

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 102010 - 013 Project Number: 2010-07-023

Parent Company: Hubbell Incorporated

Parent Company Address: 40 Waterview Drive, Shelton, CT 06484

Installation Name: Hubbell Power Systems - Plastics Plant

Installation Number: 019-0038

Installation Address: 210 North Allen Street, Centralia, MO 65240

Location Information: Boone County, S10, T51N, R11W

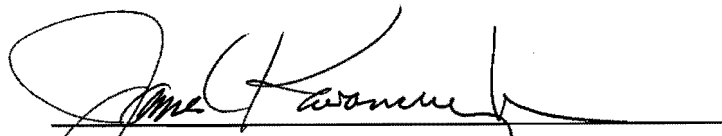
Application for Authority to Construct was made for:
Change from a non-styrenated polyester system on one of six different fiberglass rod lines to a styrenated resin system. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

OCT 29 2010

EFFECTIVE DATE



DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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Permit No.	
Project No.	2010-07-023

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Hubbell Power Systems - Plastics Plant
Boone County, S10, T51N, R11W

1. **Operational Requirement**
Hubbell Power Systems - Plastics Plant shall operate only one fiberglass rod line at a time with styrenated resin.
2. **Solvent Operational Requirement**
Hubbell Power Systems - Plastics Plant shall keep the solvents and cleaning solutions in sealed containers whenever the materials are not in use. Hubbell Power Systems - Plastics Plant shall provide and maintain suitable, easily read, permanent markings on all solvent and cleaning solution containers used with this equipment in order to minimize volatile emissions.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2010-07-023
Installation ID Number: 019-0038
Permit Number:

Hubbell Power Systems - Plastics Plant
210 North Allen Street
Centralia, MO 65240

Complete: July 12, 2010

Parent Company:
Hubbell Incorporated
40 Waterview Drive
Shelton, CT 06484

Boone County, S10, T51N, R11W

REVIEW SUMMARY

- Hubbell Power Systems - Plastics Plant has applied for authority to change from a non-styrenated polyester system on one of six different fiberglass rod lines to a styrenated resin systems.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are styrene.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation.
- None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment. The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart WWWW, *National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production* and MACT Subpart PPPP, *Plastic Parts and Products*, is not applicable since this installation is not a major source for HAPs.
- No control devices are being added in order to control styrene/VOC emissions due to the change to a styrenated resin. However, the addition of ventilation for worker safety purposes on one of the lines will result in two new emission points, EP38 and EP39. All other controls of the fiberglass rod line will be controlled in the same manner as before this modification.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Potential emissions of all pollutants are below de minimis levels; however, potential emissions for styrene are above the screen modeling action level (SMAL).

- This installation is located in Boone County, an attainment area for all other criteria pollutants
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was performed on styrene since potential emissions of the application are above it SMAL.
- Emissions testing are not required in order to change to a styrenated resin in one of the fiberglass rod lines.
- A Basic Operating Permit application is required for this installation within 30 days of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Hubbel Power Systems – Plastics Plant (formerly known as A. B. Chance Company - Plastics Plant), located in Centralia, Missouri, manufactures fiberglass reinforced plastic hot line tools, fuses, insulators, and fiberglass rods for the electrical utility industry. This is an existing minor source under construction permits.

Basic Operating Permit (Project Number 2007-05-074) was issued to the installation by the Air Pollution Control Program on June 1, 2007. The following construction permits have been issued to A. B. Chance Company - Plastics Plant from the Air Pollution Control Program.

Table 1: Construction Permit Issued

Permit Number	Description
0992-001	Installation of a fiberglass burnout oven and a pressure gelation process.
0992-002	Construction and operation for additional processes at their Plastics Plant in Centralia.
052004-011	Replace an existing paint booth with a new and larger unit.
022005-007	Addition of a paint booth.

PROJECT DESCRIPTION

Hubbell Power Systems (HPS) currently manufactures fiberglass rods at the Plastics Plant using a non-styrenated polyester systems on six different rod lines. HPS plans to change the resin to a styrenated material in one of the lines. A fume collection system will be installed as a result of using a styrenated resin on one of the lines. This will result in the addition of two new emission points (EP-38 and EP-39) from the process.

In order to determine the maximum potential emissions from the line using styrenated resin, Hubbell Power Systems provided maximum output (feet per hour) assuming continuous operation and the amount of resin used per foot (pound of resin per foot) for each diameter of rod that is manufactured. They currently manufacture 1- $\frac{1}{2}$ " , 2" , $\frac{3}{4}$ " and $\frac{5}{8}$ " diameter rods. The maximum amount of resin is used in the production of $\frac{3}{4}$ " rod at 65.0 pounds of resin per hour. Although there is a fume collection system for worker safety purposes, there is no additional control device for the reduction of styrene emissions.

With the change to the styrenated resin, the potential feet per day of rod manufactured in this line could experience a 1 to 2% increase due to the ability of the styrenated product to be pulled through the line at a faster rate than the non-styrenated resin. Since the actual amount of the increase is not known at this time, a 5% increase in the line production was added to the original maximum hourly design rate (MHDR) of the line. The MHDRs of the line were obtained from the 2009 Emission Inventory Questionnaire (EIQ) submittal. However, they represented the MHDR for all six lines. Since production in each line is close to equal, the MHDR in the EIQs was divided by 6 to obtain the MHDR of one line and a 5% increase was added to account for the increase in line speed.

The following is a brief process description of the fiberglass rod production line. Pultrusion is a continuous process used to manufacture composite materials of constant cross-section whereby reinforcing fibers are pulled through a resin bath, followed by a separate preforming system, and into a heated die, where the resin undergoes polymerization. In more detail, the process begins when reinforcing fibers are pulled from a series of creels or shelves into a resin bath where the fibers are impregnated with resin. Upon exiting the resin bath, the saturated fibers are pulled through a series of bushings and/or performers (guides) designed to strip excess resin from the fibers and to form the fibers to the same shape as the heated die before passing through a RF pre-heat unit and into a heated curing die where polymerization (curing) takes place. The material exits the heated die as a solid profile (shape) and is pulled through an oven (post cure) that continues to heat the profile to ensure complete polymerization. The profile continues to be pulled allowing the profile to cure before entering the pull unit (mechanical clamping devices) which continually pulls the product without stoppage or delay. Finally, after exiting the pull unit (mechanically clamping devices), the profile is cut using a flying cut off saw to the desired length. At this point the material is either packed on-line or it is staged for additional operations such as secondary cutting and/or painting.

EMISSIONS/CONTROLS EVALUATION

The change to styrenated resin will result in new styrene emissions which are considered both a HAP and a VOC. A material balance approach was used to determine the potential styrene emissions based on the styrene content of the new resin in the Material Safety Data Sheet (MSDS) and the emission factor found in Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 4.4 *Polyester Plastic Resin Products Fabrication*

(February 2007). According to AP-42, polyester resin plastic fabrication by pultrusion emits 4 to 7% of the starting monomer from this process. HPS based their potential emissions on 7% as a worst case.

The emission factors for all emission units and control efficiencies outside of those attributed to the use of the styrenated resin were obtained from the 2009 EIQ.

The following table provides an emissions summary for this project. Existing potential emissions were taken from Permit Number 022005-007. A 10.0 ton per year on xylene was taken in the aforementioned permit for the installation. Existing actual emissions were taken from the installation's 2009 Emission Inventory Questionnaire (EIQ). Potential emissions of the application represent the potential of one fiberglass rod line using the new styrenated resin, assuming continuous operation (8760 hours per year).

