar days of EPA's approval of a Testing Protocol, unless a longer timeframe is agreed upon by the Applicant and EPA.
6. Continuing compliance with emission limits may be determined by emission tests, when required by EPA. The Testing Protocol approved by EPA and used for the initial compliance tests shall be used by the Applicant during any emission tests, unless the Applicant chooses to use a different Testing Protocol. Any other Testing Protocols, not approved by EPA, must be submitted to EPA for approval prior to performing emissions tests.

H. Monitoring Requirements

- 1. Continuous Parameter Monitoring Systems (CPMS): The Applicant shall install, operate, and maintain CPMSs for the capture system, the capture system bypass line, and the oxidizer. CPMS operation and maintenance must meet the criteria outlined below:

- a) Each CPMS must complete a minimum of one cycle of operation for each successive 15-minute period, and provide a minimum of four equally spaced successive cycles of operation to have a valid hour of data.
- b) Each CPMS must provide valid data from at least 90 percent of the hours during which the coating line operates.
- c) Each CPMS must provide the hourly average of all recorded readings according to following:
 - i. A valid hourly value must have at three of four equally spaced data values from that hour from a continuous monitoring system that is not out-of-control; and
 - ii. Provided all of the readings recorded in accordance with H.1.c) of this section clearly demonstrate continuous compliance with the standard that applies, the Applicant is not required to determine the hourly average of all recorded readings.
- d) The Applicant must determine the rolling 3-hour average of all recorded readings for each operating period. To calculate the average for each 3-hour averaging period, the Applicant must have at least two of the three of the hourly averages for that period using only average values that are based on valid data (i.e. not from out-of-control periods).
- e) The Applicant must record the result of each inspection, calibration, and validation check of each CPMS.
- f) At all times, the Applicant must maintain the monitoring system in proper working order including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
- g) Except for monitoring malfunctions, associated repairs, or required quality assurance or control activities (including calibration checks or required zero and span adjustments), the Applicant must conduct all monitoring at all times that the coating line is operating.

2. Capture System Monitoring: The Applicant shall develop and submit a site-specific monitoring plan to the Administrator that identifies operating parameters to be monitored to ensure 100% capture efficiency of the emission capture system for the coating operation as defined in §63.436.(a). The plan shall specify the operating parameter value or range of values that demonstrate compliance with emission limit requirements of this permit.

- a) The monitoring plan must identify the operating parameters to be monitored to ensure that the capture efficiency determined during the performance test is maintained;
- b) The monitoring plan must explain why the identified parameters are appropriate for demonstrating ongoing compliance;
- c) The monitoring plan must identify the specific monitoring procedures;
- d) The Applicant must conduct all capture system monitoring in accordance with the plan; and
- e) The Applicant must review and update the capture system monitoring plan at least annually.

3. Capture System Bypass Line Monitoring: The Applicant shall monitor the bypass line as follows:
 - a) Establish the method used to monitor or secure the valve or closure mechanism on the bypass line, pursuant to the options established in §63.4364(b), by the initial performance test date and submit the information to EPA on the method and the CPMS to be used in conjunction with the operation of the bypass line with the performance test results;
 - b) Maintain the monitoring and/or closure mechanism in proper working order including, but not limited to maintaining necessary parts for routine repairs of the monitoring equipment;
 - c) Record the results of each inspection, calibration, and validation check of the monitor system, closure mechanism and CPMS;
 - d) Report as a deviation, anytime the bypass line is opened and emissions are diverted to the atmosphere when the coating line is running; and
 - e) Calculate emissions that occur while the coating line is operating and the bypass line is open as if the coating line were completely uncontrolled for that period of time.

4. Oxidizer Monitoring:
 - a) The Applicant shall install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must be capable of monitoring temperature with an accuracy of ± 1 percent of the temperature being monitored in degrees Celsius or \pm degrees Celsius, whichever is greater. The thermocouple or temperature sensor must be installed in the vent stream at the nearest feasible point to the inlet and outlet of the catalyst bed.
 - b) The Applicant shall install, calibrate, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications. The calibration of the chart recorder, data logger, or temperature indicator must be verified every 3 months or the chart recorder, data logger, or temperature indicator must be replaced.

I. Record Keeping Requirements

1. The Applicant shall keep a record of any excess emissions that occur during periods of start-up, shut-down, equipment malfunction, or upset conditions, for any reason. Malfunction is defined as any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

2. All records, reports, notifications, and support information (i.e. testing, monitoring, measurements, observations, maintenance activities, etc.) compiled in accordance with this permit must be maintained by the Applicant as a permanent business record for at least five (5) years following the date of the record/report, must be available at the Applicant's nearest regularly manned facility for inspection by EPA, and must be submitted to EPA upon request.

J. Reporting Requirements

1. The Applicant shall submit a written report of the initial compliance test results and for any compliance tests required by EPA, thereafter. The emissions test reports shall be submitted to EPA 90 days after tests are completed.
2. The Applicant shall submit a written report containing the emissions and operational monitoring results required by condition III.H semi-annually to EPA by October 1 and April 1 of each year. Upon issuance of a Title V permit, the Applicant may include this report with the semi-annual monitoring reports required under 40 CFR part 71.
3. For each occurrence of excess emissions, all of the following shall be provided to EPA in writing and submitted with the semi-annual reports referenced in condition III.J.2:
 - a) The identity of the stack or emission point where excess emissions occurred;
 - b) The magnitude of excess emissions expressed in terms of permit conditions;
 - c) The time and duration of excess emission; and
 - d) The reason(s) for the excess emissions;
 - e) Steps and procedures taken to minimize excess emissions;
 - f) Steps and procedures taken or anticipated to be taken to prevent reoccurrence of the excess emissions.
4. Even if the reporting and other requirements of this section are satisfied, the Source will be considered to be in violation of the permit if EPA determines that the information submitted does not show evidence of a malfunction, upset condition, start-up, or shut-down and the Source exceeded the emission limits or operational restrictions in conditions III.C through III.E.
5. The Applicant shall send all required notifications and reports to:

Program Director
Air and Radiation Program (8P-AR)
U.S. EPA, Region 8
999 18th Street, Suite 300
Denver, CO 80202-2466

K. Title V Permitting Requirements

1. Within twelve (12) months after commencing operation of the Source, the Applicant shall submit an application for a Title V Permit to Operate in accordance with 40 CFR 71.
2. This Permit to Construct allows the construction and initial operation of the modification to the Source. The Source may operate under this Permit to Construct until the Title V Permit to Operate is issued unless this permit is suspended or revoked. The Source is subject to all applicable Federal, State, and Tribal rules, regulations, and orders now or hereafter in effect.

