

emit Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not exceed the following limits:

<u>Material</u>	Individual HAP		Combined HAPs	
	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>	<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
Coatings ¹	1.2	9.5	2.4	18.8
Adhesives ²	0.5	3.8	0.6	4.6
Other Operations ³	0.2	0.9	0.2	1.1
Total ⁴	1.2	9.5	3.1	24.5

¹ Includes coatings and associated cleanup for the EFS/PFS line(s)

² Includes coatings and associated cleanup for the adhesive application line(s)

³ e.g., fuse coating and marking, etc.

⁴ This is a total limit for each individual HAP and combination of all HAPs emitted at the source.

- b. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

1.2 Source-Wide Operational Limitations

1.2.1 Material Usage Limitations

- a. Usage of the following materials shall not exceed the following limits. These limits are based on purchased/dispensed material without disposal/reclaimed credit if appropriate documentation to demonstrate disposal/reclaimed credit is not maintained (See also Condition 1.3.2(a)).

<u>Material</u>	Usage	
	<u>(Gal/Mo)</u>	<u>(Gal/Yr)</u>
EFS/PFS Coatings	4,800	38,500
EFS/PFS Cleanup Solvents ⁵	1,100	8,500
Adhesive Application Coatings	1,250	10,500

⁵ This limit applies to cleanup solvents which contain HAPs, i.e., this limit would not apply to solvents such as acetone.

1.2.2 Cleaning Materials

- a. VOM containing cleaning materials, including used cleaning towels associated with the coating lines shall be kept, stored or disposed of in closed containers.

1.3 General Recordkeeping Requirements

1.3.1 Emission Records

The Permittee shall maintain records of the following items for the source to demonstrate compliance with Condition 1.1.1:

Total annual emissions on a calendar year basis for the emission units not classified as insignificant activities in the source's CAAPP.

1.3.2 Records for HAP Emissions

- a. The Permittee shall maintain records of the following items for each emission unit or group of related units that has the potential to emit HAPs to verify that the source is not a major source of HAP emissions.
 - i. HAP content of each material that contains a HAP, for individual and total HAPs;
 - ii.
 - A. Monthly usage of each material where emissions are not controlled or unused (virgin) solvent is not recovered;
 - B. Monthly usage of each material where emissions are controlled;
 - C. Monthly usage of each material where solvent material is recovered.
 - iii. Waste solvent records:
 - A. Amount of waste solvent shipped off for disposal (tons/month and tons/year);
 - B. HAP content of the waste solvent shipped off for disposal (weight percent). HAP content of waste solvent shall be determined based on laboratory analysis;
 - iv. Each period when a control device used to control organic material emissions (e.g., catalytic afterburner) is not operating

properly (e.g., low temperature, etc.), with description, usage of material that was affected, and an estimate of additional HAP emissions, with explanation and calculation.

- v. Emissions of HAPs (individual and combination of all HAPs) with supporting documentation and example calculations (tons/month and tons/year).
- b. As an alternative to keeping the above records of material usage for "other operations", the Permittee may keep a demonstration, which shall be kept current, that the maximum emissions of such operations given the maximum level of activity that could as a practical matter, occur at the source, would not exceed the applicable limits in Condition 1.1.2(a).

1.4 Non-Applicability of Regulations of Concern

- 1.4.1 This permit is issued based on the source not being subject to 40 CFR Part 63, Subparts M, P, and D because the source is not a major source of HAPs. (See also Condition 1.1.2)

2.0 UNIT SPECIFIC CONDITIONS

2.1 Fuse Coating and Marking Operation; and Resin Mixing, Molding, and Extruding Process

2.1.1 Description

The fuse coating and marking operation is a process where plastic fuse tubes are coated in a small paint booth with paint and cured in a small electric oven. The resin molding operation is the process whereby a two-part cyoxy resin molding is used to manufacture cyoxy molded parts used in the switchgear.

