

STATE OF MISSOURI

PERMIT BOOK



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: **032015-015** Project Number: 2014-12-003
Installation Number: 055-5002

Parent Company: Steelville Manufacturing Co.

Parent Company Address: P.O. Box 919, Steelville, Missouri 65565

Installation Name: Steelville Manufacturing Co.

Installation Address: 1056 Perkins Drive, Steelville, Missouri 65565

Location Information: Crawford County, S34, T38N, R4W

Application for Authority to Construct was made for:

The installation of a new finish processing operation. This application will include heat treating, tumbling, abrasive blasting, masking, priming, and painting. 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.

MAR 19 2015

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 Department's 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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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."

Steelville Manufacturing Co.
Crawford County, S34, T38N, R4W

1. Individual HAP Emission Limitations
 - A. Steelville Manufacturing Co. shall emit less than 10.0 tons individually of any HAPs in any consecutive 12-month period from the emission points listed below. Some individual HAPs have limits that are less than the 10.0 tons per year; in these cases, Steelville Manufacturing Co. shall emit less than the SMAL in any consecutive 12-month period from the emission units listed below.
 - 1) Paint Gun, EP-01
 - 2) Mixing Room, EP-02
 - 3) Drying Oven, EP-03
 - B. Table 2 lists the SMALs for individual HAPs allowed by this permit. 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 1.A.
2. Maximum Daily Coating Usage and Applied MHDR
 - A. Steelville Manufacturing Co. shall use a maximum of 36 gallons of coating per day (combined coating volume). Permitted cleaning solvents may be used as necessary, and they will not count toward the 36 gallon combined coating limit—however, the cleaning solvents have still be accounted for in the VOC potential emissions calculations.
 - 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 2.A.
3. Alternative Coating Usage
 - A. When considering the use of a coating material that has not been included in this permit, the alternative coating material shall be assessed prior to use in the spray gun (EP-01). Steelville Manufacturing Co. shall calculate

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SPECIAL CONDITIONS:

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

the potential emissions of all individual hazardous air pollutants (individual HAPs), the combined volatile organic compounds (VOCs), and total PM_{2.5} content.

- B. Steelville Manufacturing Co. shall seek approval from the Air Pollution Control Program before use of the alternative material(s) if the potential emissions of *any* individual HAP is greater than or equal to the screening model action level (listed in Attachment CC), or if the potential emissions of VOCs exceed 38.76 tons per year (equal to a VOC content of 5.9 lb/gal), or if the potential emissions of PM_{2.5} exceed 10.0 tons per year (after application of control efficiency has been applied).
 - C. Attachment C or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to show compliance with Special Condition 3.A and 3.B.
4. Control Device Requirement – Overspray & Exhaust Collection System
- A. Steelville Manufacturing Co. shall control emissions from the paint booth and mixing room using fabric filters of no less than 98.81% control efficiency as specified in the supplied manufacturer specifications/data.
 - B. The filters shall be operated and maintained in accordance with the manufacturer's specifications. The filters shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.
 - C. Replacement filters of equal or greater efficiency (≥98.81%) shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Steelville Manufacturing Co. shall monitor and record the operating pressure drop across the filters at least once every 24 hours, while the plant is operating. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
 - E. Steelville Manufacturing Co. shall maintain a copy of the filter manufacturer's performance warranty on site.

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SPECIAL CONDITIONS:

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

- F. Steelville Manufacturing Co. shall maintain an operating and maintenance log for the filters which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

- 5. Operational Requirement – Identification of Coatings and Cleaning Solvents
Steelville Manufacturing Co. shall keep the coatings, and cleaning solvents in sealed containers whenever the materials are not in use. Steelville Manufacturing Co. shall provide and maintain suitable, easily read, permanent markings on all coatings and cleaning solvent containers used in operations or stored on-site.

- 6. Operational Requirement – Paint Booth Conditions and Parameters
 - A. Steelville Manufacturing Company shall maintain the paint booth such that the following conditions are met during *all* operational hours. During periods of time in which approved coatings are being mixed or applied, equipment is being cleaned with methyl ethyl ketone, or any other VOC-, HAP-, PM_{2.5}-containing compounds are allowed to emit, all access points and openings (less the natural draft opening) should be completely sealed according to the manufacturer's specifications.

 - B. The manufacturer specifications for this paint booth describe that air velocity of up to 210 feet per second is achievable; thus, an initial test for air velocity shall not be required. To demonstrate compliance with this, EPA Method 204 shall be used for all compliance visits and inspections.

- 7. Record Keeping and Reporting Requirements
 - A. Steelville Manufacturing Co. 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 SDS for all materials used.