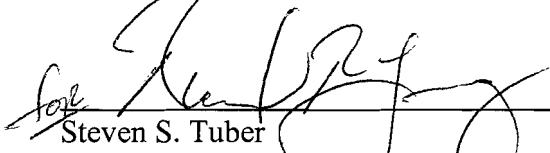
IV. General Conditions

On the basis of the findings set forth in Section II above, and pursuant to the authority (as delegated by the Administrator) of 40 CFR 52.21(u), EPA hereby conditionally authorizes the Sioux Manufacturing Corporation to construct the modifications to the Kevlar Coating Facility. This authorization is expressly conditioned as follows:

- A. The Applicant shall abide by all representations, statements of intent and agreements contained in the application submitted by the Sioux Manufacturing Corporation. EPA shall be notified ten (10) days in advance of any significant deviation from the permit application as well as any plans, specifications or supporting data furnished. The issuance of this Permit to the Applicant may be suspended or revoked if EPA determines that a significant deviation from the permit application, specifications, and supporting data furnished has been or is to be made.
- B. The Applicant shall take all reasonable precautions to prevent and or minimize fugitive emissions during the construction period.
- C. The Applicant shall submit a notification of the anticipated date of initial start-up of the Source to EPA not more than 60 days nor less than 15 days prior to such date. A notification of the actual date of initial start-up shall be submitted with 15 days after such date.
- D. Nothing in this authorization shall excuse the Applicant, the owner and/or the operator from complying with all other applicable Federal, Tribal, and State regulations.
- E. Permit Transfers shall be made in accordance with 40 CFR part 122, subpart D. The Air Program Director shall be notified in writing if the company is sold or changes its name.
- F. EPA or its authorized representatives may inspect the Source during normal business hours for the purpose of ascertaining compliance with all conditions of this permit.
- G. At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements or paragraphs (j) through (s) of 40 CFR 52.21 shall apply to the source or modification as though construction had not yet commenced on the source or modification.
- H. Approval to construct shall become invalid if construction is not commenced within 18 months after receipt of such approval, if construction is discontinued for a period of 18 months or more, or if construction is not completed within a reasonable time. The Administrator may extend the 18-month period upon a satisfactory showing that an extension is justified. This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within 18 months of the projected and approved commencement date.
- I. This permit is issued in reliance upon the accuracy and completeness of the information set forth in the Applicant's application and its addendums to EPA. On the effective date of this

permit, the conditions herein become enforceable by EPA pursuant to any remedies it now has or may have in the future, under the Clean Air Act. Each and every condition of this permit is a material part thereof, and is not severable. This permit is effective thirty (30) days after receipt of the permit, unless the Applicant notifies this Regional Office, in writing, that this permit or a term or condition of it is rejected. Such notice should be made within thirty days of receipt of the permit, should include the reason or reasons for rejection and should be sent to Air Program Director at the address shown in Section III.G. of this permit.

Authorized By: United States Environmental Protection Agency, Region VIII



Steven S. Tuber
Assistant Regional Administrator
Office of Partnerships and Regulatory Assistance

Date:

MAY - 3 2006

**Air Pollution Control
40 CFR 52.21(i)
Prevention of Significant Deterioration Permit to Construct
May 2006**



**Sioux Manufacturing Corporation
Kevlar Coating Facility
Spirit Lake Indian Reservation
Benson County, North Dakota**

Statement of Basis for Permit No. PSD-SLS-0001-05.00

In accordance with requirements at 40 CFR 124.7, the Environmental Protection Agency (EPA) has prepared this Statement of Basis describing the issuance of a Prevention of Significant Deterioration (PSD) permit to the Sioux Manufacturing Corporation (SMC). This Statement of Basis discusses the background and analysis of the PSD permit for the Kevlar Coating Facility, and presents information that is germane to this permit action.

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I. Introduction

SMC is a textile fabric coating facility located in Fort Totten, North Dakota, within the Spirit Lake Indian Reservation. The facility is owned and operated by the Spirit Lake Nation. SMC operates a Kevlar coating line at this facility. The potential emissions of volatile organic compound (VOC) emissions of more than 250 tons per year (tpy) requires this PSD review. The purpose of this permit action is to establish emission limits and operational requirements ensuring compliance with the National Ambient Air Quality Standards (NAAQS), the applicable PSD air quality increments, and the requirement to apply Best Available Control Technology (BACT) to minimize emissions of air pollutants.

II. Authority

40 CFR 52.21, Prevention of Significant Deterioration (PSD): Requirements under ' 52.21 to obtain a Federal PSD preconstruction permit apply to construction of new major stationary sources (A_{major} as defined in ' 52.21), as well as to major modifications of existing major stationary sources (A_{major modification} as defined in ' 52.21). EPA is charged with direct implementation of these provisions where there is no approved State or Tribal implementation plan for implementation of the PSD regulations. Pursuant to section 301(d)(4) of the Clean Air Act (42 U. S. C. ' 7601(d)), EPA is authorized to implement the PSD regulations at ' 52.21 in Indian country. SMC is located approximately 100 miles west of Grand Forks and 140 miles northwest of Fargo, in Benson County, North Dakota, within the exterior boundaries of the Spirit Lake Indian Reservation.

40 CFR 124, Procedures for Decision Making: Federal administrative permitting standards at 40 CFR part 124, *Procedures for Decision Making*, provide requirements for several environmental permit programs, including the PSD program. General administrative procedures are codified in this part, including those that relate to the PSD program. EPA PSD permit actions, such as issuing, modifying, reissuing, or terminating permits, are addressed in 40 CFR 124.1, subpart A, *General Program Requirements*. Part 124 also includes requirements that pertain to draft permits, Statement of Basis=, Fact Sheets, public notices of permit actions and public comment periods, public comments and requests for public hearings, public hearings, and appeals of the PSD permit decision. Requirements in part 124, that provide for public review and involvement in this proposed action, shall be used by EPA in its decision making.

III. Public Notice

Public notice for this proposed PSD permit was published in the Devils Lake Journal. The public notice period was from March 31, 2006 to May 1, 2006. States, Tribes, local governmental agencies, the public, and SMC could comment on the proposed PSD permit during the public notice period. Organizations or persons wishing to comment on this proposed permit were instructed to send written comments no later than May 1, 2006, to:

Permit Contact: Kathleen Paser
U.S. EPA Region 8
Air and Radiation Program
999 18th Street, Suite 300 (8P-AR)
Denver, CO 80202
email: paser.kathleen@EPA.gov
Fax: 303-312-6064

States, Tribes, local governmental agencies, and the public could review a copy of the application, analysis, and proposed permit prepared by EPA. Copies of these documents were available at:

Benson County Clerk=s Office
Benson County Court House
311 B Avenue South
Minnewaukan, ND 58351

and

Spirit Lake Tribe
Environmental Programs Office
816 3rd Avenue North
Fort Totten, ND 58335

and

U.S. EPA Region 8
Air And Radiation Program Office
999 18th Street, Suite 300 (8P-AR)
Denver, Colorado 80202-2466

All documents were available for review at the U.S. EPA Region 8 office Monday through Friday from 8:00 a.m. to 4:00 p.m. (excluding federal holidays).

Any interested person could submit written comments on the proposed PSD permit during the public comment period to the Permit Contact at the US EPA Region 8 address listed above. All comments were considered and answered by EPA in making the final decision on the permit. EPA shall keep a record of the commenters and of the issues raised during the public participation process. No comments were received on the proposed action.

Anyone, including the applicant, who believed any condition of the proposed permit was inappropriate must have raise all reasonable ascertainable issues and submit all arguments supporting their position by the close of the public comment period. Any supporting materials submitted must have been included in full and could not be incorporated by reference, unless the material was already submitted as part of the administrative record in the same proceeding or consisted of State or Federal statutes and regulations, EPA documents of general applicability, or other generally available reference material.

This permit represents an Agency action to issue a Federal PSD permit to SMC for the Kevlar Coating Facility, under Title I, part A, *Air quality Emission Limitations*, and part C, *Prevention of Significant Deterioration of Air Quality*, of the Clean Air Act, as amended. For completeness, this Statement of Basis should be read in conjunction with the PSD permit.

EPA did not plan to hold a public hearing on the proposed permit unless requested in writing by a commenter. A request for a public hearing should meet the requirements at ' 124.11, *Public Comments and Requests for Public Hearings*. The request should state the reasons for the need for a public hearing. No request for a public hearing was received.

This permit will become effective immediately upon issuance since no comments requested a change in the proposed permit, in accordance with requirements at ' 124.15, *Issuance and Effective Date of Permit*. If changes were requested, the permit would have become effective thirty days after a final Agency decision. An appeal of the final permit decision may be made by any person, including the permittee, who filed comments on the proposed permit in accordance with requirements at ' 124.19, *Appeal of RCRA, UIC, and PSD Permits*.

IV. Description of the Source

A. Source Definition

The Kevlar Coating Facility=s Standard Industrial Classification code for normal operations is 2295, ACoated Fabrics, Not Rubberized.@ Such establishments are primarily engaged in manufacturing coated, impregnated, or laminated textiles, and in the special finishing of textiles, such as varnishing and waxing. The Kevlar Coating Facility is not considered one of the 28 listed source categories. Therefore, the potential-to-emit (PTE) threshold for determining whether this source is a major stationary source is 250 tons per year (tpy).

B. Facility Location

Sioux Manufacturing Corporation (SMC), owned and operated by the Spirit Lake Nation is located in Benson County in northeastern North Dakota, within the Spirit Lake Indian Reservation. The plant mailing address is:

Sioux Manufacturing Corporation
P.O. Box 400
Fort Totten, ND 58335

C. Contacts

Facility contact: Mr. Dana Grow, Ph.D., Manager, Research and Development
Sioux Manufacturing Corporation
P.O. Box 400
Fort Totten, ND 58335
701-766-4211

Responsible official: Mr. Carl McKay, CEO and President
Sioux Manufacturing Corporation
P.O. Box 400
Fort Totten, ND 58335
701-766-4211

D. Coating Line Process Description and PSD Applicability

SMC is a Kevlar coating facility owned and operated by the Spirit Lake Nation. The facility has been in operation since 1973 and has been producing items for the military for over 25 years. For approximately the first 15 years, the primary product was camouflage netting systems. Later contracts included production of bulletproof helmets for the Army and bulletproof spall liners for military vehicles. SMC now also produces aircraft armor, body armor and ablative tile used to protect the missile launchers of US Navy cruisers and destroyers.

In 1984, SMC added a gravure surface coating line to coat fabrics such as Kevlar, S-2 Glass, and Spectra cloth. These fabrics are woven on Sulzer and Dornier Looms in widths from 21 to 130 inches. Annual production is in excess of 1,000,000 yards of cloth per year. Broad-goods up to 90 inches wide can be coated at a speed of up to 50 feet per minute. The gravure coating process is a two-station continuous process. Loading and unloading is accomplished on the fly with the use of festoons for accumulators at each end of the coating line. In the coating process, one side of the cloth is coated and dried in a gas-fired oven and is then coated again and dried in a second oven. The cloth is then brought to the front of the line and coated on the other side so that two passes are necessary to coat both sides. The second pass is then dried again. Solvent solutions are used for applying the phenolic resins toughened with polyvinyl butyral (PVB) to the fabric.

The PVB/phenolic resin is mixed in a room adjacent to the line using isopropanol and methyl ethyl ketone (MEK) to solubilize the rubber phase and achieve the correct solids content. The resin is then pumped to tanks on the coating line with diaphragm pumps.

E. Emission Units at the Kevlar Coating Facility

I.D.	Surface Coating Line Heaters
SCL1 SCL2	Two Maniflex heating ovens, model number MX-50P; Natural gas and propane fired; Maximum design heat input of 5.0 MMBtu/hr each. Installed August 1, 1984 Installed August 1, 1984
I.D.	Surface Coating Line
SCL3	Menzel rotogravure applicator, model number 90 CR; Coating area; Hot air drying method with two heating ovens (SCL1, SCL2) Installed April 1, 1984
I.D.	Mixing Room
MX1	Mixing room for SCL3 Installed April 1, 1984
I.D.	Paint Booth
PB1	DeVilbiss booth, serial number 1905; Used to coat composite Kevlar panels using hand sprayers; Air drying method (no ovens). Installed March 1, 2003

I.D.	Zone Heaters	
	4 - 2.4 MMBtu/hr, natural gas fired Marshal & Williams heaters. Zone heaters for the Dip Coating Line.	
DCL1	Installed 1997	
DCL2	Installed 1997	
DCL3	Installed 1997	
DCL4	Installed 1997	
I.D.	Coating Line Air Make-up	
	6 - natural gas fired Flexair heaters for coating line air make-up unit.	
AM1	1.61 MMBtu/hr	Installed 1981
AM2	1.56 MMBtu/hr	Installed 1981
AM3	1.56 MMBtu/hr	Installed 1981
AM4	1.56 MMBtu/hr	Installed 1981
AM5	1.56 MMBtu/hr	Installed 1981
AM6	3.52 MMBtu/hr	Installed 1981
I.D.	Miscellaneous Heaters and Boilers	
AM1	0.7 MMBtu/hr, natural gas fired Columbia hot water boiler. Installed 1995	
PPB1	1.57 MMBtu/hr, natural gas fired Press boiler. Installed 1995	
DO1	1.00 MMBtu/hr, natural gas fired draping oven. Installed 1995.	
	2 - natural gas fired hot water heaters for pre-treating fabric.	
SJ1	0.20 MMBtu/hr	Installed 1988
SJ2	0.18 MMBtu/hr	Installed 1988
I.D.	Tanks	
PRO1	18,000 gallon pressurized horizontal propane tank. Installed 2003.	
ST1	6,000 gallon methyl ethyl ketone tank. Installed 2000.	
ST2	6,000 gallon isopropyl alcohol tank. Installed 2000.	

F. Potential to Emit

The majority of the emissions at the facility come from the coating line operations which include the mixing room, the surface coating line and the drying ovens. The VOC and combustion emissions from each drying oven are merged and vented through two stacks (one stack for each station/drying oven of the surface coating line).

The potential to emit for each pollutant was computed using the mode with the most emissions (worst case scenario). The worst case scenario for one pollutant is not necessarily the worst case scenario for another pollutant.

The uncontrolled potential to emit for the facility as a whole is as follows:

nitrogen oxides (NO _x) - 15 tpy	lead - neg.
carbon monoxide (CO) - 12 tpy	sulfur dioxide (SO ₂) - neg.
volatile organic compounds (VOC) - 634 tpy	total hazardous air pollutants (HAPs) - 39 tpy
particulates (PM) - 1 tpy	largest single HAP (Methyl Alcohol) - 26 tpy

V. Permitting and Construction History

SMC has operated as a minor source under the North Dakota Department of Health (NDDH) permit to operate rules. Upon promulgation of the Federal Title V Operating Permit Program under 40 CFR Part 71, SMC submitted an application for a Title V Operating Permit. During EPA review of the applicability of Federal requirements while drafting the part 71 permit, the applicability of the PSD rules to SMC's Kevlar coating lines was discovered. SMC began working with the Spirit Lake Tribe EPA, U.S. EPA Region 8, and SMC's technical contractors to identify and implement the PSD requirements. In this PSD permitting action, EPA Region 8 provided compliance assistance to bring SMC into compliance with all applicable requirements under the PSD rules. Compliance required the installation of emission control equipment on the surface coating line to control VOC emissions.