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2009 EIQ)	Potential Emissions of the Application ¹	New Installation Conditioned Potential
PM ₁₀	15.0	6.90	0.064	0.06	N/A
SO _x	40.0	0.02	0.002	N/A	N/A
NO _x	40.0	2.31	0.340	N/A	N/A
VOC	40.0	89.83	9.183	9.44	N/A
CO	100.0	0.46	0.285	N/A	N/A
HAPs	10.0/25.0	19.60	N/D	7.18 ³	N/A
Styrene	1.0 ²	N/A	N/D	7.18	N/A
Xylene	10.0	<10.0	N/D	N/D ³	N/A
Ethyl benzene	10.0	3.28	N/D	N/D ³	N/A
Toluene	10.0	0.50	N/D	N/D ³	N/A

N/A = Not Applicable; N/D = Not Determined

¹ These emissions represent the emissions of one line using styrenated resin.

² The regulatory level listed for each individual HAP is the Screen Modeling Action Level (SMAL).

³ The HAPs from the emission points other than those attributed to EP38 and EP39 were not determined.

However, the total HAP emissions from the other emission points will be less than 2.3 tons per year and were verified to be less than their respective SMALs. According to the 2009 EIQ, other HAPs emitted from the affected emission points include dibutyl phthalate, n-hexane, 1,6 diisocyanatohexane, formaldehyde and methyl isobutyl ketone.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels; however, potential emissions for styrene are above the screen modeling action level (SMAL).

APPLICABLE REQUIREMENTS

Hubbell Power Systems - Plastics Plant shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information, 10 CSR 10-6.110*
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required April 1st for the previous year's emissions. If filed electronically, the due date is extended to May 1st.
- *Operating Permits, 10 CSR 10-6.065*
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin, 10 CSR 10-6.170*
- *Restriction of Emission of Visible Air Contaminants, 10 CSR 10-6.220*
- *Restriction of Emission of Odors, 10 CSR 10-3.090*

AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling was performed to determine the ambient impact of styrene since styrene emissions exceed its Screening Model Action Level. A Screen 3 modeling analysis was performed to determine if the Risk Assessment Levels for styrene would be exceeded at or beyond the property line of Hubbell Power Systems. The stack parameters for the emission points were provided by the applicant as listed in Table 3. Since the nearest property line was not provided, the maximum 1-hour concentration was used to determine the maximum modeled impact. For this project, styrene has the potential to be emitted from EP38 and EP39.

Table 3: Stack Parameters

Stack No.	Height (ft)	Diameter (ft)	Temperature (F)	Flowrate (acfm)	Nearest Property Boundary (ft)
EP38	34	2	75	5,000	N/D
EP39	34	2	75	5,000	N/D

N/D = Not Determined

Modeled emission rates for styrene as well as the modeled impact obtained from Screen 3 analysis are summarized in Table 4.

Table 4: Ambient Air Quality Impact Analysis

Pollutant	Stack No.	Emission Rate (lb/hr)	Modeled Impact ($\mu\text{g}/\text{m}^3$)	Risk Assessment Level ($\mu\text{g}/\text{m}^3$)	Averaging Time Period
Styrene	EP38 & EP39	1.59 lb/hr combined	18.39	2,240	24-hour
			3.68	333	Annual

As indicated in the above table, the styrene emissions from the emission points added under this permit are expected to be in compliance with the Risk Assessment Levels for all averaging time periods.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Susan Heckenkamp
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 1, 2010, received July 12, 2010, designating Hubbell Incorporated as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Northeast Regional Office Site Survey, dated July 21, 2010.
- MSDS

Mr. Jim Fechter
Environmental Control Manager
Hubbell Power Systems - Plastics Plant
210 North Allen St.
Centralia, MO 65240

RE: New Source Review Permit - Project Number: 2010-07-023

Dear Mr. Fechter:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your modified operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Susan Heckenkamp, at the Departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:shl

Enclosures

c: Northeast Regional Office
PAMS File: 2010-07-023

Permit Number: