



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: 112011-007 Project Number: 2011-07-009
Installation Number: 009-0071

Parent Company: Arning Companies, Inc.

Parent Company Address: 201 Industrial Park Place, Cassville, MO 65625

Installation Name: Arning Companies, Inc.

Installation Address: 201 Industrial Park Place, Cassville, MO 65625

Location Information: Barry County, S31, T23N, R27W

Application for Authority to Construct was made for:

Installation of a new paint booth to spray automotive solvent-based paints to steel panels and a fabrication and painting facility for awnings, walkway covers, and canopy systems. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

NOV 16 2011

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 these air contaminant sources. 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 these air contaminant sources.

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 sources(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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Project No.	2011-07-009

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."

Arning Companies, Inc.
Barry County, S31, T23N, R27W

1. **Superseding Condition**
The conditions of this permit supersede all special conditions found in the previously issued Construction Permit 052011-013 issued by the Air Pollution Control Program.
2. **Emission Limitation**
 - A. Arning Companies, Inc. shall emit less than 5.0 tons of the Hazardous Air Pollutant (HAP), Glycol Ether, in any consecutive 12-month period from the entire installation.
 - B. Attachment A or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 2.A
3. **Operational Requirement**
Arning Companies, Inc. shall keep the paints and cleaning solutions in sealed containers whenever the materials are not in use. Arning Companies, Inc. shall provide and maintain suitable, easily read, permanent markings on all paints and cleaning solution containers used with this equipment.
4. **Shipping and Receiving Limitation**
 - A. Arning Companies, Inc. shall only receive forty (40) trucks per day for shipping and receiving.
 - B. Attachment B or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 4.A.
5. **Record Keeping and Reporting Requirements**
 - A. Arning Companies, Inc. shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used.

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SPECIAL CONDITIONS:

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

- B. Arning Companies, Inc. shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this

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

Project Number: 2011-07-009
Installation ID Number: 009-0071
Permit Number:

Arning Companies, Inc.
201 Industrial Park Place
Cassville, MO 65625

Complete: July 08, 2011

Parent Company:
Arning Companies, Inc.
201 Industrial Park Place
Cassville, MO 65625

Barry County, S31, T23N, R27W

REVIEW SUMMARY

- Arning Companies, Inc. has applied for authority to install a new paint booth to spray automotive solvent-based paints to steel panels and a fabrication and painting facility for awnings, walkway covers, and canopy systems.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are Triethylamine (CAS# 121-44-8), Manganese (7439-96-5), Ethyl benzene (100-41-4), Xylene(1330-20-7), Toluene (108-88-3), Methyl Isobutyl Keytone (108-10-1), Chromium Compounds, Cobalt Compounds, and Glycol Ethers .
- None of the New Source Performance Standards (NSPS) apply to the installation. 40 CFR 60 Subpart SS, "Standards of Performance for Industrial Surface Coating: Large Appliances" does not apply to the equipment as they are coating metal but not large appliances.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation.
- The National Emission Standards for Hazardous Air Pollutants Title 40 CFR 63 (MACT), Subpart HHHHHH, *Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources* does apply to this facility because Arning Companies, Inc. does emit chromium (Cr), from their painting operation. The manganese emissions from this facility occur during the welding operations at the facility.
- A fabric filter is being used to control the particulate matter with an aerodynamic diameter less than or equal to a 10 microns (PM₁₀) and particulate matter with an aerodynamic diameter less than or equal to a 2.5 microns (PM_{2.5}) emissions from the equipment in this permit.

- 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 conditioned to below de minimis levels.
- This installation is located in Barry County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was not performed since potential emissions of the application are conditioned to below de minimis levels.
- Emissions testing is not required for the equipment.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Arning Companies, Inc. is located in Cassville, Missouri and operates an existing design, production, manufacturing and installation facility of awnings, walkway covers, and canopy systems for the Gas Station & Convenience Store industry. Arning Companies, Inc. has received a construction permit for their facility and is considered a synthetic de minimis source under construction permitting. Arning Companies, Inc. emissions are conditioned under the de minimis levels by this permit.

Arning Companies, Inc. facility consists of fabricating shop and a painting shop. All processes at Arning Companies, Inc. except for the product shipping and receiving occur within a building enclosure. The building enclosure was given a 3.75 percent control efficiency. The paint shop does not use a paint booth and operates one Graco Model AA Series G15 paint gun. The Graco paint gun has a maximum application rating of 7.78 gallons per hour. The only emissions from the fabricating shop come from the welding process. Arning Companies, Inc. uses a gas metal arc welding (GMAW) method with the electrode classification being ER70S-6. There are eleven welders in the fabricating shop. It was estimated that each welder operate 20 minutes per hour with a welding wire discharge rate of 65 feet per minute. Using those maximum welding usage numbers it was calculated that the maximum hourly usage of the welding wire during product fabrication to be 46 pounds of the ER70S-6 wire per hour.

Because the site plans from project 2011-01-073 with permit 052011-013 included a paint booth the previous construction project and the current project they will be considered one project for calculating the Potential To Emit (PTE).

The following permits have been issued to Arning Companies, Inc. from the Air

Pollution Control Program.

Table 1: Permit History

Permit Number	Description
052011-013	Fabrication and painting facility

PROJECT DESCRIPTION

This project only consists of the construction of a paint booth 20 feet wide by 45.5 feet deep inside dimensions. The booth is to be constructed within the current warehouse to spray automotive solvent paints to steel panels. The largest job was assumed to be for three panels coated. It takes 45 minutes to move the panels into place, 20 minutes to apply the primer and base coats, 30 minutes to dry and 45 minutes to dismantle and remove the panels. The total time to produce one batch is 140 minutes. In one 8 hour shift, this calculates to 3.43 completed batches. This yield a rate of 0.43 batches per hour and was used as the throughput of the paint booth using one spray gun at a time. Changing these parameters may require permit review.

The coating submitted for permit review according to the material safety data sheets (MSDS) indicated fixed mixing ratios. Some MSDS sheets were supplied with the application and the required mixing components were obtained from the manufacturer. Fixed mix ratios are required according to the manufacturer to utilize these coatings and the ratios are used in the PTE Calculations. Only one gun was assumed in the PTE calculations and only one spray gun is authorized. The paints evaluated are identified below in Table 2. A standard fabric filter will be used to control particulate emissions and was given a ninety nine percent control efficiency.

The site stated that the coating of the sheets will be for structural steel signs.

Table 2: Mix ratio of paints.

Paint Name and components	Component Mix Ratio
Primer	
Primer	4
Catalyst V66V55s	1
Reducer	.02
Polyurethane enamel	
F63W200-poulan G plus	3
Catalyst V66V55	1
R7K95	1
Wash Primer	
Wash primer CC-A2	1
R7k44	1.5

EMISSIONS/CONTROLS EVALUATION

The emissions from the painting station and paint booth were calculated using a mass balance approach. The percent solids by weight used in the mass balance was calculated by taking the total density of the paint and subtracting the VOC content. A transfer efficiency of 75 percent was used for the Graco paint gun and the standard HVLP (high volume low pressure) spray gun. The paint booth was given a 99 percent control based on the use of a fabric filter. The particulate matter particle size distribution for the paint was obtained from the California Emission Inventory and Reporting System document for surface coating using water based paint. The painting station was also given a 3.75 percent control efficiency of particulate matter for the building enclosure. The welding and haul road emission factors and control efficiencies used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, 13.2.2 (November 2006) and 12.19 (January 1995). Manganese emissions are also expected from the welding process these emissions were calculated using the Welding Operation document that is used to calculate toxic air contaminants released during welding based on the concentration of the substance in the welding wire. Potential emissions of the application represent the potential of the equipment, assuming continuous operation (8760 hours per year.) Because the haul road potential emissions at 8,760 hours of operation were causing Arning Companies, Inc. to exceed the de minimus levels for PM₁₀, Arning Companies, Inc. agreed to take a days per week and hours per day limit in the special conditions. The potential emissions of the haul roads were calculated at 3,120 hours of operation due to the limit. The following table provides an emissions summary for this project.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions	Potential Emissions of the Application ^b	New Installation Conditioned Potential ^c
PM _{2.5}	10.0	5.37	N/A	45.90	5.63
PM ₁₀	15.0	9.95	N/A	54.61	10.21
SOx	40.0	N/A	N/A	N/A	N/A
NOx	40.0	N/A	N/A	N/A	N/A
VOC	40.0	10.38	N/A	113.79	39.37
CO	100.0	N/A	N/A	N/A	N/A
HAPs	10.0/25.0	5.46	N/A	48.39	12.67
Triethylamine	10.0 ^a	0.42	N/A	3.69	0.42
Cobalt Compounds	0.1 ^a	0.04	N/A	0.37	0.04
Glycol Ethers	5.0 ^a	<5.0	N/A	44.33	<5.0
Manganese	0.8 ^a	0.014	N/A	0.014	0.014
Chromium Compounds	5.0 ^a	N/D	N/A	0.009	0.009
Methyl Isobutal Keytone	10.0 ^a	N/D	N/A	4.34	4.34
Xylene	10.0 ^a	N/D	N/A	2.15	2.15
Ethyl Benzene	10.0 ^a	N/D	N/A	0.43	0.43
Toulene	10.0	N/D	N/A	0.28	0.28

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

^a Screening Model Action Level (SMAL)

^b The Potential Emissions of the Application are based on Arning Companies, Inc. applying the worst case paint to their products for 8760 hours of operation.

^c New Installation Conditioned Potential Emissions was based on a voluntary limit of 5.0 tons of Glycol Ethers per year. The New Installation Conditioned Potential Emissions represent the welding emissions at 8760 hours of operations, the haul road potential emissions at 3,120 hours of operation due the Special Condition 3 and the paint potential emissions limited to 5.0 tons of Glycol Ethers per year in order to show compliance with Special Condition 1.C. The paint booth emissions are not proportional reduced. But all other emission are proportional reduced with paint booth emission added on to the total of the reduced emission from project 2011-01-073 with permit number 052011-013.

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 conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

Arning Companies, Inc. 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 1 for a hard copy submittal or May 1 for online submittal for the previous year's emissions.

- *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 10-6.165*

SPECIFIC REQUIREMENTS

- *Maximum Achievable Control Technology (MACT) Regulations, 10 CSR 10-6.075, National Emission Standards for Hazardous Air Pollutants Title 40 CFR 63 (MACT), Subpart HHHHHH, Paint Stripping and Miscellaneous Surface Coating Operations.*

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.

Timothy Paul Hines
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 7, 2011, received July 09, 2011, designating Arning Companies, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southwest Regional Office Site Survey, dated July 21, 2011.
- Welding Operations document dated February 1, 1993, last updated October 16, 1998.

Ms. Stacey Jaques
Production Manager
Arning Companies, Inc.
P.O.Box F
Cassville, MO 65625

RE: New Source Review Permit - Project Number: 2011-07-009

Dear Ms. Jaques:

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 amended 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 Timothy Paul Hines, at the Department's Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone at (573) 751-4817. Thank you for your time and attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
Permits Section Chief

KBH:thk

Enclosures

c: Southwest Regional Office
PAMS File: 2011-07-009