The following table provides a detailed analysis of the PTE of the facility through the progression of the various construction projects.

SMC Construction History

Construction Time line	Emitting Units	Estimated Potential Emissions in tons per year											Total HAPS
		NOx	SO ₂	CO	PM	Lead	VOC	MIBK* ^a	Xylene*	Methyl Alcohol*	Phenol*	Other HAPs (b - see list below)	
1973 - 1983 Production was solely devoted to camouflage netting systems.													
1973 - Installation of Paint Booth	PB1	0.00	0.00	0.0	0.00	0.00	4.45	1.90	0.12	0.00	0.00	0.13	2.15
1973 Total		0.00	0.00	0.0	0.00	0.00	4.45	1.90	0.12	0.00	0.00	0.13	2.15
Cumulative Total		0.00	0.00	0.0	0.00	0.00	4.45	1.90	0.12	0.00	0.00	0.13	2.15
1981 Began development of helmet production.													
1981 - Installed Air Make-up Handlers	AM1	0.69	0.00	0.58	0.05	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.01
	AM2	0.67	0.00	0.56	0.05	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.01
1981 - Installed Press Boiler	AM3	0.67	0.00	0.56	0.05	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.01
	AM4	0.67	0.00	0.56	0.05	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.01
	AM5	0.67	0.00	0.56	0.05	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.01
	PPB1	0.67	0.00	0.57	0.05	0.00	0.04	0.00	0.00	0.00	0.00	0.01	0.01
1981 Total		4.04	0.00	3.39	0.30	0.00	0.24	0.00	0.00	0.00	0.00	0.06	0.06
Cumulative Total		4.04	0.00	3.39	0.30	0.00	4.69	1.90	0.12	0.00	0.00	0.19	2.21
1986 Began production of Spall Liners (no capital expenditure to surface coating line).													
1984 - Installed Weaving Equipment	SCL1-drying oven	2.15	0.01	1.80	0.16	0.00	0.12	0.00	0.00	0.00	0.00	0.04	0.04
	SCL2-drying oven	2.15	0.01	1.80	0.16	0.00	0.12	0.00	0.00	0.00	0.00	0.04	0.04
1984 - Installed Surface Coating Line	SCL3-dip tanks, flash off, mixing room stacks (MX1)	0.00	0.00	0.00	0.00	0.00	628.55	0.00	0.00	25.77	9.82	0.98	36.57
Note: VOC and HAP Emissions due to solvents from the tanks, the mixing room, and the drying ovens included in SCL3	ST1- MEK Tank	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	ST2- IPA Tank	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Weaving Equip	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

SMC Construction History

Construction Time line	Emitting Units	Estimated Potential Emissions in tons per year											
		NOx	SO ₂	CO	PM	Lead	VOC	MIBK* ^a	Xylene*	Methyl Alcohol*	Phenol*	Other HAPs (b - see list below)	Total HAPS
1984 Total		4.30	0.02	3.60	0.32	0.00	628.79	0.00	0.00	25.77	9.82	1.06	36.65
Cumulative Total		8.34	0.02	6.99	0.62	0.00	633.48	1.90	0.12	25.77	9.82	1.25	38.86
1986 - Increased production (no capital expenditures)													
1986 - Installed Production Press	SJ1	0.09	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1986 - Installed Scouring Jig Hot water Heaters	SJ2	0.08	0.00	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1986 - Installed Air Make-up handler	AM6	1.51	0.01	1.27	0.11	0.00	0.08	0.00	0.00	0.00	0.00	0.01	0.03
1986 Total		1.68	0.01	1.39	0.13	0.00	0.08	0.00	0.00	0.00	0.00	0.01	0.03
Cumulative Total		10.02	0.03	8.38	0.75	0.00	633.56	1.90	0.12	25.77	9.82	1.26	38.89
1990 - Installed 2 electric Autoclaves for advanced composite work	not emission units	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1990 Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cumulative Total		10.02	0.03	8.38	0.75	0.00	633.56	1.90	0.12	25.77	9.82	1.26	38.89
1991 Development of dip coating line (Fabric cleaning prior to surface coating. No solvent based emissions).													
1995 - Installed Draping Oven	DO1	0.43	0.00	0.36	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.01
1995 - Installed Hot water Heater	A/1	0.30	0.00	0.25	0.02	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.01
1995 Total		0.73	0.00	0.61	0.05	0.00	0.04	0.00	0.00	0.00	0.00	0.02	0.02
Cumulative Total		10.75	0.02	8.99	0.80	0.00	633.60	1.90	0.12	25.77	9.82	1.28	38.91
1997 Dip coating line made operational for waterproofing (no solvent based emissions).													

SMC Construction History													
Construction Time line	Emitting Units	Estimated Potential Emissions in tons per year											
		* Hazardous Air Pollutant											
		NOx	SO ₂	CO	PM	Lead	VOC	MIBK ^a	Xylene*	Methyl Alcohol*	Phenol*	Other HAPs (b - sec list below)	Total HAPS
1997 - Installed 4 drying ovens on Dip Coating Line to dry water washed fabric	DCL1	1.03	0.01	0.87	0.08	0.00	0.06	0.00	0.00	0.00	0.00	0.02	0.02
	DCL2	1.03	0.01	0.87	0.08	0.00	0.06	0.00	0.00	0.00	0.00	0.02	0.02
	DCL3	1.03	0.01	0.87	0.08	0.00	0.06	0.00	0.00	0.00	0.00	0.02	0.02
	DCL4	1.03	0.01	0.87	0.08	0.00	0.06	0.00	0.00	0.00	0.00	0.02	0.02
1997 Total		4.12	0.04	3.48	0.32	0.00	0.24	0.00	0.00	0.00	0.00	0.08	0.08
	Cumulative Total	14.87	0.06	12.47	1.12	0.00	633.84	1.90	0.12	25.77	9.82	1.36	38.99
2000 Replaced underground solvent storage tanks.													
2000 - Replaced 5000 gal MEK storage tank	ST1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000 - Replaced 5000 gal IPA storage tank	ST2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Assuming emissions are the same as the original tanks													
2000 Total		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Cumulative Total	14.87	0.06	12.47	1.12	0.00	633.84	1.90	0.12	25.77	9.82	1.36	38.99
2006 Installation of an emission capture system and catalytic oxidizer for the coating line													
2006 Installed emission control equipment. At least 97% reduction of VOCs.	VCE1	0.00	0.00	0.00	0.00	0.00	-609.69	0.00	0.00	-25.00	-9.53	-0.95	-37.82
2006 Total		0.00	0.00	0.00	0.00	0.00	-609.69	0.00	0.00	-25.00	-9.53	-0.95	-35.47
	Cumulative Total	14.87	0.06	12.47	1.12	0.00	24.15	1.90	0.12	0.77	0.29	1.27	3.52

a- MIBK is methyl isobutyl ketone.

b- Other HAPs include: formaldehyde, toluene, ethyl benzene, 2-methylnaphthalene, 3-methylchloranthrene, 7,12-dimethylbenz(a)anthracene, acenaphthene, acenaphthylene, anthracene, benz(a)anthracene, benzene, benzp(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perlene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, dichlorobenzene, fluoranthene, fluorene, hexane, indeno(1,2,3cd)pyrene, naphthalene, phenanthrene, pyrene.

VI. Description of this Permitting Action

EPA evaluated the 1984 modification and the applicability of the PSD program and determined that PSD applied at the time the modification occurred, for VOC emission increases. SMC submitted a PSD permit application on January 24, 2005, proposing to control those VOC emissions. The application was determined to be complete by EPA on February 25, 2005.

The purpose of this permit action is to establish emission limits and operational requirements to ensure SMC is in compliance with the National Ambient Air Quality Standards (NAAQS), the applicable PSD air quality increments, and the requirement to apply Best Available Control Technology (BACT) to minimize emissions of air pollutants.

VII. Maximum Available Control Technology (MACT) Requirements

40 CFR Part 63, Subpart OOOO: National Emission Standards for Hazardous Air Pollutants (NESHAP) from Printing, Coating, and Dyeing of Fabrics and Other Textiles (Coatings MACT) applies to SMC because SMC is an existing major HAP fabric coating facility. This subpart was promulgated on May 29, 2003 (68 FR 32189) and applies to any new, reconstructed, or existing facility that is a major source and engages in printing, coating, slashing, dyeing or finishing of fabrics or other textiles.

The affected sources under the MACT provision are the collection of all web-coating equipment used to apply cleaning materials to a substrate to prepare it for coating material application, to apply coating materials to a substrate and to dry or cure the coating materials after application by exposure to heat or radiation, or to clean coating operation equipment. Also affected are all storage containers and mixing vessels in which regulated materials are stored or mixed and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation. In addition, all manual and automated equipment, structures, and devices used to convey, treat, or dispose of wastewater streams or residuals are affected.

The control requirements of this rule have been considered in the BACT evaluation. The HAP emission limit options for existing affected coating sources are:

1. A 97% overall control efficiency limit (this includes both the capture efficiency and the add-on control efficiency); or
2. 0.12 lb organic HAP per lb of coating solids used during each monthly compliance period; or
3. If using an oxidizer to control organic HAP emissions, operate the oxidizer such that an outlet organic HAP concentration of no greater than 20 parts per million by volume (ppmv) on a dry basis is achieved and the efficiency of the capture system is 100%.

VIII. New Source Performance Standard (NSPS) Requirements

Standards of Performance for Polymeric Coating of Supporting Substrate Facilities at 40 CFR part 60, subpart VVV, applies to any affected facility for which construction, modification, or reconstruction begins after April 30, 1987. This rule applies to web coating facilities that apply elastomer or other polymeric material onto a supporting substrate. Typical substrates include: woven, knit, and non-woven textiles, fiberglass, yarn, and cord. Examples of polymeric coatings are natural and synthetic rubber,

urethane, polyvinyl chloride, acrylic, epoxy, silicone, phenolic resins, and nitrocellulose. The affected facilities include each coating operation and any onsite coating mix preparation equipment used to prepare coatings for the polymeric coating of supporting substrates.

While SMC is an affected facility with respect to this rule, this standard does not apply as no construction or modification has commenced after April 30, 1987. However, the requirements of this rule have been considered in the BACT evaluation. The rule requires a total enclosure around the coating operation and venting the captured VOC emissions to a control device that is at least 95% efficient, or reduce VOC emission to the atmosphere from the coating operation by at least 90%.

IX. Best Available Control Technology (BACT) Review

A. Introduction¹

The main pollutants of concern with the installation of the surface coating line are the emissions of VOCs and hazardous air pollutants (HAPs). VOC pollutants are of regulatory concern primarily because of their role in the atmospheric formation of ozone, a criteria pollutant. As a result, VOC emissions are regulated by PSD and New Source Performance Standards (NSPS). HAP emissions are regulated by NESHAP standards. No other pollutants regulation by the PSD program are expected to be emitted from the facility in significant amounts.

The primary source of VOC and HAP emissions from the facility is the coating operation which consists of the coating preparation equipment, the coating application and flash-off area, and the drying ovens. Emissions from the solvent storage tanks and the cleanup area are normally only a small percentage of the total. In the mixing area, VOCs and HAPs are emitted from the individual mixers and holding tanks during the following operations: filling of mixers, transfer of the coating, intermittent activities such as changing the filters in the holding tanks, and mixing. The factors affecting emissions in the mixing area include tank size, number of tanks, solvent vapor pressure, throughput, and the design and performance of tank covers. Emissions from the coating application area result from the evaporation of solvent around the coating application equipment during the application process and from the exposed substrate as it travels from the coater to the drying oven entrance (flash-off).

The factors affecting emissions are the solvent content of the coating, line width and speed, coating thickness, volatility of the solvents, temperature, distance between the coater and oven, and air turbulence in the coating area. Emissions from the drying oven result from the fraction of the remaining solvent that is driven off in the oven. The factors affecting uncontrolled emissions are the solvent content of the coating and the amount of solvent retained in the finished product.

Fugitive emissions due to the opening of oven doors also may be significant in some operations. Some plasticizers and reaction byproducts may be emitted if the coating is subsequently cured or vulcanized. However, emissions from the curing or vulcanizing of the coating are usually negligible

¹ Discussion adapted from AP-42, Fifth Edition, Volume 1, Chapter 4: Evaporation Loss Sources, Section 4.2.2.7: Polymeric Coating Of Supporting Substrates

compared to the total emissions from the operation. Solvent type and quantity are the common factors affecting emissions from all the operations in a polymeric coating facility. The rate of evaporation or drying is dependent upon solvent vapor pressure at a given temperature and concentration. The most commonly used organic solvents are toluene, dimethyl formamide (DMF), acetone, methyl ethyl ketone (MEK), isopropyl alcohol, xylene, and ethyl acetate. Factors affecting solvent selection are cost, solvency, toxicity, availability, desired rate of evaporation, ease of use after solvent recovery, and compatibility with solvent recovery equipment. SMC solvent selection is also affected by military specifications on the products it produces.

BACT will be employed on the coating operations for VOC emissions. However, the control technologies used to control emissions of VOCs are generally the same type of technology used to control toxic air pollutant emissions. Therefore, the application of BACT for VOC emissions will also serve to meet the requirements of the Coatings MACT.

B. BACT Analysis

Pursuant to ' 52.21(j), a new major stationary source shall apply best available control technology for each pollutant subject to regulation under the Clean Air Act (CAA) that it would have the potential to emit in significant amounts. The requirement applies to each proposed emissions unit at which a net emissions increase in the pollutant would occur as a result of a physical change or change in the method of operation in the unit. In addition, a major stationary source or major modification shall meet each applicable emissions limitation under an applicable implementation plan and each applicable Federal emissions standard and standard of performance under 40 CFR parts 60 and 61.

The definition of BACT at ' 52.21(b)(12) states, in part, that BACT is an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation under the CAA which would be emitted from any proposed major stationary source or major modification which the administrator, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such pollutant.

On December 1, 1987, the EPA Assistant Administrator for Air and Radiation issued a memorandum that implemented program initiatives designed to improve the effectiveness of the NSR program. Among those initiatives was the Atop-down@ method for determining BACT. This methodology was incorporated into EPA=s 1990 Draft New Source Review (NSR) Workshop Manual. The following sub-sections contain the required review, analysis, and determination of BACT using the guidelines from Chapter B of EPA=s NSR Workshop Manual. The steps used are as follows:

- ! Identify all control technologies;
- ! Eliminate technically infeasible options;
- ! Rank remaining control technologies by control effectiveness;
- ! Evaluate most effective controls and document results; and
- ! Select BACT

C. Step One: Identify All Control Technologies

A control system for evaporative emissions from coating operations consists of two components: a capture device and a control device. A capture device is used to contain emissions from a process operation and direct them to a stack or to a control device. Covers, vents, hoods, and partial and total enclosures are alternative capture devices used on coating preparation equipment. Hoods and partial and total enclosures are typical capture devices for use in the coating application area. A drying oven can be considered a capture device because it both contains and directs VOC emissions from the process.

A search of EPA's RACT/BACT/LAER Clearinghouse was conducted to identify all available VOC control technologies for both fabric coating operations, specifically, and all other coating operations in general. In addition, the NESHAP and NSPS requirements for coating operations were reviewed for control technology requirements. Finally, AP-42, Fifth Edition, Volume 1, Chapter 4: Evaporation Loss Sources, Section 4.2.2.7: Polymeric Coating Of Supporting Substrates was consulted to gain an understanding of the control options available. The following control options were identified:

- ! Emission Capture Device with Carbon Adsorption, 95% overall control efficiency;
- ! Emission Capture Device with Condenser, 95% overall control efficiency;
- ! Emission Capture Device with Thermal oxidation, 95 - 98% overall control efficiency; and
- ! Low VOC Coating and/or low emitting application technique, 85-100% overall control efficiency.

Carbon adsorption units use activated carbon to adsorb VOCs from a gas stream; the VOCs are later recovered from the carbon. Two types of carbon adsorbers are available: fixed-bed and fluidized bed. Fixed-bed carbon adsorbers are designed with a steam-stripping technique to recover the VOC material and regenerate the activated carbon. The fluidized-bed units used in this industry are designed to use nitrogen for VOC vapor recovery and carbon regeneration. Both types achieve typical VOC control efficiencies of 95 percent when properly designed, operated, and maintained.

Condensation units control VOC emissions by cooling the solvent-laden gas to the dew point of the solvent(s) and collecting the droplets. There are two condenser designs commercially available: nitrogen (inert gas) atmosphere, and air atmosphere. These systems differ in the design and operation of the drying oven (i. e., use of nitrogen or air in the oven) and in the method of cooling the solvent laden air (i. e., liquified nitrogen or refrigeration). Both design types can achieve VOC control efficiencies of 95 percent.

Incinerators control VOC emissions through oxidation of the organic compounds into carbon dioxide and water. Incinerators used to control VOC emissions may be of thermal or catalytic design and may use primary or secondary heat recovery to reduce fuel costs. Thermal incinerators operate at approximately 890°C (1600°F) to ensure oxidation of the organic compounds. Catalytic incinerators operate in the range of 325°C to 430°C (600 to 800°F) while using a catalyst to achieve comparable oxidation of VOCs. Both design types achieve a typical VOC control efficiency of 98 percent.

Low VOC coatings and/or low emitting application techniques are a pollution prevention approach to mitigating VOC emissions. Pollution prevention is a process or raw material change that reduces the quantity or toxicity of an emission or waste at the point of generation. The raw materials generally used in fabric coating industry include fabric substrates, solvents, resins, and other specialty chemicals used to

impart a desired property to the coated fabric. Low emitting application techniques would include techniques that reduce the amount of chemical overspray and/or chemical volatilization, such as dipping rather than spraying the fabric.

Supplemental to all VOC control options is the utilization of tightly fitting covers. Tightly fitting covers control VOC emissions from mixing vessels by reducing evaporative losses. Airtight covers can be fitted with conservation vents to avoid excessive internal pressure or vacuum. The parameters affecting the efficiency of these controls are solvent vapor pressure, cyclic temperature change, tank size, throughput, and the pressure and vacuum settings on the conservation vents. A good system of tightly fitted covers on mixing area vessels is estimated to reduce emissions by approximately 40 percent. Control efficiencies of 95 or 98 percent can be obtained by directing the captured VOCs to an adsorber, condenser, or incinerator.

D. Step Two: Eliminate Technically Infeasible Options

SMC's coated fabric products must meet strict military specifications with regard to coating formulations and application techniques and do not allow for low VOC coatings. Therefore, the Low VOC coating and/or low emitting application techniques control alternative is not technically feasible for SMC. This option will not be considered further in this BACT analysis.

E. Step Three: Rank Remaining Control Technologies by Control Effectiveness

The remaining control technologies, ranked by control effectiveness, are as follows:

- ! Emission Capture Device with Thermal/Catalytic Oxidation, 95 - 98% overall control efficiency;
- ! Emission Capture Device with Carbon Adsorption, 95% overall control efficiency; and
- ! Emission Capture Device with Condenser, 95% overall control efficiency.

F. Step Four: Evaluate the Most Effective Controls and Document Results

According to the October 1990 Draft New Source Review Workshop Manual, an applicant who has proposed the top control alternative need not provide cost and other detailed information in regard to the other control options. However, the control option chosen should still be reviewed for collateral environmental impacts. SMC has proposed the top control alternative of an emission capture device with catalytic oxidation. In addition, SMC has agreed to follow the work practice, testing, monitoring, recordkeeping, reporting, and compliance requirements of the Coatings MACT as part of its BACT proposal.

SMC has proposed to reduce VOC and HAP emissions to the atmosphere by achieving at least a 97% organic HAP overall control efficiency. The Coatings MACT standard of achieving a 97% overall control efficiency of AVOC@ HAPs is consistent with the top control alternative listed in the RBLC. Therefore, SMC proposes the Coatings MACT standard as BACT for controlling VOC emissions from the coating operations.

Non-air environmental and energy impacts could result from the installation of the add-on control. Sources that currently do not employ any air control system and that install catalytic oxidizers will

increase solid waste generation. However, the catalysts can be regenerated by the manufacturer for reuse. Energy requirements will include electricity to collect and treat ventilation air and natural gas to provide supplemental fuel for the stable operation of the oxidizer.

G. Step Five: Select BACT²

The top control alternative, emission capture with catalytic oxidation, has been proposed as BACT for the entire coating operation. An overall control efficiency of 97% includes the capture of emissions from the solvent storage areas, the mixing areas, the coating application areas, and the drying ovens. The captured vapors would be directed through two stacks to a catalytic oxidizer.

Capture techniques in the storage and mixing areas would include covers, vents, and hoods. Hoods and partial and total enclosures would be used in the coating application areas, flash-off areas, and to capture fugitive emissions from the opening and closing of the drying oven doors.

The Coatings MACT establishes two distinct emission standards. The overall control efficiency requirement for existing sources is 97%, and the overall control efficiency requirement for new sources is 98%. The main difference between the two requirements is the VOC capture efficiency requirement. While a capture efficiency of 100% is required for new facilities, a lower capture efficiency of 99% is required for existing sources.

Existing facilities have monetary and design disadvantages over new facilities when installing VOC capture systems. Capture systems on existing facilities must be retrofitted around the existing solvent storage areas, mixing areas, coating application areas, drying ovens, building, and support structures. The U.S. EPA Office of Air Quality Planning and Standards observed, in the *June 2002 Technical Support Document: Printing, Coating, and Dyeing of Fabrics and Other Textiles Proposed NESHAP, EPA-453/R-02-010*, that the incremental emission reductions that would be achieved with the 1% additional capture efficiency are not supported by the additional cost that existing facilities would incur. EPA Region 8 agrees that the incremental cost for SMC may be prohibitive. In addition, until testing is conducted, SMC cannot verify if 100% capture is technically feasible.

The MACT standard, which the proposed control equipment will meet, was selected by EPA expressly on the basis of representing the top three best performing coating facilities nationwide. Therefore, EPA agrees that BACT for this action is emission capture devices and catalytic oxidation with a 97% overall control efficiency. Since the top BACT is proposed, a full top-down evaluation of alternate systems is not required.

SMC shall commit to the use of the proposed emissions capture system for the entire coating operation, including the capture of emissions from the solvent storage areas, the mixing areas, the coating application areas, and the drying ovens and destruction of the emissions with a catalytic oxidizer. In an effort to maximize control of VOC emissions, SMC proposes to design the mixing room ventilation system so that it can be vented to the oxidizer when the oxidizer is operating. It is planned to have the oxidizer operating at all times the coating line operates. However, whenever the coating line is off, the

²The discussion of capture efficiency summarizes the discussion provided by Air Sciences, Inc., in the SMC PSD application.

oxidizer is also shut down because the VOC emissions from the coating line provide the majority of the fuel for maintaining the oxidizer operating temperature. Therefore, as part of BACT, SMC has proposed a control strategy work plan in addition to accepting conditions specifying the level of control, including the associated operation, maintenance, monitoring, recordkeeping and reporting requirements, as specified in the Coatings MACT.

NOTE: While the Coatings MACT provides flexible options for complying with the emission standard for hazardous air pollutants, that flexibility has not been incorporated into this PSD permit for the control of VOC emissions. SMC was asked to select a single option for controlling VOCs and demonstrating compliance with this PSD permit. In addition, unlike MACT standards promulgated at 40 CFR part 63, PSD permit limits apply at all times including during periods of start-up, shut-down and malfunctions.

X. SMC Control Strategy

The SMC sources of VOC emissions affected by the Coatings MACT are the coating line (SCL3) and the coating line drying ovens (SCL1 and SCL2). Other activities affected by the Coatings MACT, which may generate small amounts of VOC emissions, include the outdoor solvent storage tanks, the mixing room, mixing vessels and coating storage tanks, pipes used to convey coatings and solvents to the coating line, periodic cleaning of the coating line, and drums stored in the chemical room. These VOC sources are the same sources that are subject to the PSD requirements that were triggered in 1984.

A. VOC Controls and Work Practices

To control VOC emissions from SCL1, SCL2, and SCL3, SMC shall install a permanent total enclosure capture system (capture system) and catalytic oxidizer (oxidizer). The capture system shall enclose the areas where coating is applied to the substrate, and the captured VOC emissions shall be ducted directly into the dryers. The dryers shall in turn be ducted directly to the oxidizer. The overall VOC destruction efficiency of the capture system and oxidizer shall be at least 97% as required by §63.4291(a)(4).

VOC emissions from the tanks, vessels, drums, and conveying and cleaning operations shall be minimized according to a "work practice plan" required by §63.4293(b). The work practice plan is discussed in section X.C of this document.

Pursuant to §63.4350(b), SMC shall install the emission capture system, oxidizer, and a continuous parameter monitoring system (CPMS) by May 29, 2006. SMC has already developed a work practice plan, submitted it to EPA (submitted as an addendum to the PSD application on September 1, 2005) and has plans to implement it by the compliance date of May 29, 2006. In addition, SMC shall establish operating limits and a CPMS as required by 63.4364(e) by January 24, 2007, and update it annually pursuant to 63.4364(e)(5). The operating limits and CPMS shall be established based on results of the initial performance test.

B. Emission Capture System and Oxidizer Operating Requirements

SMC shall be subject to the following requirements for operating the oxidizer pursuant to §63.4292(b):

1. A minimum catalyst bed inlet temperature (3-hour average) established during the performance test in accordance with §63.4363(b)(1) or (3), and
2. A minimum temperature difference across the catalyst bed established during the performance test per §63.4363(b)(2), or operation according to a “site-specific inspection and maintenance plan” for the oxidizer developed in accordance with §63.4363(b)(4).

SMC shall be subject to the following requirements for operating the emission capture system pursuant to §63.4364 (e):

1. Submit a site-specific monitoring plan to the EPA that identifies operating parameters to be monitored. The monitoring plan must identify the operating parameters to be monitored, provide a justification for the selection of the parameters, and identify the monitoring procedures;
2. Specify in the monitoring plan the operating parameter value or range of values that demonstrate compliance with emission limit requirements of this permit; and
3. Update the monitoring plan annually.

C. Work Practice Plan

1. The following units and operations shall be subject to the work practice plan:
 - (i.) The outdoor solvent storage tanks (ST1 and ST2);
 - (ii.) The mixing room mixing vessels and coating storage tanks (part of SCL3);
 - (iii.) Pipes used to convey coating and solvents;
 - (iv.) Periodic cleaning of the coating line; and
 - (v.) Drums stored in the chemical room.
2. The following provisions of the Coatings MACT shall be included in the work practice plan pursuant to §§63.4293(b)(1) through (5):
 - (i.) All volatile organic material and waste materials shall be stored in closed containers;
 - (ii.) Spills of volatile organic materials and waste materials shall be minimized;
 - (iii.) Volatile organic materials and waste materials shall be conveyed from one location to another in closed containers or pipes;
 - (iv.) The mixing vessels shall be closed except when adding, removing, or mixing the contents; and
 - (v.) Emissions shall be minimized during cleaning of the coating, storage, mixing, and conveying equipment.
3. Design the mixing room ventilation system so that emissions can be vented to the oxidizer when the coating line and oxidizer are operating.

4. Operate the oxidizer at all times the coating line operates.
5. Make every effort to conduct all mixing activities during times when the coating line and oxidizer are operating.
6. Comply with the bypass-line requirements of §63.4352(d) and §63.4364(b) during cleaning operations. VOC emissions from cleaning operations (running solvent through the tanks, pipes, and coating line applicators) shall be vented to the bypass stack to allow for ventilation. To meet the by-pass line requirements, SMC shall:
 - (i.) Monitor or secure the valve or closure mechanism controlling the bypass line in a non-diverting position in such a way that the valve or closure mechanism cannot be opened without creating a record that the valve was opened. The method used to monitor or secure the valve or closure mechanism must meet one of the following requirements pursuant to §63.4364(b):
 - (a.) Flow control position indicator;
 - (b.) Car-seal or lock-and-key valve closures;
 - (c.) Valve closure continuous monitoring; or
 - (d.) Automatic shutdown system;
 - (ii.) Establish the method used to monitor or secure the valve or closure mechanism on the by-pass line by the initial performance test date and submit the information on the method and the CPMS to be used in conjunction with the operation of the by-pass line with the performance test results;
 - (iii.) Maintain the monitoring and/or closure mechanism in proper working order including, but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment;
 - (iv.) Record the results of each inspection, calibration, and validation check of the monitor system, closure mechanism and CPMS;
 - (v.) Record when any bypass line is opened. The record shall be made contemporaneously with the opening of the line. The record shall provide a description of why the bypass line was opened and the length of time it remained open. The records shall be reported to EPA in the semiannual compliance reports;
 - (a.) Report the by-pass line opening as a deviation anytime the bypass line is opened and emissions are diverted to the atmosphere while the coating line is running; and
 - (b.) Calculate deviation emissions that occur while the coating line is operating and the bypass line is open as if the coating line were uncontrolled for that period of time.

D. Performance Testing and Establishing Operating Limits

Upon completion of the installation and start-up of the emission capture systems, catalytic oxidizer by-pass system, and continuous parameter monitors, SMC shall be required to conduct performance tests for the new systems to ensure proper operating parameters are established and assuring that the system can meet the permitted level of VOC emission control.

SMC shall be required to conduct performance tests to verify compliance with the proposed limits of this permit using the following test methods pursuant to §63.4362:

- Method 1 or 1A of appendix A to 40 CFR part 60, as appropriate to select sampling sites and velocity traverse points;
- Method 2, 2A, 2C, 2D, 2F, or 2G of appendix A to 40 CFR part 60, as appropriate to measure gas volumetric flow rate;
- Method 3, 3A, or 3B of appendix A to 40 CFR part 60, as appropriate, for gas analysis to determine dry molecular weight;
- Method 4 of appendix A to 40 CFR part 60 to determine stack gas moisture; and
- Method 25 or 25A of appendix A to 40 CFR part 60 to measure the volatile organic matter concentration as carbon at the inlet and outlet of the add-on control device simultaneously; Method 25 if the total gaseous organic concentration as carbon is expected to be more than 50 parts per million (ppm) at the control device outlet and Method 25A if the total gaseous organic concentration as carbon is expected to be 50 ppm or less at the control device outlet.

In addition, SMC shall be required to establish the following control device operating parameters during the performance tests pursuant to §63.4363:

- The minimum operating temperature at the inlet to the catalytic oxidizer and the temperature difference across the catalyst bed maintained during the performance test or develop and implement an inspection and maintenance plan for the catalytic oxidizer to include annual sampling and analysis of the catalyst activity, monthly inspection of the oxidizer system, and annual internal and monthly external visual inspection of the catalyst bed; and
- 100 percent capture efficiency of the emission capture system using Method 204 to appendix M of 40 CFR part 51.

XI. Emission Summary (based on applied BACT)

SMC conducted stack testing on the two existing exhaust stacks associated with the coating line and its two drying ovens. Testing was conducted in accordance with the following test methods referenced in 40 CFR part 60, appendix A:

- ! Method 1 - Sample and Velocity Traverses for Stationary Sources;
- ! Method 2 - Determination of Stack Gas Velocity and Volumetric Flow Rate;
- ! Method 3 - Gas Analysis for Determination of Dry Molecular Weight; and
- ! Method 18 - Measurement of Gaseous Organic Compound Emissions by Gas Chromatography.

The purpose of the stack testing was to gather data to inform the BACT determination and to inform the design and engineering of the selected VOC/HAP control system. The results indicated an average VOC emission rate for the facility of 423.6 pounds of VOCs per hour. With a 97% overall control efficiency, the VOC emissions would be approximately 12.7 lbs per hour. At this hourly rate of controlled emissions, the annual PTE, based on 8760 hours of operation per year, of VOC emissions would be approximately 56 tons per year.

XII. Air Quality Analysis

A. Ambient Impact Analysis

An applicant for a PSD permit is required to conduct an air quality analysis of the ambient impacts associated with the construction and operation of the proposed new or modified source. The main purpose of the air quality analysis is to demonstrate that criteria pollutant emissions emitted from the proposed source shall not cause or contribute to a violation of any applicable NAAQS or PSD increment. The NAAQS are maximum concentration “ceilings” measured in terms of the total concentration of a pollutant in the atmosphere. For a new or modified source, compliance with any NAAQS is based upon the total estimated air quality, which is the sum of the ambient estimates resulting from existing sources of air pollution and the modeled ambient impact caused by the applicant’s proposed emissions increase and associated growth. A PSD increment is the maximum allowable increase in concentration that is allowed to occur above a baseline concentration for a pollutant. The baseline concentration is defined for each pollutant and is the ambient concentration existing at the time that the first complete PSD permit application affecting the area is submitted. Significant deterioration is said to occur when the amount of new pollution would exceed the applicable PSD increment. PSD increments exist for particulate matter, sulfur dioxide, and nitrogen dioxide and levels, in $\mu\text{g}/\text{m}^3$, have been established for Class I, Class II, and Class III areas.

40 CFR 52.21(m)(1) requires that the PSD application contain pre-construction ambient air quality data for each pollutant emitted in significant amounts for purposes of determining whether emissions of each pollutant from the major stationary source would cause or contribute to a violation of a standard. In addition, 40 CFR 52.21(m)(2) requires that post-construction ambient monitoring be conducted as the Administrator deems necessary to determine the effect of emissions from the major stationary source on air quality. The Administrator may exempt a stationary sources or modification from the requirements of ambient monitoring if the net emissions increase from the modified source would cause less than the following amounts:

- Carbon monoxide – $575 \mu\text{g}/\text{m}^3$, 8-hour average;
- Nitrogen dioxide – $14 \mu\text{g}/\text{m}^3$, annual average;
- Particulate matter – $10 \mu\text{g}/\text{m}^3$ of PM_{10} , 24-hour average;
- Sulfur dioxide – $13 \mu\text{g}/\text{m}^3$, 24-hour average; and
- Ozone – No de minimus air quality is provide for ozone.

The only pollutant of concern with this project are VOCs. VOC pollutants are of regulatory concern primarily because of their role in the atmospheric formation of ozone, a criteria pollutant. Any net increase of 100 tpy or more of VOCs would be required to perform an ambient impact analysis for ozone including the gathering of ambient air quality data. However, this is an emissions reduction project resulting in a decrease of over 600 tpy of VOCs and post-project potential emissions of approximately 24

tpy, well below the 100 tpy threshold. Therefore, no ambient impact analysis or pre- or post-ambient air quality monitoring shall be required for this project.

B. Additional Impacts Analysis

40 CFR 52.21(o) requires that owners and/or operators of proposed sources provide an analysis of the impairment to visibility, soils and vegetation that would occur as a result of the source or modification and general commercial, residential, industrial and other growth associated with the source or modification.

The addition of the coating line and the subsequent emissions reduction project are not believed to have caused any significant impairment to visibility, soils, or vegetation. Emissions of NO_x, SO₂, CO and PM are all well below the PSD significant emission rate thresholds, and VOC emissions after controls are below the significant modeling level. Therefore, there is no reasonable expectation that visibility soils or vegetation would be impaired.

The impact for commercial, residential or industrial growth associated with the coating line is also expected to be minimal. SMC employs approximately 250 people. Most of the employees were residents of the local area prior to the addition of the new coating line and no new employees are expected to be added due to this emission reduction project.

C. Class I Visibility Monitoring

The emissions of the visibility impairing pollutants NO_x, SO₂, and PM are low and the nearest Class I area, Lost Wood National Wildlife Refuge, is over 250 kilometers from the SMC facility. Impacts to visibility in any Class I are expected to be negligible, and no Class I visibility analysis or monitoring is warranted.

XIII. Endangered Species Act (ESA)

Section 7 of the ESA requires Federal agencies to ensure, in consultation with the U.S. Fish and Wildlife Service (FWS), that their actions are not likely to jeopardize the continued existence of federally-listed threatened or endangered species or result in the destruction or adverse modification of designated critical habitat of such species.

On September 7, 2004, a letter was mailed by Air Sciences, Inc., to the FWS outlining the proposed Federal action - issuance of a construction permit under 40 CFR 52.21 for the existing SMC fabric coating facility. On September 15, 2004, the FWS responded that the project shall have no significant impact on fish and wildlife, and that no endangered or threatened species are known to occupy the project area. EPA has reviewed and concurs with the Air Sciences evaluation and the FWS findings.