 - B. Steelville Manufacturing Co. shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

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

Project Number: 2014-12-003
Installation ID Number: 055-5002
Permit Number:

Steelville Manufacturing Co.
1056 Perkins Drive
Steelville, Missouri 65565

Complete: January 2, 2015

Parent Company:
Steelville Manufacturing Co.
P.O. Box 919
Steelville, Missouri 65565

Crawford County, S34, T38N, R4W

REVIEW SUMMARY

- Steelville Manufacturing Co. has applied for authority to construct the installation of a new finish processing operation. This application will include heat treating, tumbling, abrasive blasting, masking, priming, and painting.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are Chromium containing compounds (Chromates or Cr-compounds), Methanol, Benzene containing compounds (Benzenes), 2- Nitropropane, Napthalene, Xylene, Formaldehyde, Diisocyanates, Ethyl Acrylate, 2-Butoxy Ethyl Acetate, Methyl Isobutyl Ketone (MIBK) and Titanium containing compounds (Ti-compounds).
- None of the New Source Performance Standards (NSPS) apply to the installation.
- 40 CFR 63, Subpart HHHHHH, *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*, applies to this application because there are coatings containing Chromium and Chromium derivatives.
- 40 CFR 63, Subpart XXXXXX, *National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories*, applies to this application because Steelville Manufacturing Company also owns and operates an area source primarily engaged in the fabrication of metal products (SIC #3499 for both operations).
- 40 CFR 63, Subpart MMMM, *National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products*, does not apply to the application because it is not a major source of HAPs.

- An overspray collection filtering system is being used to control the particulate HAPs and particulate matter emissions from the equipment in this permit. An enclosed paint booth with a recirculation fan and an exhaust fan will be used for the capture of these pollutants prior to control via filtration.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of individual HAPs, combined HAPs, VOCs, and PM_{2.5} are conditioned below de minimis levels with the established maximum hourly design rate and necessary control devices.
- This installation is located in Crawford 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.
- Emissions testing is not required for the equipment.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with control device requirements, coating type limitations, and coating amount limitations special conditions.

INSTALLATION DESCRIPTION

Steelville Manufacturing Co. is an aerospace component manufacturer and finish processing operation located in Crawford County, Steelville, Missouri. There was a previously unpermitted machine shop located at this installation; the calculations for the machine shop were included in the installation potential emissions to prevent further permit requirements. Finish processing operations will include at least one of the following steps: heat treatment, tumbling, abrasive blasting, masking, priming, and painting. Steelville Manufacturing Company provides finishing operations for components that are aluminum, bronze, steel, copper, mesh, composite, or various other surface types. This permit (project 2014-12-003) applies to new equipment at an existing installation, site 055-5002; however, this site has never been permitted by Missouri Air Pollution Control Program. There is no operating permit required for this installation.

PROJECT DESCRIPTION

This project includes the installation of a new finish processing operation including a paint booth, abrasive blasting cabinet, drying oven, and paint mixing room. The parts are typically for customers in the aerospace industry, and therefore require acute attention to detail and adherence to strict specifications to properly fulfill an order. The MHDR for this coating operation is 1.5 gallons per hour for an 8 hour duration per day. This is an accurate estimate of the maximum paint application rate for a number of reasons described in the "MHDR Justification" section of this permit.

The finish processing operation will include several steps before the part is ready to ship to the customer; not all steps are necessary, but the “worst case” scenario was assumed for PTE calculations.

The process begins with masking. Masking is the application of a protective coating on specific areas of a part that the customer does not want coated with primer or paint. The next step is racking the parts. Racking includes placing the parts to be primed or painted on a rack in such a manner as to allow for complete coatings to be applied; prior to the application of primer or paint, the parts may also need to be cleaned according to customer needs. In the mixing room, the specific paint or primer is mixed according to the specifications, and then moved to the paint booth for application. The parts are now coated with the correct paint or primer application; this process can conservatively take up to one-hour, depending on how many parts are being sprayed at once and how detailed the parts are. After being painted or primed, the parts are allowed to dry as needed by the specifications of the coating and material combination. The drying process can take as little as 45 minutes for forced curing, or up to 2 hours for air drying; an estimate of 1 hour drying time and 1 hour preparation time (including racking, paint mixing, and transfer in between process steps) were used for PTE calculations. All drying and heating operations related to the finishing process are electrically powered by pre-existing power lines near the site; ergo, none of the drying and heating operations will contribute to the PTE for the installation and application.

MHDR JUSTIFICATION

The paint is first mixed in the mixing room, and then the parts are positioned inside of the paint booth. The parts are then coated with any number of layers of primer and/or paint depending on the specifications individual parts require to pass the client’s inspection. The painting process was estimated to be a one hour duration. After the coating process is completed, the parts are moved onto a drying rack and either force-cured or air-dried, depending on the specification requirements. This drying process typically takes 45 minutes for forced-curing, or up to 2 hours for air-drying. The worst-case estimate of 2 hours for the combined time of preparation, paint mixing, pre-spray positioning, post-spray positioning, and drying was used in MHDR calculations.

The documented MHDR for the paint spray gun is 5.625 gallons per hour, but there is limited space on drying racks, and preparation and drying time also influence the MHDR determination; however, documentation provided by Steelville Manufacturing Company states that the maximum paint or primer usage each 8-hour day is 12 gallons. Therefore, it was assumed that production at full capacity (three 8-hour shifts in one day) could be a maximum of 36 gallons of coating per 24 hour period. Since Steelville Manufacturing Co. has taken a voluntary 36 gal/day limit, the adjusted MHDR equates to 1.5 gallons per hour.

Furthermore, Steelville Manufacturing Company will be responsible for maintaining detailed records of the coating process; these records shall contain the type of coating used and the volume of each type of coating used per day (or month).

EMISSIONS/CONTROLS EVALUATION

The PTE for this installation was calculated using material balances based on the material SDSs included in the submitted application. All VOC emissions were assumed to be unfilterable and 100% released to the atmosphere because there are no VOC-control devices in place. The HAP emissions were also derived from the included SDSs—all heavy metal compounds, such as Ni/Cd/Co/Cr/Pb, were assumed to be HAPs. The particulate matter emissions were calculated using either the ratios provided within the applicable SDSs, or as 100% of the remaining portion of the total density (pounds per gallon), less the total VOC content (pounds per gallon).

Control efficiencies were taken from several sources. The transfer efficiency of 60% for HVLP spray coating application was taken from the APTI 482, Third Edition, *Sources and Control of Volatile Organic Air Pollutants*, Chapter 5 *Surface Coating*, Section 5.1.3.1 *Spray Coating*. The control efficiency (98.81%) of the “15g” filters, dimensions of 20” x 20” x 1”—used to control particulate matter and PM-based HAPs emissions from overspray in the paint booth—was taken from Air Flow Technology, Inc.’s (the manufacturer’s) specifications sheet. The average control efficiency of 98.81% is based on a clean filter with an initial pressure-drop/resistance of 0.02 ‘w.c. (equal to 59.7 Pascals)—the efficiency of the filter can only increase as it approaches the maximum load of 15g/ft². Dryer emissions are uncontrolled; this contributes to the 100% emission of VOCs, as well as the remaining unfiltered portion of particulate matter and particulate matter HAPs. The capture efficiency for the four-sided/fully-enclosed paint booth was assumed to be 100% because it is completely sealed, according to the manufacturer’s specifications sheet. The 100% capture efficiency assumption is based on passing the criteria set by *EPA Method 204 - Criteria for and Verification of a Permanent or Temporary Total Enclosure, Section 6*. As stated above, the VOC emissions remain uncontrolled because there are no control devices installed for the capture and control of VOCs in this paint booth; the only filterable pollutants are PM_{2.5} and non-volatile HAPs. There are no particle size distributions for this type of painting operation, so the particulate matter emissions are all conservatively assumed to be PM_{2.5}. PTE for the abrasive blasting cabinet was determined using the emission factors from AP-42 Volume I, Fifth Edition, Section 13.2.6, *Miscellaneous Sources: Abrasive Blasting*, Table 1. Steelville Manufacturing Co. purchases 50 pounds of abrasive beads each month; the same assumption of three 8-hour shifts per day equates to 150 pounds of beads per month. Using a MHDR of 150 pounds of aluminum oxide abrasive material per month, the PTE for particulate matter was calculated to be under 0.000621 tons per year. The abrasive blasting cabinet uses an attached vacuum system to recycle the abrasive material for reuse, and the lifespan of aluminum oxide beads is typically over 1 month; therefore, the 150 pounds per month is conservative.

The following table (Table 1) provides the values with which the PTE was calculated. The HAPs and VOCs emissions were calculated using the values given on the respective material SDSs; the PM_{2.5} portions of total emissions were calculated either by using the VOC-to-Solids density ratio provided in the respective material SDSs, or by assuming that the remaining non-VOC portion of total density comprised the PM_{2.5} emissions.

Table 1: Specific Emissions Tracking Data and Nomenclature (continued on next page)

Coating Material	Individual HAPs Contained	Individual HAPs PTE (lb/gal)	Total HAPs PTE (lb/gal)*	Total VOCs PTE (lb/gal)*	Total PM _{2.5} PTE (lb/gal)*
mil-prf-85582 epoxy primer	Methanol	0.00027	0.00451	4.245	0.49360
	2-Nitropropane	0.00425	----	----	----
mil-pprf-85582 primer	Strontium Chromate	4.25537	4.38698	4.185	0.58125
	Barium Chromate	0.13161	----	----	----
44gn49 catalyst	2-Nitropropane	0.00425	0.00425	4.245	0.49360
44gn49 base	Strontium Chromate	3.52562	3.63465	4.050	0.61364
	Barium Chromate	0.10903	----	----	----
8514 wash primer	Methanol	0.26683	1.26827	8.850	0.11572
	Zinc Tetraoxychromate	1.00144	----	----	----
53039 primer	Methyl Isobutyl Ketone	0.70873	0.70873	4.800	0.54923
mil-prf-23377 catalyst	Methanol	0.00524	0.00524	4.650	0.36905
	Strontium Chromate	3.63856	3.75620	3.945	0.78900
mil-prf-23377 base	Methyl Isobutyl Ketone	0.11156	----	----	----
	Ethyl Benzene	0.00608	----	----	----
	Strontium Chromate	5.29113	5.45982	4.200	0.72414
bms10-11 primer	Barium Chromate	0.16364	----	----	----
	Napthalene	0.00505	----	----	----
	Xylene	0.76252	1.49752	5.775	0.42463
mil-prf-85285E base	2-Butoxy Ethyl Acetate	0.48925	----	----	----
	Ethyl Benzene	0.21832	----	----	----
	Formaldehyde	0.02598	----	----	----
	Ethyl Acrylate	0.00144	----	----	----
mil-prf-85285E catalyst	Formaldehyde	0.02035	0.02171	3.480	0.49714
	Ethyl Acrylate	0.00136	----	----	----
cleaning solvent	Methyl Ethyl Ketone	<i>delisted</i>	<i>delisted</i>	1.261138125	<i>n/a</i>

*Dashes indicate that there is no applicable value for the designated cell in the table.

Table 2 lists the applicable screening model action levels (SMALs) for every listed/permitted pollutant that must be limited below its respective SMAL to prevent modeling from being performed and stay in compliance. For a complete list of HAPs with their associated SMALs, please refer to Attachment CC. The purpose of Attachment CC is to assess new individual HAP emissions contained in alternative coatings to be used on site in the future. Attachment CC correlates with Attachment C. The most current list of SMALs for individual HAPs can be obtained from Missouri Air Pollution Control Program by contacting the Construction Permits Unit, or using available online resources.

Table 2: SMALs for Permitted Pollutants

Chemical	CAS #	SMAL (tons/yr)	VOC (Y/N)*	PM (Y/N)*
Butoxyethanol Acetate, [2-]	112-07-2	5	Y	N
Chromium (Cr) Compounds	Any compound containing Cr	5	N	Y
Hexavalent Cr	Any compound containing Cr(VI)	0.002	N	Y
Ethyl Acrylate	140-88-5	1	Y	N
Ethyl Benzene	100-41-4	10	Y	N
Formaldehyde	50-00-0	2	Y	N
Hexamethylene, 1-, 6-Diisocyanate	822-06-0	0.02	Y	N
Methanol	67-56-1	10	Y	N
Methyl Isobutyl Ketone	108-10-1	10	Y	N
Naphthalene	91-20-3	10	Y	N
Nitropropane, [2-]	79-46-9	1	Y	N
Xylene (mixed isomers)	1330-20-7	10	Y	N

*Y = Yes; N = No

The following table (Table 3) provides an emissions summary for this project. There are no existing or actual emissions. Potential emissions of the application represent the uncontrolled potential emissions of the new equipment, assuming 36 gallons per day as the maximum allowed coating usage rate. New installation conditioned emissions account for emissions based on installed control devices and the allowed maximum daily coating usage rate (36 gal/day); all pollutants have been conditioned below respective de minimis levels.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis/SMAL Levels	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM	25.0	N/A	N/A	69.12	3.45
PM ₁₀	15.0	0.0002	N/A	69.12	3.45
PM _{2.5}	10.0	N/A	N/A	69.12	3.45
SOx	40.0	0.00001	N/A	N/A	0.00001
NOx	40.0	0.0013	N/A	N/A	0.0013
VOC	40.0	N/A	N/A	38.76	<38.76
CO	100.0	0.0007	N/A	N/A	0.0007
GHG (CO ₂ e)	75,000 / 100,000	1.205	N/A	N/A	1.205
Individual HAPs*	10.0	0.0000051	N/A	N/A	<10.0**
<i>Butoxyethanol Acetate, [2-]</i>	5	N/A	N/A	2.14	2.14
<i>Chromium (Cr) Compounds</i>	5	N/A	N/A	6.07	<5.0
<i>Hexavalent Cr</i>	0.002	N/A	N/A	6.07	<0.002
<i>Ethyl Acrylate</i>	1	N/A	N/A	0.006	0.006
<i>Ethyl Benzene</i>	10	N/A	N/A	0.96	0.96
<i>Formaldehyde</i>	2	N/A	N/A	0.11	0.11
<i>Methanol</i>	10	N/A	N/A	1.17	1.17
<i>Methyl Isobutyl Ketone</i>	10	N/A	N/A	3.10	3.10
<i>Naphthalene</i>	10	N/A	N/A	0.02	0.02
<i>Nitropropane, [2-]</i>	1	N/A	N/A	0.02	0.02
<i>Xylene (mixed isomers)</i>	10	N/A	N/A	3.34	3.34
Combined HAPs	25.0	0.0000052	N/A	6.55	6.55

N/A = Not Applicable

*Individual HAPs included in this permit application are listed in italics.

