

**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: **05 2017 - 002**      Project Number: 2016-05-052  
Installation Number: 143-0015

Parent Company:            SRG Global Coatings, Inc.

Parent Company Address: 800 Stephenson Highway, Troy, MI 48083

Installation Name:         SRG Global – Portageville

Installation Address:     101 South Meatte Avenue, Portageville, MO 63873

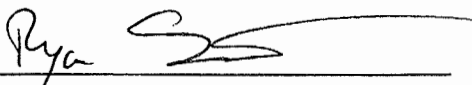
Location Information:     New Madrid County (S36, T21N, R12E)

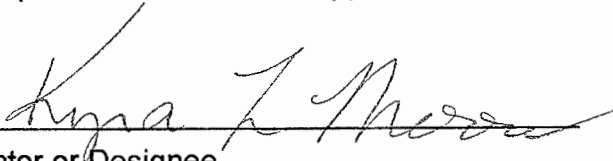
Application for Authority to Construct was made for:

The replacement of the existing molded plastic parts manufacturing facility with a new facility, including painting, injection molding, grinding, and electroplating operations. This review was conducted in accordance with Section (6), 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.

  
Prepared by  
Ryan Schott  
New Source Review Unit

  
Director or Designee  
Department of Natural Resources  
**MAY 02 2017**

Effective Date

## 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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of startup 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's regional office responsible for the area within which you are located within 15 days after the actual startup of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's 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 using the contact information below.

### Contact Information:

Missouri Department of Natural Resources  
Air Pollution Control Program  
P.O. Box 176  
Jefferson City, MO 65102-0176  
(573) 751-4817

The regional office information can be found at the following website:

<http://dnr.mo.gov/regions/>

**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."*

SRG Global – Portageville  
New Madrid County (S36, T21N, R12E)

1. Hexamethylene Diisocyanate (HDI) Emission Limitation
  - A. SRG Global – Portageville shall emit less than 0.02 tons of HDI in any consecutive 12-month period from the paint booth (PB-01).
  - B. Attachment A or an equivalent form, such as an electronic form approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 1.A.
2. HAP Emission Limitation
  - A. SRG Global – Portageville shall emit less than 10.0 tons individually and 25.0 tons combined of HAPs in any consecutive 12-month period from all emission units in this project (see Appendix A). The combined potential HAP emissions from all new emission units other than the paint booth (PB-01) total approximately 0.7 tons per year; therefore, if SRG Global – Portageville assumes that all new units emit at their maximum potential, PB-01 may be subsequently limited to emit less than 9.3 tons individually and 24.3 tons combined of HAPs in any consecutive 12-month period.
  - B. SRG Global – Portageville shall develop and use forms to demonstrate compliance with Special Condition 2.A. These forms shall contain, at a minimum, the following information:
    - 1) Installation name & ID number
    - 2) Permit number
    - 3) Current Month & 12-month date range
    - 4) Monthly throughput of each compound sprayed in PB-01
    - 5) Monthly emissions for each HAP
      - a) HAP emissions from PB-01 shall be calculated using mass balances, assuming that 100% of HAPs contained in the coatings are emitted. If some of the coatings are shipped offsite for disposal/recycling and the HAP content of those coatings are known through analysis, then SRG Global – Portageville reserves the right to subtract the HAP content of those coatings in the mass balances used during the month when calculating emissions. If SRG Global – Portageville chooses to subtract the HAP content from offsite shipments, then they shall randomly select 10% of the containers to be

**SPECIAL CONDITIONS:**

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

shipped for composite sampling for constituent analysis. Otherwise, HAP content shall be determined from the coatings' SDS; if a range is given, the maximum value shall be used.

- b) Non PB-01 HAP emissions shall be 0.06 tons per month
- 6) Total monthly HAP emissions
- 7) 12 month rolling total for each HAP, including the sum of all startup, shutdown, and malfunction emissions, as reported to the Air Pollution Control Program's Compliance/Enforcement Section
- 8) Indication of compliance with Special Condition 2.A

**3. Concurrent Equipment Operation Emission Limitations**

- A. SRG Global – Portageville shall limit the annual emissions of the following pollutants below their respective values listed in Table 1 for as long as the new equipment in this project (see Appendix A) operates concurrently with the existing equipment to be replaced at the facility.

Table 1: Concurrent Operation Emission Limitations

Pollutant	Limited Annual Emissions (tons)
HDI	<0.02
Individual HAPs	<10.0
Total HAPs	<25.0

- B. SRG Global – Portageville shall develop and use forms to demonstrate compliance with Special Condition 3.A. These forms shall contain, at a minimum, the following information:

- 1) Installation name & ID number
- 2) Permit number
- 3) Current Month & 12-month date range
- 4) All new and existing emission units operating concurrently
- 5) Monthly throughput of each new and existing emission unit
- 6) Monthly individual HAP emissions and total HAP emissions for each new emission unit
  - a) Electroless Tanks
    - (i) HAP emissions shall be calculated using Equation (4) of AP-42 Section 12.20, a capture efficiency of 90% for the hoods, and the respective control efficiency listed in Appendix A. Electroless Etching Tanks 3016-3021 shall also account for a HAP emission reduction of 60% for the use of surfactants/wetting agents.
  - b) Electrolytic Stripping Tanks
    - (i) No HAP emissions are expected
  - c) Copper Plating Tanks
    - (i) No HAP emissions are expected

**SPECIAL CONDITIONS:**

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

- d) Nickel Plating Tanks
  - (i) HAP emissions shall be calculated using emission factors from Table 12.20-4 of AP-42 Section 12.20, a capture efficiency of 90% for the hoods, and the respective control efficiency listed in Appendix A
- e) Chrome Plating Tanks
  - (i) HAP emissions shall be calculated using the chromium emission limitation methodology from 40 CFR Part 63 Subpart N (Chrome Plating MACT), a capture efficiency of 90% for the hoods, and the respective control efficiency listed in Appendix A
- f) Painting Operations
  - (i) HAP emissions (including HDI) shall be calculated using mass balances, assuming that 100% of HAPs in the coatings are emitted. If some of the coatings are shipped offsite for disposal/recycling and the HAP content of those coatings are known through analysis, then SRG Global – Portageville reserves the right to subtract the HAP content of those coatings in the mass balances used during the month when calculating emissions. If SRG Global – Portageville chooses to subtract the HAP content from offsite shipments, then they shall randomly select 10% of the containers to be shipped for composite sampling for constituent analysis. Otherwise, HAP emissions are assumed to equal the HAP usage rate. HAP content shall be determined from the coatings' SDS; if a range is given, the maximum value shall be used.
- g) Injection Molding
  - (i) HAP (styrene) emissions shall be calculated using an emission factor of 99.5 pounds per million pounds of applicable material (plastics containing free styrene)
- h) Grinding Operations
  - (i) No HAP emissions are expected
- i) Natural Gas Combusting Units
  - (i) HAP emissions shall be calculated using emissions factors from Table 1.4-3 of AP-42 Section 1.4
- j) Diesel Combusting Units
  - (i) HAP emissions shall be calculated using emission factors from Table 3.3-2 of AP-42 Section 3.3
- k) Diesel Storage Tanks
  - (i) HAP emissions shall be  $1.0\text{E}^{-5}$  tons per month

**SPECIAL CONDITIONS:**

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

- 7) Monthly individual HAP emissions and total HAP emissions for each existing emission unit
    - a) For all previously permitted emission units, continue using the emission calculation methods listed in the recordkeeping requirements of your current operating permit
  - 8) Total monthly individual HAP emissions and total HAP emissions
  - 9) 12 month rolling total for individual HAP emissions and total HAP emissions, including the sum of all startup, shutdown, and malfunction emissions, as reported to the Air Pollution Control Program's Compliance/Enforcement Section
  - 10) Indication of compliance with Special Condition 3.A
4. Capture Device Requirement – Plating Hoods
- A. SRG Global – Portageville shall capture emissions from all emission units venting to stacks EP-1, EP-2, EP-3, EP-5, and EP-6 (see Appendix A) using plating hoods.
  - B. SRG Global – Portageville shall minimize cross drafts by locating the new emission units and hoods inside a building with four sides and a roof.
  - C. SRG Global – Portageville shall demonstrate that each new hood adheres to the specifications of the 29<sup>th</sup> Edition of the American Conference of Governmental Industrial Hygienists' industrial ventilation manual, *Industrial Ventilation – A Manual of Recommended Practice* by keeping a record of the following applicable design parameters for each hood.
    - 1) The minimum recommended volumetric air flow
    - 2) The minimum recommended capture velocity
  - D. SRG Global – Portageville shall verify proper operation of each new hood at least once per calendar quarter while the plant is operating by performing an inspection of the hoods and ductwork from the tanks to their respective control devices.
  - E. At least once per calendar year (no less than nine calendar months and no more than fifteen calendar months following the previous test), SRG Global – Portageville shall verify the proper capture velocity of each new hood by performing a visual smoke puff test, anemometer test, or approved alternative test method at each emission stack listed in Special Condition 4.A.
  - F. For all hoods associated with previously permitted emission units, continue using the work practices listed in your current operating permit.

**SPECIAL CONDITIONS:**

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

5. Control Device Requirement – Wet Scrubbers
  - A. SRG Global – Portageville shall control particulate matter, sulfuric acid mist, and HAP emissions from all new emission units venting to stacks EP-1, EP-3, and EP-5 (see Appendix A) using wet scrubbers, as specified in the permit application.
  - B. The wet scrubbers shall be operated and maintained in accordance with the manufacturers' specifications. The scrubbers shall be equipped with gauges or meters, which indicate the pressure drop across the control devices. These gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.
  - C. SRG Global – Portageville shall monitor and record the operating pressure drop across the scrubbers 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.
  - D. SRG Global – Portageville shall monitor the liquid flow rate into the wet scrubbers at least once every 24 hours while the plant is operating and maintain a liquid flow rate within the manufacturer's specifications.
  - E. SRG Global – Portageville shall maintain copies of the scrubber manufacturers' performance warranties on site.
  - F. SRG Global – Portageville shall maintain an operating and maintenance log for the scrubbers, 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.
  - G. For all control devices associated with previously permitted emission units, continue using the control, monitoring, and recordkeeping requirements listed in your current operating permit.
6. Surfactant/Wetting Agent Requirement

SRG Global – Portageville shall use surfactants/wetting agents in Electroless Etching Tanks 3016-3021 according to the requirements of MACT WWWWWW, in order to reduce potential chromium (VI) emissions.
7. Control Device Requirement – Composite Mesh Pad Eliminators & HEPA Filter
  - A. SRG Global – Portageville shall control particulate matter, sulfuric acid mist, and HAP emissions from all new emission units venting to stack EP-2 (see Appendix A) using composite mesh pad eliminators, as specified in the permit application.

**SPECIAL CONDITIONS:**

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

- B. SRG Global – Portageville shall control particulate matter, sulfuric acid mist, and HAP emissions from all new emission units venting to stack EP-6 (see Appendix A) using composite mesh pad eliminators and a HEPA filter, as specified in the permit application.
  - C. The mesh pad eliminators and HEPA filter shall be operated and maintained in accordance with the manufacturers' specifications. The mesh pad eliminators/HEPA filter shall be equipped with gauges or meters, which indicate the pressure drop across the control devices. These gauges or meters shall be located such that Department of Natural Resources' employees may easily observe them.
  - D. SRG Global – Portageville shall monitor and record the operating pressure drop across the mesh pad eliminators/HEPA filter 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 manufacturers' performance warranties.
  - E. SRG Global – Portageville shall maintain copies of the composite mesh pad and HEPA filter manufacturers' performance warranties on site.
  - F. SRG Global – Portageville shall maintain an operating and maintenance log for the composite mesh pads and HEPA filter 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.
  - G. For all control devices associated with previously permitted emission units, continue using the control, monitoring, and recordkeeping requirements listed in your current operating permit.
8. Capture & Control Device Requirement – Paint Booth Filters
- A. SRG Global – Portageville shall capture and control emissions from painting operations (PB-01) using an enclosed paint booth and paint booth filters, as specified in the permit application.
  - B. Pressure drop indicators shall be installed on the paint booth to measure the pressure drop across the filters. Weekly monitoring of the pressure drop indicators shall be conducted to ensure the operating pressure drop is within the manufacturer's specified range. Daily visual monitoring of the paint booth shall be conducted to ensure proper operation of the capture device.



**SPECIAL CONDITIONS:**

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

- C. The filters shall be operated and maintained in accordance with the manufacturer's specifications.
  - D. Replacement filters 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).
  - E. SRG Global – Portageville shall maintain a copy of the filter manufacturer's performance warranty on site.
  - F. SRG Global – Portageville shall maintain an operating and maintenance log for the paint booths, 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.
  - G. For all control devices associated with previously permitted emission units, continue using the control, monitoring, and recordkeeping requirements listed in your current operating permit.
9. Control Device Requirement – Baghouse
- A. SRG Global – Portageville shall control emissions from grinding operations (GR-01) using a baghouse, as specified in the permit application.
  - B. The baghouse shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse 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 for the baghouse shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
  - D. SRG Global – Portageville shall monitor and record the operating pressure drop across the baghouse 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. SRG Global – Portageville shall maintain a copy of the baghouse manufacturer's performance warranty on site.

**SPECIAL CONDITIONS:**

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

- F. SRG Global – Portageville shall maintain an operating and maintenance log for the baghouse 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.
  
  - G. For all control devices associated with previously permitted emission units, continue using the control, monitoring, and recordkeeping requirements listed in your current operating permit.
10. Record Keeping and Reporting Requirements
- A. SRG Global – Portageville 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. SRG Global – Portageville 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 shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (6) REVIEW

Project Number: 2016-05-052  
Installation ID Number: 143-0015  
Permit Number: 052017-002

Installation Address:

SRG Global – Portageville  
101 South Meatte Avenue  
Portageville, MO 63873  
New Madrid County (S36, T21N, R12E)

Parent Company:

SRG Global Coatings, Inc.  
800 Stephenson Highway  
Troy, MI 48083

REVIEW SUMMARY

- SRG Global – Portageville has applied for authority to replace the existing molded plastic parts manufacturing facility with a new facility, including painting, injection molding, grinding, and electroplating operations.
- The application was deemed complete on May 26, 2016.
- HAP emissions are expected from the proposed equipment. HAPs of concern from these processes include chromium (VI) compounds, ethylbenzene, hexamethylene diisocyanate (HDI), nickel compounds, styrene, toluene, and xylene.
- 40 CFR 60 Subpart IIII – *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines* applies to Emergency Generator EM-01 and Emergency Fire Pump EM-02.
- 40 CFR 63 Subpart N – *National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks* applies to Chromium Electroplating Tanks TK-3103 & TK-3104. This "Chrome Plating MACT" has undergone a Risk and Technology Review (RTR) by the EPA.
- 40 CFR 63 Subpart ZZZZ – *National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines* applies to Emergency Generator EM-01 and Emergency Fire Pump EM-02.
- 40 CFR 63 Subpart WWWW – *National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations* applies to all tanks containing one or more plating and polishing metal HAP (cadmium, chromium, lead, manganese, and nickel).
- Plating hoods, wet scrubbers, surfactants/wetting agents, composite mesh pad eliminators, HEPA filters, paint booth filters, and a baghouse are being used to capture and control emissions from the equipment in this permit.

- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOCs are above the de minimis level but below the major source level. Potential emissions of all other pollutants are below their respective de minimis levels and SMALs.
- This installation is located in New Madrid 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 as a part of this permit. Testing may be required as part of other state, federal, or applicable rules (specifically, 40 CFR 63 Subpart N).
- Submittal of an amendment to your Part 70 Operating Permit is required within 12 months of equipment startup.
- Approval of this permit is recommended with special conditions.

#### INSTALLATION DESCRIPTION

SRG Global, Inc. (dba SRGGI) operates an existing molded plastic parts manufacturing facility located in Portageville, Missouri. Operations include painting, injection molding, grinding, and electroplating. The facility was built in the 1960s, prior to the Clean Air Act Amendments, so most of the existing equipment is "grandfathered." The existing facility is a Title V major source for criteria pollutants but has a synthetic limit to remain an area source for HAPs. The facility is a minor source for all pollutants with respect to PSD and currently operates under the Part 70 Operating Permit OP2012-041, which expires October 2, 2017.

The following New Source Review permits have been issued to SRG Global – Portageville from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
1198-008	Natural gas boiler
1298-009	4 HVLP spray booths

## PROJECT DESCRIPTION

SRG Global – Portageville is replacing its existing molded plastic parts manufacturing facility with a new facility. The new facility will produce molded plastic parts for the automotive industry. Plastic pellets will be formed into parts using high-pressure injection molding, and will then be painted and/ or electroplated prior to being shipped offsite as finished products or works in progress for further processing offsite. The new facility will consist of plastic injection molding machines (to be relocated from the existing facility), plastic grinding operations (to be relocated from the existing facility), a plating line, a small paint shop, a natural gas fired boiler to supply process heat to the plating line, an emergency generator, an emergency fire pump, and other non-emitting ancillary equipment.

The injection molding process (IM-01) will consist of 24 injection molding machines, which will utilize resin pellets. Resins will be molded into automotive parts by applying heat, and any scrap parts will be recycled back into the injection molding process through grinding operations (GR-01). Finished plastic parts will then be sent to either the plating line or the paint shop.

The plating line (EP-1, EP-2, EP-3, EP-5 & EP-6) will consist of electroless and electrolytic tanks. Before electroplating can occur, molded parts must go through a pre-plating process to prepare the part surfaces so that the metal can be attached to the plastic substrate. Pre-plating involves stripping, etching, dipping, and other processes prior to copper, nickel, and chromium electroplating.

Painting operations will consist of a paint booth (PB-01) and a curing oven (PBO-01). Coatings will be comprised of paint, solvent/thinner, and/or a catalyst depending on the required use. The coatings will primarily be applied robotically, with periodic hand application inside the booth for incidental touch-up or limited service part runs. The coated parts will then be cured in the paint booth oven. The curing oven will be heated by a 0.58 MMBtu/hr natural gas fired heater.

The new facility will have a 530 horsepower (or less) diesel fired emergency generator (EM-01) and a 260 horsepower diesel fired emergency fire pump (EM-02). These units will be used to supply energy to equipment in the event of unexpected power loss. Fuel for these emergency units will be stored in two diesel storage tanks (DTK). In addition, the facility will use 2 packaged air conditioning units (H-PACU), 6 make-up air units (H-MAU), 8 rooftop units (H-RTU), 5 space heaters (H-SH), 5 unit heaters (H-UH), and a domestic water heater (H-DWH), all of which are natural gas fired. A complete list of emission units for the new facility is provided in Appendix A.

SRG Global – Portageville has requested to keep the design rates and emission factors of this project confidential per Missouri State Rules 10 CSR 10-6.210 *Confidential Information*; therefore, none of this specific information is given in the permit. This permit is a public version, and there is no confidential version of the permit.

## EMISSIONS/CONTROLS EVALUATION

The emission factors and control efficiencies used in this analysis were obtained from the following sections of the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition:

- Section 1.4 *Natural Gas Combustion* (July 1998)
- Section 3.3 *Gasoline and Diesel Industrial Engines* (October 1996)
- Section 11.19.2 *Crushed Stone Processing and Pulverized Mineral Processing* (August 2004)
- Section 12.20 *Electroplating* (July 1996)

Particulate, HAP, and sulfuric acid mist emissions from the electroless tanks were calculated using Equation (4) from AP-42 Section 12.20. Equation (4) estimates the uncontrolled emissions based on the aeration air supplied to each tank. Emissions are generated from the electroless plating tanks when gas bubbles from aeration burst at the surface of the plating solution and form a mist; therefore, tanks without aeration supply are not sources of emissions. The aeration rate to each tank was used to calculate the total uncontrolled emissions per tank group, with tanks being grouped based on service. Total uncontrolled emissions were classified using a maximum concentration for each chemical per tank group. Each electroless tank is controlled by one of the three control systems at the facility (CD-2, CD-3, and CD-6), with control efficiencies for particulates, sulfuric acid mist, and HAPs ranging from 98% – 99.9% per system (see Appendix A). Capture efficiencies for plating hoods are cited in two documents: *Chromium Plating & Anodizing Operations Using Chromic Acid, Calculations Guidance Package*, TCEQ (October 2007) and *EPA's Metal Finishing Facility Risk Screening Tool Part 2: Updates to Source Emission Characterization*, AESF/EPA (January 2000). The capture efficiencies of all plating hoods at the facility were conservatively taken to be 90%, which is lower than the values listed in either of the above sources, as well as lower than the default value listed in the American Conference of Governmental Industrial Hygienists' industrial ventilation manual, *Industrial Ventilation – A Manual of Recommended Practice*. Additionally, surfactants/wetting agents are used in Electroless Etching Tanks 3016-3021, which reduce emissions by decreasing the surface tension of the plating solution. The emission reduction efficiency of the surfactants/wetting agents was conservatively taken to be 60%, which is lower than the minimum reduction efficiency listed in AP-42 Section 12.20. Per Note 4 of the *Table of Hazardous Air Pollutants, Screening Model Action Levels, and Risk Assessment Levels*, Revision 10 (May 2012), the total mass of the emitted chromium (VI) compound (chromic acid) is used to determine emissions for comparison to major source thresholds, but only the metal portion of the compound (44.1%) is used to determine emissions for comparison to the SMAL.

Particulate emissions from the electrolytic stripping tanks (EP-1) were calculated using Equation (2) from AP-42 Section 12.20. Equation (2) estimates the controlled emissions based on the volume of exhaust air from the scrubber. Uncaptured emissions were estimated by back-calculating, using the capture efficiency of 90%.

Emissions from copper electroplating (EP-3) were calculated using the emission factor provided for copper sulfate electroplating tanks with a wet scrubber, found in AP-42 Section 12.20, Table 12.20-4. The exhaust air rate from the scrubber was used to determine the controlled emissions. Uncaptured emissions were estimated by back-calculating, using a capture efficiency of 90%. Particulate emissions were assumed to equal sulfuric acid mist emissions and copper emissions.

Emissions from nickel electroplating (EP-5) were calculated using the emission factor provided for nickel electroplating tanks with a wet scrubber, found in AP-42 Section 12.20, Table 12.20-4. The exhaust air rate from the scrubber was used to determine the controlled emissions. Uncaptured emissions were estimated by back-calculating, using a capture efficiency of 90%. Particulate emissions were assumed to equal nickel emissions.

Chromium (VI) emissions from chromium electroplating (EP-6) were calculated using the chromium emission limitation from 40 CFR Part 63, Subpart N (Chrome Plating MACT). Particulate emissions were calculated using the emission factor provided for chromium electroplating tanks, found in AP-42 Section 12.20, Table 12.20-1. The volume of exhaust air from the scrubber was used to determine the controlled emissions. Uncaptured emissions were estimated by back-calculating, using a capture efficiency of 90%. Sulfuric acid mist emissions were assumed to equal particulate emissions. Note that emissions from new sources that are subject to a MACT standard for which the EPA has performed a Risk and Technology Review (RTR) are not required to complete an air quality analysis for HAPs. Decorative Chrome Plating Tanks TK-3103 & TK-3104 are subject to the Chrome Plating MACT, which has undergone the EPA's RTR; therefore, emissions from these tanks were excluded from the installation-wide totals for comparison to the chromium (VI) SMAL. As a result, chromium (VI) emissions from all plating operations total 0.17 tons per year, which is less than the major source level (10.0 tons per year), and chromium (VI) emissions from all plating operations excluding TK-3103 & TK-3104 total 0.0015 tons per year, which is less than the SMAL (0.002 tons per year).

Emissions from painting operations (PB-01) are based on the maximum number of parts that can be coated per hour multiplied by the amount of coating used for each part. The maximum PM, VOC, and HAP emissions were determined for each catalyst, paint, and solvent/thinner. Potential emissions were calculated by determining the worst case emission rate for each particular pollutant. The air-atomized spray gun was given a 50% transfer efficiency for particulates, and the paint booth filters were given a 97% control efficiency. SRG Global – Portageville is requesting a voluntary HDI limit below the SMAL of 0.02 tons per year, to avoid modeling requirements.

Particulate matter and VOC emissions from injection molding (IM-01) were estimated using emission factors taken from various industry emission studies, such as the Journal of the Air & Waste Management Association document, *Development of Emission Factors for Polycarbonate Processing* (December 2011). Polyacrylonitrile-butadiene-styrene (PC-ABS), a thermoplastic, is primarily used for this type of injection molding; therefore, potential emissions are minimal due to a lack of chemical reactions

taking place. It was conservatively assumed that styrene emissions constitute 50% of the total VOC emissions from the injection molding process (with styrene generally constituting 40-50%). Although SRG Global – Portageville has the ability to use lower styrene or non-styrene containing plastic pellets, the use of PC-ABS pellets is considered the worst case scenario for emissions.

Particulate emissions from grinding operations (GR-01) were estimated using emission factors taken from AP-42 Section 11.19.2, Table 11.19.2-4. Grinding operations are controlled by a baghouse; therefore, the emission factors are represented by dry grinding emissions with fabric filter control. Based on practical experience, it was assumed that 3% of the total weight of material from injection molding is scrapped and recycled in the grinder.

Natural gas combustion emissions from the boiler (B-01), paint booth oven (PBO-01), packaged air conditioning units (H-PACU), make-up air units (H-MAU), rooftop units (H-RTU), space heaters (H-SH), unit heaters (H-UH), and domestic water heater (H-DWH), were calculated based on emission factors taken from AP-42 Section 1.4, Tables 1.4-1, 1.4-2 & 1.4-3.

Emissions from the diesel fired emergency generator (EM-01) were calculated using emission factors taken from 40 CFR 89.112, Table 1, Tier 3 and AP-42 Section 3.3, Tables 3.3-1 & 3.3-2. Emissions from the diesel fired emergency fire pump (EM-02) were calculated using emission factors taken from 40 CFR 60, Subpart IIII, Table 4 and AP-42 Section 3.3, Tables 3.3-1 & 3.3-2. It was assumed that all particulate matter is PM<sub>2.5</sub>. Emissions from the diesel storage tanks that provide fuel for the emergency equipment were estimated using the EPA's TANKS Emissions Estimation Software.

All haul roads at the facility are paved and only span a short distance between the facility buildings and property boundary. Due to the nature of the facility, haul roads are limited to infrequent traffic based on raw material requirements, products manufactured, and waste produced. Potential emissions from haul roads are expected to be negligible and were, therefore, not included in this analysis.

The following table provides an emissions summary for this project. Existing potential emissions were taken from the installation's current operating permit (OP2012-041). Existing actual emissions were taken from the installation's 2015 EIQ. Potential emissions of the project represent the potential of the equipment, assuming continuous operation (8,760 hours per year for process equipment, 500 hours per year for emergency equipment). Conditioned potential emissions of the project account for voluntarily limiting HDI below the SMAL. Although the facility's potential to emit HAPs is below major source levels (10.0 tons per year individual, 25.0 tons per year combined), SRG Global – Portageville has voluntarily requested to limit their HAP emissions below major source levels.



Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Level / SMAL	Existing Potential Emissions	Existing Actual Emissions (2015 EIQ)	Potential Emissions of the Project	Conditioned Potential Emissions of the Project
PM	25.0	2.48	N/D	5.42	5.42
PM <sub>10</sub>	15.0	12.30	0.14	5.42	5.42
PM <sub>2.5</sub>	10.0	0.83	0.13	5.42	5.42
SO <sub>x</sub>	40.0	1.38	0.02	0.51	0.51
NO <sub>x</sub>	40.0	45.32	4.82	19.63	19.63
VOC	40.0	105.03	29.02	152.73	152.73
CO	100.0	36.91	0.70	16.14	16.14
Chromium (VI) Compounds	10.0 / 0.002	N/D	N/D	0.17	0.17*
Ethylbenzene	10.0 / 10	1.60	N/D	8.33	8.33
HDI	10.0 / 0.02	0.08	N/D	0.02	<0.02
Nickel Compounds	10.0 / 1	0.08	N/D	0.068	0.068
Styrene	10.0 / 1	0.62	N/D	0.25	0.25
Toluene	10.0 / 10	0.40	N/D	5.77	5.77
Xylene	10.0 / 10	4.05	N/D	9.63	9.63
Total HAPs	25.0	14.78	N/D	12.39	<25.0
Sulfuric Acid Mist	7.0	N/D	N/D	1.10	1.10

N/D = Not Determined

\*Chromium (VI) emissions from all sources, excluding those subject to MACT Subpart N which has undergone the EPA's RTR, total 0.0015 tons per year

### PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOCs are above the de minimis level but below the major source level. Potential emissions of all other pollutants are below their respective de minimis levels and SMALs.

### APPLICABLE REQUIREMENTS

SRG Global – Portageville 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

- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Operating Permits*, 10 CSR 10-6.065
- *Reporting Emission Data, Emission Fees, and Process Information*, 10 CSR 10-6.110
  - Per 10 CSR 10-6.110(4)(B)2.A, a full EIQ is required annually.
- *Restriction of Emission of Odors*, 10 CSR 10-6.165
- *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
- 

## SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070
  - *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*, 40 CFR Part 60, Subpart IIII
- *MACT Regulations*, 10 CSR 10-6.075
  - *National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks*, 40 CFR Part 63, Subpart N
  - *National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines*, 40 CFR Part 63, Subpart ZZZZ
  - *National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations*, 40 CFR Part 63, Subpart WWWWWW

## STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 9, 2016, received May 10, 2016, designating SRG Global, Inc. as the owner and operator of the installation.



## APPENDIX A

### Emission Unit Summary

Emission Unit ID	Stack ID	Emission Unit Description	Control Device ID	Control Device Description	Control Efficiency
TK-2017	EP-1	Electrolytic Metal Stripping Tank	CD-1	Scrubber 1 – Stripping Tanks	98%
TK-2018		Electrolytic Metal Stripping Tank			
TK-2022		Electrolytic Strip Tank			
TK-2023		Electrolytic Strip Tank			
TK-2024		Electrolytic Strip Tank			
TK-2025		Electrolytic Strip Tank			
TK-2026		Electrolytic Strip Tank			
TK-2027		Electrolytic Strip Tank			
TK-3016	EP-2	Electroless Etching Tank	CD-2A & CD-2B	Mesh Pad System 2A – 2 Stage Chrome Separator & Mesh Pad System 2B – Chrome Etch Separator	98% & 99.9%
TK-3017		Electroless Etching Tank			
TK-3018		Electroless Etching Tank			
TK-3019		Electroless Etching Tank			
TK-3020		Electroless Etching Tank			
TK-3021		Electroless Etching Tank			
TK-3028	Electroless Chrome Reduction Tank	CD-2B	Scrubber 2B – Chrome Etch Separator	99.9%	
TK-3041	EP-3	Electroless Accelerator Tank	CD-3	Scrubber 3 – Pre-Treat Copper Tanks	98%
TK-3053		Electroless IC – Copper Plating Tank			
TK-3054		Copper Strike Plating Tank			
TK-3055		Copper Strike Plating Tank			
TK-3056		Acid Copper Plating Tank			
TK-3057		Acid Copper Plating Tank			
TK-3058		Acid Copper Plating Tank			
TK-3059		Acid Copper Plating Tank			
TK-3060		Acid Copper Plating Tank			
TK-3061		Acid Copper Plating Tank			
TK-3062		Acid Copper Plating Tank			
TK-3063		Acid Copper Plating Tank			
TK-3066		Acid Copper Plating Tank			
TK-3067		Acid Copper Plating Tank			
TK-3068		Acid Copper Plating Tank			
TK-3069		Acid Copper Plating Tank			
TK-3072		Electroless Copper Activation Tank			

## APPENDIX A

### Emission Unit Summary

Emission Unit ID	Stack ID	Emission Unit Description	Control Device ID	Control Device Description	Control Efficiency				
TK-3076	EP-5	Semi-Bright Nickel Plating Tank	CD-5	Scrubber 5 – Nickel Tanks	98%				
TK-3077		Semi-Bright Nickel Plating Tank							
TK-3078		Semi-Bright Nickel Plating Tank							
TK-3079		Semi-Bright Nickel Plating Tank							
TK-3080		Semi-Bright Nickel Plating Tank							
TK-3081		Semi-Bright Nickel Plating Tank							
TK-3082		Semi-Bright Nickel Plating Tank							
TK-3083		Semi-Bright Nickel Plating Tank							
TK-3088		Satin Nickel Plating Tank							
TK-3089		Satin Nickel Plating Tank							
TK-3093		Bright Nickel Plating Tank							
TK-3094		Bright Nickel Plating Tank							
TK-3095		Bright Nickel Plating Tank							
TK-3096		Bright Nickel Plating Tank							
TK-3097		MPS Nickel Plating Tank							
TK-3098		MPS Nickel Plating Tank							
TK-3102		EP-6				Electroless Chrome Activator Tank	CD-6	Mesh Pad System 6 – Chrome Tanks	99.9%
TK-3103						Decorative Chrome Plating Tank			
TK-3104	Decorative Chrome Plating Tank								
PB-01	PB-01	Paint Booth	CD-7	Paint Booth Filter	97%				
PBO-01	PBO-01	0.58 MMBtu/hr NG Paint Booth Oven	N/A	N/A	N/A				
IM-01	N/A*	(24) Injection Molding Machines	N/A	N/A	N/A				
GR-01	N/A*	Grinding	CD-8	Baghouse	99.5%				
B-01	B-01	8.2 MMBtu/hr NG Hot Water Boiler	N/A	N/A	N/A				
H-PACU	PACU-01 – PACU-02	(2) 0.24 MMBtu/hr NG Packaged A/C Units	N/A	N/A	N/A				
H-MAU	MAU-01 – MAU-06	(1) 0.12 MMBtu/hr NG Make-Up Air Unit (1) 5.64 MMBtu/hr NG Make-Up Air Unit (4) 5.28 MMBtu/hr NG Make-Up Air Units	N/A	N/A	N/A				
H-RTU	RTU-01 – RTU-08	(6) 0.15 MMBtu/hr NG Rooftop Units (2) 0.08 MMBtu/hr NG Rooftop Units	N/A	N/A	N/A				
H-SH	SH-01 – SH-05	(2) 1.2 MMBtu/hr NG Space Heaters (3) 0.34 MMBtu/hr NG Space Heaters	N/A	N/A	N/A				

## APPENDIX A

### Emission Unit Summary

Emission Unit ID	Stack ID	Emission Unit Description	Control Device ID	Control Device Description	Control Efficiency
H-UH	UH-01 – UH-05	(2) 0.25 MMBtu/hr NG Unit Heaters (3) 0.13 MMBtu/hr NG Unit Heaters	N/A	N/A	N/A
H-DWH	DWH-01	0.08 MMBtu/hr NG Domestic Water Heater	N/A	N/A	N/A
HR	HR	Haul Roads	N/A	N/A	N/A
EM-01	EM-01	530hp Diesel Emergency Generator	N/A	N/A	N/A
EM-02	EM-02	260hp Diesel Emergency Fire Pump	N/A	N/A	N/A
DTK	DTK-01 & DTK-02	(2) Diesel Storage Tanks	N/A	N/A	N/A

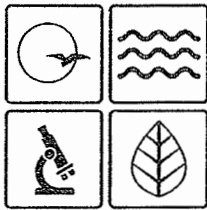
\*These units will be vented inside the building

## APPENDIX B

### Abbreviations and Acronyms

<b>%</b> .....	percent	<b>m/s</b> .....	meters per second
<b>°F</b> .....	degrees Fahrenheit	<b>Mgal</b> .....	1,000 gallons
<b>acfm</b> .....	actual cubic feet per minute	<b>MW</b> .....	megawatt
<b>BACT</b> .....	Best Available Control Technology	<b>MHDR</b> .....	maximum hourly design rate
<b>BMPs</b> .....	Best Management Practices	<b>MMBtu</b> ..	Million British thermal units
<b>Btu</b> .....	British thermal unit	<b>MMCF</b> .....	million cubic feet
<b>CAM</b> .....	Compliance Assurance Monitoring	<b>MSDS</b> .....	Material Safety Data Sheet
<b>CAS</b> .....	Chemical Abstracts Service	<b>NAAQS</b> ..	National Ambient Air Quality Standards
<b>CEMS</b> .....	Continuous Emission Monitor System	<b>NESHAPs</b>	National Emissions Standards for Hazardous Air Pollutants
<b>CFR</b> .....	Code of Federal Regulations	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CO</b> .....	carbon monoxide	<b>NSPS</b> .....	New Source Performance Standards
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>NSR</b> .....	New Source Review
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>PM</b> .....	particulate matter
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>CSR</b> .....	Code of State Regulations	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>dscf</b> .....	dry standard cubic feet	<b>ppm</b> .....	parts per million
<b>EIQ</b> .....	Emission Inventory Questionnaire	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>EP</b> .....	Emission Point	<b>PTE</b> .....	potential to emit
<b>EPA</b> .....	Environmental Protection Agency	<b>RACT</b> .....	Reasonable Available Control Technology
<b>EU</b> .....	Emission Unit	<b>RAL</b> .....	Risk Assessment Level
<b>fps</b> .....	feet per second	<b>SCC</b> .....	Source Classification Code
<b>ft</b> .....	feet	<b>scfm</b> .....	standard cubic feet per minute
<b>GACT</b> .....	Generally Available Control Technology	<b>SDS</b> .....	Safety Data Sheet
<b>GHG</b> .....	Greenhouse Gas	<b>SIC</b> .....	Standard Industrial Classification
<b>gpm</b> .....	gallons per minute	<b>SIP</b> .....	State Implementation Plan
<b>gr</b> .....	grains	<b>SMAL</b> .....	Screening Model Action Levels
<b>GWP</b> .....	Global Warming Potential	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>HAP</b> .....	Hazardous Air Pollutant	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>hr</b> .....	hour	<b>tph</b> .....	tons per hour
<b>hp</b> .....	horsepower	<b>tpy</b> .....	tons per year
<b>lb</b> .....	pound	<b>VMT</b> .....	vehicle miles traveled
<b>lbs/hr</b> .....	pounds per hour	<b>VOC</b> .....	Volatile Organic Compound
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		





Missouri Department of dnr.mo.gov

# NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

MAY 02 2017

Mr. Steven Sherriff  
Environmental Director  
SRG Global – Portageville  
P.O. Box 486  
Ripley, TN 38063

RE: New Source Review Permit - Project Number: 2016-05-052

Dear Mr. Sherriff:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix B 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 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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

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, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: [www.oa.mo.gov/ahc](http://www.oa.mo.gov/ahc).



Recycled paper

Mr. Steven Sherriff  
Page Two

If you have any questions regarding this permit, please do not hesitate to contact Ryan Schott, at the Department of Natural Resources' 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



Susan Heckenkamp  
New Source Review Unit Chief

SH:rsj

Enclosures

c: Southeast Regional Office  
PAMS File: 2016-05-052

Permit Number: 052017-002