This modification entails authorizing an increase in the permitted emissions for the fuse coating and marking operation.

2.1.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
P-9011 & P-9012	Fuse Coating and Marking Operation	1992	Filter
P-0021	Resin Mixing, Molding, and Extruding Process	1990	Dripak Filter

2.1.3 Applicability Provisions and Applicable Regulations

- a. An "affected process unit" for the purpose of these unit-specific conditions, are emission units described in Conditions 2.1.1 and 2.1.2.
- b. The affected process units are subject to 35 IAC 212.321(a), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].

- c. No person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in Sections 218.302, 218.303, 218.304 of this Part and the following exception: If no odor nuisance exists the limitation of this Subpart shall apply only to photochemically reactive material.

2.1.4 Non-Applicability of Regulations of Concern

The affected process units are not subject to 35 IAC Subpart PP or TT because the affected process units together do not have maximum theoretical emissions of 100 tons per year or have a potential to emit of 25 tons per year, pursuant to 35 IAC 218.980(a) and (b). The fuses also meet the plastic parts exception pursuant to 35 IAC 218.980(b)(2)(B).

2.1.5 Operational and Production Limits and Work Practices

- a. The Permittee shall operate, maintain, and replace filters of the affected process units in a manner that assures compliance with the conditions of this section.
- b. An adequate inventory of spare filters shall be maintained.

2.1.6 Emission Limitations

- a. Emissions from the Fuse Coating and Marking Operation shall not exceed the following limits:

	VOM Emissions	
	<u>(Lb/Hour)</u>	<u>(Ton/Year)</u>
	8.0	5.06

These limits are based on the material used by the Fuse Coating Operation.

- b. Emissions from the Resin Mixing, Molding, and Extruding Process shall not exceed the following limits:

<u>Pollutant</u>	VOM Emissions	
	<u>(lb/Mo)</u>	<u>(Ton/Year)</u>
VOM	2,300	13.5

These limits are based on the material used by the Resin Mixing, Molding, and Extruding Process with a yearly contemporaneous VOM emission increase of 0.65 tons per year.

- c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

2.1.7 Testing Requirements

None

2.1.8 Monitoring Requirements

None

2.1.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected process units to demonstrate compliance with Conditions 1.1.1 and 2.1.3:

- a. The material used in the affected process units, lb/month and lb/year.
- b. The VOM content of each material used in the affected process units, wt.%.
- c. The VOM emissions from each affected process units, ton/month and ton/year.
- d. Results of filter inspections and dates of replacements.

2.1.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA of deviations of an affected process unit with the permit requirements as follows. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Emissions of PM from an affected process unit in excess of the limits specified in Condition 2.1.3(b) within 30 days of such an occurrence.
- b. Emissions of VOM from an affected process unit in excess of the limits specified in Condition 2.1.3(c) and 2.1.6 within 30 days of such an occurrence.

2.1.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

2.1.12 Compliance Procedures

- a. Compliance with Condition 2.1.3(b) and (c) is demonstrated by proper operating conditions of the affected process units. This includes operational and production limits and work practices in Conditions 2.1.5(a) and (b) and the record requirements in Condition 2.1.9.
- b. Compliance with the emission limits in Conditions 1.1.1 and 2.1.6 shall be based on the recordkeeping requirements in Condition 2.1.9 and the formulas listed below:

$$\text{VOM Emissions (ton)} = \Sigma [(\text{Material Usage, lb}) \times (\text{VOM Content of the Material, wt.\%})] \div 2000 \text{ lb/ton}$$

Where Σ = is the summation of all Materials

2.2 Adhesive Application

2.2.1 Description

The adhesive application is a process that involves hand dipping of steel parts into cans of adhesive. An afterburner will be used when certain high-VOM coatings are applied.

This modification entails authorizing an increase in the permitted emissions for the adhesive application operation

and to allow additional operational flexibility with respect to usage of the afterburner.

2.2.2 List of Emission Units and Pollution Control Equipment

Emission Unit	Description	Date Constructed	Emission Control Equipment
P-0052	Adhesive Application	1992	Afterburner for high VOM Coatings

2.2.3 Applicability Provisions and Applicable Regulations

a. An "affected adhesive application" for the purpose of these unit-specific conditions, is an adhesive application described in Conditions 2.2.1 and 2.2.2.

b. The affected adhesive application is subject to 35 IAC 212.321(a), which provides that:

No person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 IAC 212.321 [35 IAC 212.321(a)].

c. The affected adhesive application is subject to 35 IAC Part 218 Subpart F: Coating Operations. Except as provided in 35 IAC 218.207 (see also Condition 2.2.3(d), the Permittee shall not apply at any time any coating in which the VOM content exceeds the following emission limitations for the specified coating. The following emission limitations are expressed in units of VOM per volume of coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied at each coating applicator. Compounds which are specifically exempted from the definition of VOM should be treated as water for the purpose of calculating the "less water" part of the coating composition. The emission limitations are as follows:

	<u>kg/l</u>	<u>lb/gal</u>
Extreme Performance Top Coat Air Dried	0.42	3.5

[35 IAC 218.204(j) (2) (A)]

- c. As an alternative to using compliant coatings, the Permittee may use the following alternative emission limitation specified by 35 IAC 218.207(b): Each affected adhesive application shall comply with one of the following options pursuant to 35 IAC 218.207(b):
- i. The affected adhesive application is equipped with a capture system and control device that provides 81 percent reduction in the overall emissions of VOM from the affected adhesive application and the control device has a 90 percent efficiency, or
 - ii. The system used to control VOM from the affected adhesive application is demonstrated to have an overall efficiency sufficient to limit VOM emissions to no more than what is allowed under 35 IAC 218.204. Such overall efficiency shall be determined as follows, pursuant to [35 IAC 218.207]:
 - A. Obtain the emission limitation from the appropriate subsection in 35 IAC 218.204.
 - B. Calculate "S" according to the following equation:

$$S = \frac{C}{1 - (C/D)}$$

Where:

- S = The limitation on VOM emissions in terms of kg VOM/1 (lbs VOM/gal) of solids
- C = The limitation of VOM emissions in terms of kg/1 (lbs/gal) of coating (minus water and any compounds which are specifically excluded from the definition of VOM) specified in Section 218.204 of this Part
- D = The density of VOM in the coating. For the purposes of calculating S, the density is 0.882 kg VOM/1 VOM (7.36 lbs VOM/gal VOM)

- C. Calculate the overall efficiency required according to the following equation:

$$E = ([VOMa - VOM1]/VOMa) \times 100$$

Where:

E = Equivalent overall efficiency of the capture system and control device as a percentage

VOMa = Actual VOM content of a coating, or the daily-weighted average VOM content of two or more coatings (if more than one coating is used), as applied to the subject coating line as determined by the applicable test methods and procedures specified in subsection (a) of this Section in units of kg VOM/l (lb VOM/gal) of coating solids as applied

VOM1 = The VOM emission limit specified in 35 IAC 218.204 or 218.205 in units of kg VOM/l (lb VOM/gal) of coating solids as applied

2.2.4 Non-Applicability of Regulations of Concern

- a. No owner or operator of a coating line subject to the limitations of 35 IAC 218.204 is required to meet the limitations of 35 IAC 218.301 or 218.302, Use of Organic Material, after the date by which the coating line is required to meet 35 IAC 218.204 [35 IAC 218.209].
- b. The Permittee has addressed the applicability of 35 IAC Part 203, Major Stationary Sources Construction and Modification (MSSCAM) to this project. The limits in this permit are intended to ensure that the project addressed in this construction permit does not constitute a major modification pursuant to these rules.

2.2.5 Operational and Production Limits and Work Practices

- a. When using the afterburner to demonstrate compliance with 35 IAC Part 218 Subpart F, the afterburner combustion chamber shall be preheated to the manufacturer's recommended temperature but not lower than 650°F, before the coating process is begun, and

this temperature shall be maintained during operation of the affected adhesive application.

- b. The Permittee shall follow good operating practices for the afterburner, including periodic inspection, routine maintenance and prompt repair of defects.
- c. The affected adhesive application shall not use more than 1,000 gallons of coating per month and 10,000 gallons of coating per year including any VOM solvent added to the coatings at the source and any VOM solvent used for cleanup or maintenance of the affected adhesive application.

2.2.6 Emission Limitations

The affected adhesive application is subject to the following:

- a. Emissions from the affected adhesive application shall not exceed the following limits:

VOM Emissions	
<u>(Lb/Month)</u>	<u>(Ton/Year)</u>
1250	5.0

These limits are based on the material used by the affected adhesive application.

- b. This permit is issued based on negligible emissions of particulate matter from the affected adhesive application. For this purpose, emissions from the line shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 tons/yr.
- c. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).

2.2.7 Testing Requirements

- a. The VOM content of each coating and the efficiency of each capture system and control device shall be determined by the applicable test methods and procedures specified in 35 IAC 218.105 to establish the records required under 35 IAC 218.211 [35 IAC 218.211(a)].

2.2.8 Monitoring Requirements

- a. An owner or operator that uses an afterburner to comply with any Section of 35 IAC Part 218 shall use Illinois EPA and USEPA approved continuous monitoring equipment which is installed, calibrated, maintained, and operated according to vendor specifications at all times the afterburner is in use. The continuous monitoring equipment must monitor for each afterburner which has a catalyst bed, commonly known as a catalytic afterburner, the temperature rise across each catalytic afterburner bed or VOM concentration of exhaust [35 IAC 218.105(d)(2)(A)(ii)].

2.2.9 Recordkeeping Requirements

The Permittee shall maintain records of the following items for the affected adhesive application to demonstrate compliance with Conditions 1.1.1 and 2.2.3:

- a. When demonstrating compliance with 35 IAC Part 218 Subpart F using compliant coatings, the Permittee shall collect and record all of the following information each day for each affected adhesive application and maintain the information at the source for a period of three years [35 IAC 218.211(c)(2)]:
 - i. The name and identification number of each coating as applied on each coating line;
 - ii. The weight of VOM per volume of each coating (minus water and any compounds which are specifically exempted from the definition of VOM) as applied each day on each coating line;
- b. When demonstrating compliance with 35 IAC Part 218 Subpart F using add-on control, the Permittee shall collect and record all of the following information each day for each coating line and maintain the information at the source for a period of three years [35 IAC 218.211(e)(2)]:
 - i. The weight of VOM per volume of coating solids as applied each day on each coating line, if complying pursuant to Section 218.207(b)(2) of this Subpart.
 - ii. Control device monitoring data.

- iii. A log of operating time for the capture system, control device, monitoring equipment and the associated coating line.
 - iv. 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. Usage of each coating (gallons/month and gallons/year);
 - d. VOM emissions (tons/month and tons/year).

2.2.10 Reporting Requirements

The Permittee shall promptly notify the Illinois EPA of deviations of an affected adhesive application with the permit requirements as follows. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken:

- a. Emissions of PM from an affected adhesive application in excess of the limits specified in Condition 2.2.3(b) within 30 days of such an occurrence.
- b. When demonstrating compliance with 35 IAC Part 218 Subpart F using compliant coatings, emissions of VOM from an affected adhesive application in excess of the limits specified in Condition 2.2.3(c) within 30 days of such an occurrence.

2.2.11 Operational Flexibility/Anticipated Operating Scenarios

N/A

2.2.12 Compliance Procedures

- a. Compliance with Condition 2.2.3(b) is demonstrated by proper operating conditions of the affected adhesive application. This includes operational and production limits and work practices in Conditions 2.2.5.
- b. Compliance with the emission limits in Conditions 1.1 shall be based on the recordkeeping requirements in Condition 2.2.9 and the emission factors and formulas listed below:
 - i. Emissions from the affected adhesive application from the use of coating shall be calculated based on the following formula:

VOM Emissions (lb) = S (Percent VOM in the Coating, %) * (Overall Coating Density, lb/gal) * (Coating Usage, gal/yr) * (1 - Overall Control Efficiency of the Afterburner, %)

Where:

The summation S is the summation of all coating used.

Note: If the afterburner is not used, then the overall control efficiency is zero.

- c. When demonstrating compliance with 35 IAC Part 218 Subpart F using add-on control, compliance with Conditions 2.2.3(c) is demonstrated by proper operating conditions of the affected adhesive application and the control equipment. This includes operational and production limits and work practices in Condition 2.2.5(a) and (b) and the recordkeeping requirements in Condition 2.2.9.
3. The authorization for modification provided by this permit and limitations of this permit become effective January 1, 2005.
4. The modified emission units addressed by this construction permit may be operated under this permit until renewal of the CAAPP permit or a modification of the CAAPP permit is issued provided the Permittee submits a timely application to amend the current CAAPP permit to incorporate this project.

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

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DES:JMS:psj

Region 1

PROJECT SUMMARY

I. Introduction

A construction permit application has been voluntarily submitted by S & C Electric Company to modify their existing Fuse Coating and Marking Line and the Adhesive Application Operation. In addition, the source has accepted source wide operational and emission limitations for the purpose of limiting their hazardous air pollutant (HAP) emissions to less than major source thresholds. The conditions in the proposed permit for the project are based on the project not being a major modification under 35 IAC Part 203, Major Stationary Sources Construction and Modification (MSSCAM). The proposed permit conditions include emission limitations, operational limits, recordkeeping requirements, and reporting requirements.

II. Source Description

S & C Electric is located in Chicago, Illinois, Cook county. Cook county is designated as non-attainment for ozone and attainment for all other pollutants. The construction permit application is for a modification to their existing Fuse Coating and Marking Line and the Adhesive Application Operation. The modification will entail an increase in the allowable volatile organic material (VOM) emissions from the fuse coating and marking line and the adhesive application operation. Also, the company has requested operational flexibility which will allow them to discontinue the use of the existing afterburner when low-VOM (compliant) coatings are used. The permit has limitations on coating and solvent usage and VOM/HAP emissions. These limits and other limits in the permit are required to ensure that the emission increase for this project as well as all other projects in the last five years will not exceed 25 tons per year for volatile organic material.

III. Emissions

This permit is issued based upon the source not being subject to MSSCAM because the increase in VOM emissions does not constitute a major modification of the source. This permit is also issued based upon the source accepting limitations on the plant operations such that the source will not be operated as a major source of HAPs.

IV. Applicable Emission Standards

All emission sources in Illinois must comply with the Illinois Pollution Control Board's emission standards. The Board's emission standards represent the basic requirements for sources in Illinois. The Board has standards for sources of VOM. This site readily complies with all applicable Board standards.

V. Proposed Permit

The conditions of the proposed permit contain limitations and requirements to assure that this facility will not trigger the requirements of MSSCAM and be operated as a non-major source of HAPs. The permit sets limitations on coating and solvent usage.

The permit conditions also establish appropriate compliance procedures, including inspection practices, recordkeeping requirements, and reporting requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the facility is operating within the limitations set by the permit and are properly controlling emissions.

VI. Request for Comments

It is the Illinois EPA's preliminary determination that the facility meets all applicable state and federal air pollution control requirements, subject to the conditions proposed in the draft permit. The Illinois EPA is therefore proposing to issue a construction permit for this project.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions on the draft permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Adm. Code Part 166.

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