**Does not account for *all* specific SMALs; consult Attachment CC for SMAL limits of specific pollutants.

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 individual HAPs, combined HAPs, VOCs, and PM_{2.5} are conditioned below de minimis levels with the established maximum hourly design rate and necessary control devices.

APPLICABLE REQUIREMENTS

Steelville Manufacturing Co. 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.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information, 10 CSR 10-6.110*
- *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

- *MACT Regulations, 10 CSR 10-6.075*
 - *40 CFR Part 63, Subpart HHHHHH, National Emission Standards for Hazardous Air Pollutants for Source Categories: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources.*
 - *40 CFR 63, Subpart XXXXXX, National Emission Standards for Hazardous Air Pollutants for Source Categories: Area Source Standards for Nine Metal Fabrication and Finishing Source Categories*
- *Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating, 10 CSR 10-6.405*

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.

Jordan Hindman
New Source Review Unit

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 24, 2014, received December 2, 2014, designating Steelville Manufacturing Co. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.

Attachment CC: Table of Hazardous Air Pollutants and Screening Model Action Levels*

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
ACETALDEHYDE	75-07-0	9		Y	N	CARBARYL	63-25-2	10	V	Y	Y	DICHLOROPROPANE, [1,2-]	78-87-5	1		Y	N
ACETAMIDE	60-35-5	1		Y	N	CARBON DISULFIDE	75-15-0	1		Y	N	DICHLOROPROPENE, [1,3-]	542-75-6	1		Y	N
ACETONITRILE	75-05-8	4		Y	N	CARBON TETRACHLORIDE	56-23-5	1		Y	N	DICHLORVOS	62-73-7	0.2		Y	N
ACETOPHENONE	98-86-2	1		Y	N	CARBONYL SULFIDE	463-58-1	5		Y	N	DIETHANOLAMINE	111-42-2	5		Y	N
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	V	Y	Y	CATECHOL	120-80-9	5		Y	N	DIETHYL SULFATE	64-67-5	1		Y	N
ACROLEIN	107-02-8	0.04		Y	N	CHLORAMBEN	133-90-4	1		Y	Y	DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	P	Y	N
ACRYLAMIDE	79-06-1	0.02		Y	N	CHLORDANE	57-74-9	0.01		Y	Y	DMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	V	Y	Y
ACRYLIC ACID	79-10-7	0.6		Y	N	CHLORINE	7782-50-5	0.1	N	N	N	DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	V	Y	Y
ACRYLONITRILE	107-13-1	0.3		Y	N	CHLOROACETIC ACID	79-11-8	0.1		Y	N	DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02		Y	N
ALLYL CHLORIDE	107-05-1	1		Y	N	CHLOROACETOPHENONE, [2-]	532-27-4	0.06		Y	N	DMETHYL FORMAMIDE	68-12-2	1		Y	N
AMINOBIHENYL, [4-]	92-67-1	1	V	Y	N	CHLOROBENZENE	108-90-7	10		Y	N	DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008		Y	N
ANILINE	62-53-3	1		Y	N	CHLOROBENZYLATE	510-15-6	0.4	V	Y	Y	DIMETHYL PHTHALATE	131-11-3	10		Y	N
ANISIDINE, [ORTHO-]	90-04-0	1		Y	N	CHLOROFORM	67-66-3	0.9		Y	N	DIMETHYL SULFATE	77-78-1	0.1		Y	N
ANTHRACENE	120-12-7	0.01	V	Y	N	CHLOROMETHYL METHYL ETHER	107-30-2	0.1		Y	N	DMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1		Y	N
ANTIMONY COMPOUNDS		5	H	N	Y	CHLOROPRENE	126-99-8	1		Y	N	DIMETHYLANILINE, [N-N]	121-69-7	1		Y	N
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	H	N	Y	CHROMIUM (VI) COMPOUNDS		0.002	L	N	Y	DINITRO-O-CRESOL, [4,6-] (Note 6)	534-52-1	0.1	E	Y	Y
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	H	N	Y	CHROMIUM COMPOUNDS		5	L	N	Y	DINITROPHENOL, [2,4-]	51-28-5	1		Y	N
ANTIMONY TROXIDE	1309-64-4	1	H	N	Y	CHRYSENE	218-01-9	0.01	V	Y	N	DINITROTOLUENE, [2,4-]	121-14-2	0.02		Y	N
ANTIMONY TRISULFIDE	1345-04-6	0.1	H	N	Y	COBALT COMPOUNDS		0.1	M	N	Y	DIOXANE, [1,4-]	123-91-1	6		Y	N
ARSENIC COMPOUNDS		0.005	I	N	Y	COKE OVEN EMISSIONS	8007-45-2	0.03	N	Y	N	DIPHENYLHYDRAZINE, [1,2-]	122-46-7	0.09	V	Y	Y
ASBESTOS	1332-21-4	0	A	N	Y	CRESOL, [META-]	108-39-4	1	B	Y	N	DIPHENYLMETHANE DISOCYANATE, [4,4-]	101-68-8	0.1	V	Y	N
BENZO(A)ANTHRACENE	56-55-3	0.01	V	Y	N	CRESOL, [ORTHO-]	95-48-7	1	B	Y	N	EPICHLOROHYDRIN	106-89-8	2		Y	N
BENZENE	71-43-2	2		Y	N	CRESOL, [PARA-]	106-44-5	1	B	Y	N	ETHOXYETHANOL, [2-]	110-80-5	10	P	Y	N
BENZIDINE	92-87-5	0.0003	V	Y	N	CRESOLS (MIXED ISOMERS)	1319-77-3	1	B	Y	N	ETHOXYETHYL ACETATE, [2-]	111-15-9	5	P	Y	N
BENZO(A)PYRENE	50-32-8	0.01	V	Y	N	CUMENE	98-82-8	10		Y	N	ETHYL ACRYLATE	140-88-5	1		Y	N
BENZO(B)FLUORANTHENE	205-99-2	0.01	V	Y	N	CYANIDE COMPOUNDS		0.1	O	Y	N	ETHYL BENZENE	100-41-4	10		Y	N
BENZO(K)FLUORANTHENE	207-08-9	0.01	V	Y	N	DDE	72-55-9	0.01	V	Y	Y	ETHYL CHLORIDE	75-00-3	10		Y	N
BENZOTRICHLORIDE	98-07-7	0.006		Y	N	DI(2-ETHYLHEXYL) PHTHALATE, (DEHP)	117-81-7	5		Y	N	ETHYLENE GLYCOL	107-21-1	10		Y	N
BENZYL CHLORIDE	100-44-7	0.1		Y	N	DIAMINOTOLUENE, [2,4-]	95-80-7	0.02		Y	N	ETHYLENE GLYCOL MONOBUTYL ETHER (Delisted)	111-76-2				
BERYLLIUM COMPOUNDS		0.008	J	N	Y	DIAZOMETHANE	334-88-3	1		Y	N	ETHYLENE GLYCOL MONOHXYL ETHER	112-25-4	5	P	Y	N
BERYLLIUM SALTS		2E-05	J	N	Y	DIBENZ(A,H)ANTHRACENE	53-70-3	0.01	V	Y	N	ETHYLENE IMINE [AZIRIDINE]	151-56-4	0.003		Y	N
BIPHENYL, [1,1-]	92-52-4	10	V	Y	N	DIOXINS/FURANS		6E-07	D,V	Y	N	ETHYLENE OXIDE	75-21-8	0.1		Y	N
BIS(CHLOROETHYL)ETHER	111-44-4	0.06		Y	N	DIBENZOFURAN	132-64-9	5	V	Y	N	ETHYLENE THIOUREA	96-45-7	0.6		Y	Y
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003		Y	N	DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01		Y	N	FORMALDEHYDE	50-00-0	2		Y	N
BROMOFORM	75-25-2	10		Y	N	DIBROMOETHANE, [1,2-]	106-93-4	0.1		Y	N	GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	P	Y	N
BROMOMETHANE	74-83-9	10		Y	N	DIBUTYL PHTHALATE	84-74-2	10		Y	Y	GLYCOL ETHER (DIETHYLENE GLYCOL ETHERS)		5	P	Y	N
BUTADIENE, [1,3-]	106-99-0	0.07		Y	N	DICHLOROBENZENE, [1,4-]	106-46-7	3		Y	N	HEPTACHLOR	76-44-8	0.02		Y	N
BUTOXYETHANOL ACETATE, [2-]	112-07-2	5	P	Y	N	DICHLOROBENZIDENE, [3,3-]	91-94-1	0.2	V	Y	Y	HEXACHLOROBENZENE	118-74-1	0.01		Y	N
BUTYLENE OXIDE, [1,2-]	106-88-7	1		Y	N	DICHLOROETHANE, [1,1-]	75-34-3	1		Y	N	HEXACHLOROBUTADIENE	87-68-3	0.9		Y	N
CADMIUM COMPOUNDS		0.01	K	N	Y	DICHLOROETHANE, [1,2-]	107-06-2	0.8		Y	N	HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	F	Y	N
CALCIUM CYANAMIDE	156-62-7	10		Y	Y	DICHLOROETHYLENE, [1,1-]	75-35-4	0.4		Y	N	HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	F	Y	N
CAPROLACTAM (Delisted)	105-60-2					DICHLOROMETHANE	75-09-2	10		N	N	HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	F	Y	N
CAPTAN	133-06-2	10		Y	Y	DICHLOROPHOENOXY ACETIC ACID, [2,4-]	94-75-7	10	C	Y	Y	HEXACHLOROCYCLOHEXANE, [TECHNICAL]	608-73-1	0.01	F	Y	N

Attachment CC: Table of Hazardous Air Pollutants and Screening Model Action Levels*

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
HEXACHLOROCYCLOPENTADIENE	77-47-4	0.1		Y	N	NITROSODIMETHYLAMINE, [N-]	62-75-9	0.001		Y	N	TRIMETHYLPENTANE, [2,2,4-]	540-84-1	5		Y	N
HEXACHLOROETHANE	67-72-1	5		Y	N	NITROSOMORPHOLINE, [N-]	59-89-2	1		Y	N	URETHANE [ETHYL CARBAMATE]	51-79-6	0.8		Y	N
HEXAMETHYLENE-1,6-DIISOCYANATE	822-06-0	0.02		Y	N	NITROSO-N-METHYLUREA, [N-]	684-93-5	0.0002		Y	N	VINYL ACETATE	108-05-4	1		Y	N
HEXAMETHYLPHOSPHORAMIDE	680-31-9	0.01		Y	N	OCTACHLORONAPHTHALENE	2234-13-1	0.01	V	Y	N	VINYL BROMIDE	593-60-2	0.6		Y	N
HEXANE, [N-]	110-54-3	10		Y	N	PARATHION	56-38-2	0.1		Y	Y	VINYL CHLORIDE	75-01-4	0.2		Y	N
HYDRAZINE	302-01-2	0.004		N	N	PCB [POLYCHLORINATED BIPHENYLS]	1336-36-3	0.009	X	Y	Y	XYLENE, [META-]	108-38-3	10	G	Y	N
HYDROGEN CHLORIDE	7647-01-0	10		N	N	PENTACHLORONITROBENZENE	82-68-8	0.3		Y	N	XYLENE, [ORTHO-]	95-47-6	10	G	Y	N
HYDROGEN FLUORIDE	7664-39-3	0.1		N	N	PENTACHLOROPHENOL	87-86-5	0.7		Y	N	XYLENE, [PARA-]	106-42-3	10	G	Y	N
HYDROQUINONE	123-31-9	1		Y	N	PHENOL	108-95-2	0.1		Y	N	XYLENES (MIXED ISOMERS)	1330-20-7	10	G	Y	N
INDENO(1,2,3-CD)PYRENE	193-39-5	0.01	V	Y	N	PHENYLENEDIAMINE, [PARA-]	106-50-3	10		Y	N						
ISOPHORONE	78-59-1	10		Y	N	PHOSGENE	75-44-5	0.1		Y	N						
LEAD COMPOUNDS		0.01	Q	N	Y	PHOSPHINE	7803-51-2	5		N	N						
LINDANE [GAMMA-HEXACHLOROCYCLOHEXANE]	58-89-9	0.01	F	Y	N	PHOSPHOROUS (YELLOW OR WHITE)	7723-14-0	0.1		N	N	Legend					
MALEIC ANHYDRIDE	108-31-6	1		Y	N	PHTHALIC ANHYDRIDE	85-44-9	5		Y	N	Group ID	Aggregate Group Name				
MANGANESE COMPOUNDS		0.8	R	N	Y	POLYCYCLIC ORGANIC MATTER		0.01	V	Y	N	A	Asbestos				
MERCURY COMPOUNDS		0.01	S	N	N	PROPANE SULFONE, [1,3-]	1120-71-4	0.03		Y	Y	B	Cresols/Cresylic Acid (isomers and mixtures)				
METHANOL	67-56-1	10		Y	N	PROPIOLACTONE, [BETA-]	57-57-8	0.1		Y	N	C	2,4 - D, Salts and Esters				
METHOXYCHLOR	72-43-5	10	V	Y	Y	PROPIONALDEHYDE	123-38-6	5		Y	N	D	Dibenzofurans, Dibenzodioxins				
METHOXYETHANOL, [2-]	109-86-4	10	P	Y	N	PROPOXUR [BAYGON]	114-26-1	10		Y	Y	E	4, 6 Dinitro-o-cresol, and Salts				
METHYL CHLORIDE	74-87-3	10		Y	N	PROPYLENE OXIDE	75-56-9	5		Y	N	F	Lindane (all isomers)				
METHYL ETHYL KETONE (Delisted)	78-93-3					PROPYLENEMINE, [1,2-]	75-55-8	0.003		Y	N	G	Xylenes (all isomers and mixtures)				
METHYL HYDRAZINE	60-34-4	0.06		Y	N	QUINOLINE	91-22-5	0.006		Y	N	H	Antimony Compounds				
METHYL IODIDE	74-88-4	1		Y	N	QUINONE	106-51-4	5		Y	N	I	Arsenic Compounds				
METHYL ISOBUTYL KETONE	108-10-1	10		Y	N	RADIONUCLIDES		Note 1	Y	N	Y	J	Beryllium Compounds				
METHYL ISOCYANATE	624-83-9	0.1		Y	N	SELENIUM COMPOUNDS		0.1	W	N	Y	K	Cadmium Compounds				
METHYL METHACRYLATE	80-62-6	10		Y	N	STYRENE	100-42-5	1		Y	N	L	Chromium Compounds				
METHYL TERT-BUTYL ETHER	1634-04-4	10		Y	N	STYRENE OXIDE	96-09-3	1		Y	N	M	Cobalt Compounds				
METHYLCYCLOPENTADIENYL MANGANESE	12108-13-3	0.1	R	N	Y	TETRACHLORODIBENZO-P-DIOXIN[2,3,7,8]	1746-01-6	6E-07	D,V	Y	Y	N	O	Cyanide Compounds			
METHYLENE BIS(2-CHLOROANILINE), [4,4-]	101-14-4	0.2	V	Y	Y	TETRACHLOROETHANE, [1,1,2,2-]	79-34-5	0.3		Y	N	P	Glycol Ethers				
METHYLENEDIANILINE, [4,4-]	101-77-9	1	V	Y	N	TETRACHLOROETHYLENE	127-18-4	10		N	N	Q	Lead Compounds (except elemental Lead)				
METHYLNAPHTHALENE, [2-]	91-57-6	0.01	V	Y	N	TITANIUM TETRACHLORIDE	7550-45-0	0.1		N	N	R	Manganese Compounds				
MINERAL FIBERS		0	T	N	Y	TOLUENE	108-88-3	10		Y	N	S	Mercury Compounds				
NAPHTHALENE	91-20-3	10	V	Y	N	TOLUENE DIISOCYANATE, [2,4-]	584-84-9	0.1		Y	N	T	Fine Mineral Fibers				
NAPHTHYLAMINE, [ALPHA-]	134-32-7	0.01	V	Y	N	TOLUIDINE, [ORTHO-]	95-53-4	4		Y	N	U	Nickel Compounds				
NAPHTHYLAMINE, [BETA-]	91-59-8	0.01	V	Y	N	TOXAPHENE	8001-35-2	0.01		Y	N	V	Polycyclic Organic Matter				
NICKEL CARBONYL	13463-39-3	0.1	U	N	Y	TRICHLOROBENZENE, [1,2,4-]	120-82-1	10		Y	N	W	Selenium Compounds				
NICKEL COMPOUNDS		1	U	N	Y	TRICHLOROETHANE, [1,1,1-]	71-55-6	10		N	N	X	Polychlorinated Biphenyls (Aroclors)				
NICKEL REFINERY DUST		0.08	U	N	Y	TRICHLOROETHANE, [1,1,2-]	79-00-5	1		Y	N	Y	Radionuclides				
NICKEL SUBSULFIDE	12035-72-2	0.04	U	N	Y	TRICHLOROETHYLENE	79-01-6	10		Y	N						
NITROBENZENE	98-95-3	1		Y	N	TRICHLOROPHENOL, [2,4,5-]	95-95-4	1		Y	N						
NITROBIPHENYL, [4-]	92-93-3	1	V	Y	N	TRICHLOROPHENOL, [2,4,6-]	88-06-2	6		Y	N						
NITROPHENOL, [4-]	100-02-7	5		Y	N	TRITHYLAMINE	121-44-8	10		Y	N						
NITROPROPANE, [2-]	79-46-9	1		Y	N	TRIFLURALIN	1582-09-8	9		Y	Y						

*For the most up-to-date table of HAPs and the associated SMAL values, consult Missouri Air Pollution Control Program's online resource document collection.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SDS	Safety Data Sheet
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Mr. Robby Harris
Process General Manager
Steelville Manufacturing Co.
P.O. Box 919
Steelville, Missouri 65565

RE: New Source Review Permit - Project Number: 2014-12-003

Dear Mr. Harris:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions 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 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 were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, Truman State Office Building P.O. Box 1557, Jefferson City, MO 65102, www.ao.mo.gov/ahc.

If you have any questions regarding this permit, please contact Jordan Hindman, Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, 573-751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:jhl

Enclosures

c: Southeast Regional Office
PAMS File: 2014-12-003
Permit Number: