

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: **032018-001**

Project Number: 2017-06-029

Installation Number: 095-2442

Parent Company: Department of Energy

Parent Company Address: 14520 Botts Rd, Kansas City, MO 64147

Installation Name: U.S. DOE NNSA Kansas City National Security Campus

Installation Address: 14520 Botts Rd, Kansas City, MO 64147

Location Information: Jackson County, S27, T47N, R33W

Application for Authority to Construct was made for:
Special case de minimis permit for PM₁₀, NO_x, VOC, and HAPs. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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

Prepared by
David Little, PE
Environmental Engineer III
New Source Review Unit

Director or Designee
Department of Natural Resources

MAR 02 2018

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 start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of 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."

**U.S. DOE NNSA Kansas City National Security Campus
Jackson County, S27, T47N, R33W**

1. Superseding Condition

The conditions of this permit supersede all of the special conditions in the following permits.

- A. Permit 1227
- B. Permit 1227A
- C. Permit 1227B
- D. Permit 032014-010
- E. Permit 032014-010A
- F. Permit 042017-004

2. PM₁₀ Emission Limitation

- A. U.S. DOE NNSA Kansas City National Security Campus (herein NNSA) shall emit less than 5.0 tons of PM₁₀ in any consecutive 12-month period from all PM₁₀ emission units at the installation as indicated in Appendix C, Attachment 4, including all emission units added during this permit effective period. As shown in Appendix C Attachments 1, 3, and 4, emissions associated with individual emission units are tracked at the grouped process level.
- B. NNSA shall develop and use electronic or written forms to demonstrate compliance with Special Condition 2.A. The forms shall contain at a minimum the following information,
 - 1) Installation name
 - 2) Installation ID
 - 3) Permit number
 - 4) Current month
 - 5) Current 12-month date range
 - 6) Monthly throughput for each emission unit with the potential to emit PM₁₀
 - 7) PM₁₀ emission factors for each emission unit, see Appendix C, Attachments 1 and 2
 - 8) Monthly PM₁₀ emissions for each emission unit calculated using the methods in Appendix C, Attachments 2 and 3
 - 9) Monthly PM₁₀ emissions calculated by summing PM₁₀ emissions from all emission units
 - 10) 12-month rolling total PM₁₀ emissions from all emission units, and the sum of all PM₁₀ emissions from startup, shutdown, and

SPECIAL CONDITIONS:

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

malfunaction as reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050

- 11) Indication of compliance with Special Condition 2.A.

3. NO_x Emission Limitation

A. NNSA shall emit less than 2.0 tons of NO_x in any consecutive 12-month period from all NO_x emission units at the installation as indicated in Appendix C, Attachments 5 and 5.a, including all emission units added during this permit effective period. As shown in Appendix C Attachments 1, 3, and 4, emissions associated with individual emission units are tracked at the grouped process level.

B. NNSA shall develop and use electronic or written forms to demonstrate compliance with Special Condition 3.A. The forms shall contain at a minimum the following information,

- 1) Installation name
- 2) Installation ID
- 3) Permit number
- 4) Current month
- 5) Current 12-month date range
- 6) Monthly throughput for each emission unit with the potential to emit NO_x, as indicated in Appendix C Attachments 5 and 5.a
- 7) NO_x emission factors for each emission unit, see Appendix C, Attachments 5 and 5a
- 8) Monthly NO_x emissions for each emission unit calculated using the methods in Appendix C, Attachments 3, 5 and 5a
- 9) Monthly NO_x emissions calculated by summing NO_x emissions from all emission units, as indicated in Appendix C Attachments 5 and 5.a
- 10) 12-month rolling total NO_x emissions from all emission units, and the sum of all NO_x emissions from startup, shutdown, and malfunaction as reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050
- 11) Indication of compliance with Special Condition 3.A.

4. VOC Emission Limitation

A. NNSA shall emit less than 39.0 tons of VOC in any consecutive 12-month period from all VOC emission units at the installation as indicated in Appendix C, Attachment 4, including all emission units added during this permit effective period. As shown in Appendix C Attachments 1, 3, and 4, emissions associated with individual emission units are tracked at the grouped process level.

SPECIAL CONDITIONS:

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

- B. NNSA shall develop and use electronic or written forms to demonstrate compliance with Special Condition 4.A. The forms shall contain at a minimum the following information,
- 1) Installation name
 - 2) Installation ID
 - 3) Permit number
 - 4) Current month
 - 5) Current 12-month date range
 - 6) Monthly throughput for each emission unit with the potential to emit VOC
 - 7) VOC emission factors for each emission unit, see Appendix C, Attachment 1
 - 8) Monthly VOC emissions for each emission unit calculated using the methods in Appendix C, Attachment 3
 - 9) Monthly VOC emissions calculated by summing VOC emissions from all emission units
 - 10) 12-month rolling total VOC emissions from all emission units, and the sum of all VOC emissions from startup, shutdown, and malfunction as reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050
 - 11) Indication of compliance with Special Condition 4.A.
5. HAP Emission Limitations
- A. NNSA shall not exceed the respective SMAL for each individual HAP emission in any consecutive 12-month period from the combined installations ID 095-2450 and ID 095-2442.
- B. NNSA shall emit less than 25.0 tons per year of combined HAPs in any consecutive 12-month period from the combined installations ID 095-2450 and ID 095-2442.
- C. The combined installations ID 095-2450 and ID 095-2442 include all of the following,
- 1) ID 095-2450: all emission units as indicated in Table 2 of project 2017-11-005
 - 2) ID 095-2442: all emission units as indicated in Appendix C, Attachment 4 including all emission units added during this permit effective period. As shown in Appendix C Attachments 1, 3, and 4, emissions associated with individual emission units are tracked at the grouped process level.
- D. NNSA shall develop and use electronic or written forms to demonstrate compliance with Special Conditions 5.A and 5.B. for ID 095-2442. The

SPECIAL CONDITIONS:

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

forms shall contain at a minimum the following information,

- 1) Installation name
- 2) Installation ID
- 3) Permit number
- 4) Current month
- 5) Current 12-month date range
- 6) Monthly throughput for each emission unit with the potential to emit HAPs
- 7) Individual HAP (e.g. example individual HAPs are toluene, hexavalent chromium compounds, and ethylene glycol ethers. There are 187 individual HAPs. Hexavalent chromium compounds and ethylene glycol ethers are examples of individual HAPs that each consist of several compounds.) emission factors and combined HAP (e.g. combined HAPs is the sum of all HAPs) emission factors for each emission unit, see Appendix C, Attachment 1 and that attachment's footnotes.
- 8) Individual HAP emissions for each emission unit at ID 095-2442 calculated using the methods in Appendix C, Attachments 1 and 3
- 9) Monthly individual HAP emissions calculated by summing that individual HAP emission from all emission units at installation IDs 095-2450 and 095-2442. NNSA shall account for HAP emissions from ID 095-2450 by using emission factors obtained from project 2017-11-005 Table 5 and by using ID 095-2450 actual emissions or potential emissions. NNSA shall indicate the method being used, actuals or potential.
- 10) 12-month rolling total individual HAP emissions from all emission units at installation IDs 095-2450 and 095-2442, and the sum of all individual HAP emissions from startup, shutdown, and malfunction as reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050
- 11) Individual HAP SMAL obtained from Appendix B or the most recent *Air Pollution Control Program Table of Hazardous Air Pollutants, Screening Model Action Levels, and Risk Assessment Levels* available at <http://dnr.mo.gov/env/apcp/permits/constpmtguide.htm>
- 12) Monthly combined HAP emissions calculated by summing all individual HAP emissions from all emission units at installation IDs 095-2450 and 095-2442. NNSA shall account for HAP emissions from ID 095-2450 using emission factors obtained from project 2017-11-005 Table 5 and using actual emissions or potential emissions. NNSA shall indicate the method being used, actuals or potential.
- 13) 12-month rolling total combined HAP emissions from all emission units at installation IDs 095-2450 and 095-2442, and the sum of all

SPECIAL CONDITIONS:

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

combined HAP emissions from startup, shutdown, and malfunction as reported to the Air Pollution Control Program's Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050

- 14) Indication of compliance status with Special Conditions 5.A and 5.B.

6. Operational Requirement – VOC Containing Materials
NNSA shall keep all VOC containing chemicals/raw materials in closed containers whenever the chemicals/raw materials are in storage, internal transport on-site, or not currently in use inside of or at an emission unit.

7. Permit Reopening
The Director may reopen this permit for any of the following:
 - A. Correct typographical/calculation errors or reflect a more accurate determination of emissions used to establish the permit;

 - B. To reflect newly applicable federal, state, or local requirements with compliance dates after the permit effective date;

 - C. Apply requirements, that are enforceable as a practical matter, and that Missouri may impose on NNSA in Missouri's State Implementation Plan;

 - D. Reduce the permit limits if the Director determines that a reduction is necessary to avoid causing or contributing to
 - 1) a NAAQS or PSD increment violation, or
 - 2) an adverse impact on an air quality related value that has been identified for a Federal Class I area by a Federal Land Manager, or
 - 3) a RAL violation;

 - E. Address other items as determined by the Director.

8. Permit Renewal
 - A. The effective period of this permit is ten years, commencing on the effective date listed on the cover page.

 - B. NNSA shall submit a complete and timely application to the Director to request renewal of this permit. A timely application is one that is submitted at least six months prior to, but no earlier than 18 months prior to, the end of this permit's effective period.
 - 1) If NNSA submits a complete *Application for Authority to Construct* to renew this permit within this time period, then this permit shall continue to be effective until a new permit is issued.

SPECIAL CONDITIONS:

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

- 2) If this permit is not renewed, then the following requirements shall apply:
 - a) NNSA shall lose the ability to add new or modify existing emission units to the installation-wide special case de minimis PM₁₀, NO_x, VOC, and HAP limits. The installation-wide special case de minimis limits become static de minimis limits that apply only to the emission units in place at the end of the permit effective period. The addition of new or modified emission units may cause the installation to exceed de minimis.
 - b) NNSA shall continue to comply with each applicable federal, state, or local requirement that applied either during the permit effective period or prior to the permit effective period.
9. **Emission Units Added or Modified During Permit Effective Period**

NNSA shall maintain a complete, accurate list of all PM₁₀, NO_x, VOC, and HAP emission units at this installation by using Appendix C, Attachment 4 including all emission units added during this permit effective term, or an equivalent electronic form. All emission units shall be included regardless of the level of potential emissions, actual emissions, or if an emission unit appears to meet an exemption in 10 CSR 10-6.061 *Construction Permit Exemptions*. Before constructing a new emission unit at the installation or modifying an emission unit already listed in Appendix C, Attachment 4, NNSA shall perform the following,

 - A. Add the new emission unit to or update the existing emission unit in Appendix C, Attachment 4. Clearly indicate that the emission unit is new or modified, respectively. Include the date the new construction or modification began construction.
 - B. Create and assign a unique emission unit identification number to the new emission unit.
 - C. Use the respective emission factors as indicated in Appendix C, Attachments 1, 2, 5, and 5a.
 - D. For new emission units that do not match a description as indicated in Appendix C, NNSA shall submit a complete *Application for Authority to Construct* to the Air Pollution Control Program at least 90 days prior to commencing construction of the new emission unit.
 - E. It is not a violation if NNSA fails to include a very low emitting and difficult to inventory individual emission unit at Special Condition 9.A., B. or D. An example of such an emission unit includes but is not limited to a handheld drill or saw. NNSA calculates emissions towards compliance with the special case de minimis limits using grouped processes where the number

SPECIAL CONDITIONS:

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

of individual emission units comprising a single process may be irrelevant. For example, the addition of a handheld tool may be a new emission unit, however emissions are tracked by the disbursed part number and process type such as dry machining.

10. Record Keeping and Reporting

- A. NNSA shall maintain all records required by this permit for not less than ten years and shall make them available to any Missouri Department of Natural Resources' personnel upon request. These records shall include SDS for all materials used.

- B. NNSA shall report all of the following to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by e-mail at AirComplianceReporting@dnr.mo.gov,
 - 1) An exceedance report, 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.
 - 2) An annual report, once annually within 30 days after the end of the calendar year including all of the following,
 - a) Complete, accurate list of all PM₁₀, NO_x, VOC, and HAP emission units at this installation using Appendix C, Attachment 4 or an equivalent electronic form
 - b) Rolling 12-month actual emissions of PM₁₀, NO_x, VOC, and HAPs from this installation for each of the preceding 12 months (i.e. each month's 12-month rolling total during the previous year) with sample calculations for one pollutant at one process following the method as indicated in Appendix C, Attachment 3.
 - c) Indication of the individual and combined HAP emission rates from ID 095-2450 as being potential emissions or actual emissions.
 - d) A signed statement by the responsible official certifying the truth, accuracy, and completeness of the information provided in the report.

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

Project Number: 2017-06-029
Installation ID Number: 095-2442
Permit Number:

032018-001

Installation Address:

U.S. DOE NNSA Kansas City National Security Campus
14520 Botts Rd
Kansas City, MO 64147

Parent Company:

Department of Energy
14520 Botts Rd
Kansas City, MO 64147

Jackson County, S27, T47N, R33W

REVIEW SUMMARY

- U.S. DOE NNSA Kansas City National Security Campus (herein NNSA) has applied for a special case de minimis permit for PM₁₀, NO_x, VOC, and HAPs.
- The application was deemed complete on July 14, 2017.
- HAP emissions are expected from the emission units in place at the time of this permit's issuance. Potential HAPs are from machining, welding, cutting, surface preparation and coating, solvent cleaning, foam and plastic production, plating, ovens, lab testing, and fuel combustion.
- NSPS
 - 40 CFR 60 Subpart VVV, *Standards of Performance for Polymeric Coating of Supporting Substrates Facilities* applies to processes listed under EP-11, CE#s 214358 and 215257. Those specific CE#s exist at the time of permit issuance and may change during the permit effective period.
- NESHAP
 - 40 CFR 61 Subpart H, *National Emission Standards for Emissions of Radionuclides Other Than Radon from Department of Energy Facilities* applies to depleted uranium etching EP-21, CE# 84885. That specific CE# exists at the time of permit issuance and may change during the permit effective period.
- MACT
 - 40 CFR 63 Subpart T, *National Emission Standards for Halogenated Solvent Cleaning* applies to vapor degreaser EP-13 F1, CE# 82312. That specific CE# exists at the time of permit issuance and may change during the permit effective period.
 - 40 CFR 63 Subpart OOOOOO, *National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources*, applies to EP-11 CE#s 215996, 215997, 55756. Those specific CE#s

exist at the time of permit issuance and may change during the permit effective period.

- 40 CFR 63 Subpart WWWW, *National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations*, applies to some processes listed under EP-16. Identification of applicable units and compliance demonstration is the installation's responsibility.
 - 40 CFR 63 Subpart HHHHH, *National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*, (MACT 6H) does not apply to the surface coating operations according to §63.11169(d). However, spray application of a target HAP will occur.
- Emission capture and control devices exist onsite. However, no capture or control efficiency is being used to calculate emissions towards compliance with permit limits.
 - This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀, NO_x, VOC and HAPs are conditioned below de minimis levels.
 - This installation is located in Jackson County with ambient air quality summarized below,
 - This installation is not located in the portion of Jackson County that is nonattainment for the 2010 SO₂ NAAQS.
 - An attainment/unclassifiable area for all other criteria pollutants.
 - This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
 - Ambient air quality modeling was not performed since potential emissions of the combined installation are conditioned below de minimis levels and SMALs.
 - Emission testing is not required for the emission units as a part of this permit. Testing may be required as part of other state, federal or applicable rules.
 - No operating permit is required for this installation.
 - Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

The combined installation consists of production emission units owned by the Department of Energy (DOE) National Nuclear Security Administration (NNSA), operated by Honeywell Federal Manufacturing and Technologies and support emission units constructed by the General Service Administration (GSA), transferred to CenterPoint. The combined installation may be referred to as the Kansas City National

Security Campus (KCNSC). The production and support activities have separate installation IDs, 095-2442 and 095-2450, respectively. However, the installations are one for permit applicability. NNSA manufactures non-nuclear components of nuclear weapons. CenterPoint provides HVAC, hot water, and emergency power to NNSA. The combined installation is a conditioned de minimis source and is not required to have an operating permit. The combined installation finished relocating from the Bannister Federal Complex in 2014. The following NSR permits have been issued to the combined installation.

Table 1: Permit History

Permit Number	Description
NNSA, ID 095-2442	
1227	New installation/relocation, issued by Kansas City Health Department
1227A	Amendment to update record keeping
1227B	Amendment to true-up as built
032014-010	Surface coating
032014-010A	Replace PM _{2.5} limit with PM ₁₀ limit
042017-004	Surface coating
pending	Special case de minimis, project 2017-06-029
CenterPoint, ID 095-2450	
1228	New installation/relocation, issued by Kansas City Health Department
1228A	Amendment to true-up as built
1228B	Amendment to true-up cooling tower
1228C	Air handling units
pending	Special case de minimis, project 2017-11-005

PROJECT DESCRIPTION

Since the creation of the KCNSC installation, the NNSA and CenterPoint permits have contained emission limits for PM₁₀, PM_{2.5}, VOC, NO_x, and HAPs. The limits are portioned such that the combined KCNSC installation is de minimis. NNSA and CenterPoint frequently install emission units with relatively low potential and actual emissions. However, permits or amendments are required prior to beginning construction in order to keep the evolving installation de minimis. These permits and amendments have been resource and time consuming to apply for and issue for all parties involved, thus the installation has requested issuance of a special case de minimis permit to reduce the burden. A special case de minimis permit is described in 10 CSR 10-6.060 *Construction Permits Required* (5)(C),

“In order to eliminate the necessity for a large number of de minimis permit applications from a single installation, a special case de minimis permit may be developed for those batch-type production processes which frequently change products and component source operations. Operating in violation of the conditions of a special case de minimis permit shall be a violation of this rule.”

The regulation does not detail what a special case de minimis permit should contain. To staff knowledge, this is the first special case de minimis permit in the state. Therefore, this permit was designed to include features from typical de minimis permits

and Plantwide Applicability Limit (PAL) permits. This permit contains portioned de minimis limits for PM₁₀, NO_x, VOC, and HAPs. HAPs are also limited to respective SMALs. The permit limits do not expire, but do require reevaluation at the end of the permit effective period. This permit preapproves the addition of many types of future emission units without the application for and issuance of a construction permit specific to that project. The de minimis emission limits can remain in effect for the changing installation, something that a typical de minimis permit does not accomplish. This permit requires annual reporting. A similarly formatted special case de minimis permit is being issued to CenterPoint under project number 2017-11-005.

EMISSIONS/CONTROLS EVALUATION

Potential emissions are largely unchanged from the previous permit. NNSA performs small scale batch operations with frequent changes. As such, each emission unit's MHDR and therefore unconditioned PTE is difficult to calculate. However, the pollutant types, emission factors, and control efficiencies can be identified.

The unconditioned PM₁₀ and NO_x PTE from CenterPoint exceed respective de minimis levels. Therefore, those pollutants are voluntarily limited for the combined installation, and this requires limits for NNSA. As the pollutants are limited, the focus becomes the compliance demonstration method towards the limits.

NNSA's unconditioned VOC PTE may exceed de minimis. Therefore, the VOC PTE is voluntarily limited. Again, the focus is on the compliance method.

The unconditioned PTE for a few individual HAPs exceeds respective SMAL. Therefore, all individual HAPs were voluntarily limited to their SMAL. Combined HAPs were voluntarily limited to 25.0 tpy.

NNSA uses emission capture and control devices at processes including but not limited to media blasting, powder coating, spray applied liquid surface coating, dry film application, and plastics machining. Previous permits required these devices. However, this permit supersedes and removes those requirements. The existing control devices remain in place, however emissions will be calculated without capture and control efficiencies. If a federal, state, or local rule requires a control device, then those are being used. The following table provides an emissions summary for this installation.

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	NNSA Existing Actual Emissions (2016 EIQ)	Conditioned PTE for CenterPoint	Conditioned PTE for NNSA	Combined Installation Conditioned PTE
PM	25.0	N/D	N/D	N/D	17.07
PM ₁₀	15.0	0.00	< 10.0	< 5.0	< 15.0
PM _{2.5}	10.0	0.00	N/D	N/D	9.87
SO ₂	40.0	0.00	N/D	N/D	0.86
NOx	40.0	0.00	< 38.0	< 2.0	< 40.0
VOC	40.0	3.70	< 1.0	< 39.0	< 40.0
CO	100.0	0.00	N/D	N/D	49.60
GHG (CO ₂ e)	N/A	N/D	N/D	N/D	89,951.15
GHG (mass)	N/A	N/D	N/D	N/D	86,950.50
Combined HAPs	25.0	0.27	¹	¹	< 25.0
Each HAP	< 10.0 / SMAL	²	¹	¹	< SMAL

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

¹ CenterPoint and NNSA share the installation-wide individual HAP SMAL limits and combined HAP 25.0 tpy limit.

² The greatest reported individual HAP emissions were trichloroethylene at 0.20 tons, dioxane (1,4-) at 0.02 tons, and toluene at 0.04 tons.

APPLICABLE REQUIREMENTS

NNSA 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

- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
- *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

- *New Source Performance Regulations*, 10 CSR 10-6.070
 - *Standards of Performance for Polymeric Coating of Supporting Substrates Facilities*, 40 CFR Part 60, Subpart VVV
- *Maximum Achievable Control Technology Regulations*, 10 CSR 10-6.075
 - *National Emission Standards for Halogenated Solvent Cleaning*, 40 CFR Part 63, Subpart T
 - *National Emission Standards for Hazardous Air Pollutants for Flexible Polyurethane Foam Production and Fabrication Area Sources*, 40 CFR Part 63, Subpart OOOOOO
 - *National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations*, 40 CFR Part 63, Subpart WWWWWWW
- *Emission Standards for Hazardous Air Pollutants*, 10 CSR 10-6.080
 - *National Emission Standards for Emissions of Radionuclides Other Than Radon from Department of Energy Facilities*, 40 CFR Part 61, Subpart H
- *Control of Sulfur Dioxide Emissions*, 10 CSR 10-6.261 does not apply. NNSA has the potential to emit SO₂, however the SO₂ is exclusively from firing natural gas and propane. Therefore, the exception under (1)(A) is met. SO₂ is not expected to originate from process materials introduced into fuel combustion units as none of the process materials introduced into fuel combustion units contain sulfur or the process materials are not heated to oxidation.
- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400 does not apply. All emission units meet (1)(B) items 12. or 16.
- *Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating*, 10 CSR 10-6.405 does not apply. The indirect heating units meet exemption (1)(E).

The installation may be subject to regulations under 10 CSR Division 10, including the following. However, due to the ever-changing batch style operation of several emission units, applicability was not determined at the time of this permit's issuance. It is the installation's responsibility to demonstrate compliance with all applicable regulations. Applicability and compliance can be verified during inspections.

- 10 CSR 10-2.205 *Control of Emissions From Aerospace Manufacture and Rework Facilities* may apply. The installation claims current usage of primers, topcoats, specialty coatings, and chemical milling maskants is less than the 50/200 gallon threshold in 10 CSR 10-2.205(3)(J).
- 10 CSR 10-2.210 *Control of Emissions from Solvent Metal Cleaning*

- 10 CSR 10-2.215 *Control of Emissions from Solvent Cleanup Operations* does not apply if the cleaning solvent VOC emissions are less than 500 pounds per day.
- 10 CSR 10-2.230 *Control of Emissions From Industrial Surface Coating Operations*, does not apply. All of the substrates are distributed to entities who did not perform the surface coating, and therefore would meet the 10 CSR 10-6.020 definition of *industrial surface coating operation*. However, the majority of substrates are classified as aerospace components. Only one substrate is not an aerospace component. As the aerospace components should not be subject to both 10 CSR 10-2.205 and 10 CSR 10-2.230, only the single substrate remains for comparison to 2.230 applicability. According to PTE calculations provided by the applicant, the emissions for that substrate are less than 6.8 g/day, and the rule does not apply.

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*, 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 June 1, 2017, received June 12, 2017, designating Department of Energy as the owner and operator of the installation.
- The following documents accompanying the permit application, from NNSA, made available for download on June 1, 2017:
 - *05_2017 APPLICATION.docx*
 - *ACP MDNR form.pdf*
 - *control devices.xlsx*
 - *Emission Factors May 2017.xlsx*
 - *equip log PTE.xlsx*
 - *HAP 20.xlsx*
 - *sign pages.pdf*
 - *Visio-Emission calculations.pdf*
- NNSA document, *FINAL 01_18 APPLICATION.pdf*, received by email January 25, 2018.

The following documents are permit references:

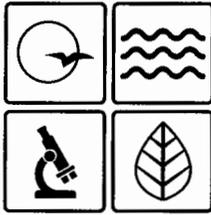
- The following documents from NNSA, received by email on November 8, 2017:
 - *11_2_17 emission factors.pdf*
 - *ACP MDNR form.pdf*
 - *Air Permit narrative.pdf*
 - *control devics.pdf*
 - *EMISSION POINTBACKUP ALL.pdf*
- The following documents from NNSA, received by email on December 19, 2017:
 - *12_2017 APPLICATION FINAL.pdf*
 - *12_19_17 emission factors.xlsx*
- NNSA document, *NOx Emission Report November 2017.pdf*, received by email January 10, 2018.
- NNSA document, *Copy of NOx calcs.xlsx*, received by email January 22, 2018.
- NNSA document, *FINAL 01_18 APPLICATION.pdf*, received by email January 24, 2018.
- *2017-06-029 draft 1.docx*, January 26, 2018.
- *2017-06-029 draft 1 comments.docx*, January 30, 2018.
- *2017-06-029 draft 2, pages 1-17.pdf*, January 30, 2018.
- Emails among Mike Stites NNSA, Joe Baker NNSA, and David Little MDNR.
- *AP 42, Fifth Edition Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, U.S. EPA.
- *WebFIRE* U.S. EPA, <https://www.epa.gov/electronic-reporting-air-emissions/webfire>
- *Sources and Control of Volatile Organic Air Pollutants, Student Manual, APTI Course 482, Third Edition*. Crowder, Jerry. November 2002. Chapter 5.1.3.
- *General Air Quality Permit Approval to Construct and Operate Auto Body Shops & Surface Coating Operations*. Draft April 3, 2011. U.S. EPA.
- *Comparative investigations in order to characterise ultrafine particles in fumes in the case of welding and allied processes*. German Social Accident Insurance Institution for the Woodworking and Metalworking Industries (BGHM). Welding and Cutting 12. 2013.
- *Oxides of nitrogen in welding, cutting and oxy-acetylene heating processes, A review of emission rates, exposure levels and control measures*. Erik Beck Hansen, Denmark.
- *Measurements of secondary emissions from plasma arc and laser cutting in standard experiments*. Commission of the European Communities. Nuclear Science and Technology. EUR 14065. 1992.
- *Characterization of Particulate Fume and Oxides Emission from Stainless Steel Plasma Cutting*. Wang et al. University of Oklahoma. 2017.
- *Emission of Fume, Nitrogen Oxides and Noise in Plasma Cutting of Stainless and Mild Steel*. Broemssen B. et al. The Swedish Institute of Production Engineering Research. 1994.
- *Fume emissions testing for plasma arc cutting*. Hypertherm, Inc. 1998.
- *Emissions in smoke and to water, including hexavalent chromium, from plasma cutting of stainless steel*. Lillienberg and Broemssen. 1998.
- *Aerosol Measurements from Plasma Torch Cuts on Stainless Steel, Carbon Steel, and Aluminum*. Novick et al. Argonne National Laboratory.

- *Size Distribution and Rate of Production of Airborne Particulate Matter Generated During Metal Cutting.* Ebadian et al. Florida International University. January 2001.
- *Airborne Nanoparticle Pollution in a Wire Electrical Discharge Machining Workshop and Potential Health Risks.* Aerosol and Air Quality Research, 15: 284–294, 2015.
- *Characterizing Site-Specific Source Emissions for EPA’s Risk Assessment Tool for the Metal Finishing Industry.* Versar Inc and EPA, 1999.

APPENDIX A

Abbreviations and Acronyms

%percent	Mgal1,000 gallons
°Fdegrees Fahrenheit	MWmegawatt
acfmactual cubic feet per minute	MHDRmaximum hourly design rate
BACTBest Available Control Technology	MMBtuMillion British thermal units
BMPsBest Management Practices	MMCFmillion cubic feet
BtuBritish thermal unit	MSDSMaterial Safety Data Sheet
CAMCompliance Assurance Monitoring	NAAQSNational Ambient Air Quality Standards
CASChemical Abstracts Service	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CEMSContinuous Emission Monitor System	NO_xnitrogen oxides
CFRCode of Federal Regulations	NSPSNew Source Performance Standards
COcarbon monoxide	NSRNew Source Review
CO₂carbon dioxide	PMparticulate matter
CO_{2e}carbon dioxide equivalent	PM_{2.5}particulate matter less than 2.5 microns in aerodynamic diameter
COMSContinuous Opacity Monitoring System	PM₁₀particulate matter less than 10 microns in aerodynamic diameter
CSRCode of State Regulations	ppmparts per million
dscfdry standard cubic feet	PSDPrevention of Significant Deterioration
EIQEmission Inventory Questionnaire	PTEpotential to emit
EPEmission Point	RACTReasonable Available Control Technology
EPAEnvironmental Protection Agency	RALRisk Assessment Level
EUEmission Unit	SCCSource Classification Code
fpsfeet per second	scfmstandard cubic feet per minute
ftfeet	SDSSafety Data Sheet
GACTGenerally Available Control Technology	SICStandard Industrial Classification
GHGGreenhouse Gas	SIPState Implementation Plan
gpmgallons per minute	SMALScreening Model Action Levels
grgrains	SO_xsulfur oxides
GWPGlobal Warming Potential	SO₂sulfur dioxide
HAPHazardous Air Pollutant	SSMStartup, Shutdown & Malfunction
hrhour	tphtons per hour
hphorsepower	tpytons per year
lbpound	VMTvehicle miles traveled
lbs/hrpounds per hour	VOCVolatile Organic Compound
MACTMaximum Achievable Control Technology	
µg/m³micrograms per cubic meter	
m/smeters per second	



Missouri Department of

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NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

MAR 02 2018

Ms. Sybil Chandler
Manager EHS
U.S. DOE NNSA Kansas City National Security Campus
14520 Botts Rd
Kansas City, MO 64147

RE: New Source Review Permit - Project Number: 2017-06-029

Dear Ms. Chandler:

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 and your new source review permit application 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.



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Ms. Sybil Chandler
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If you have any questions regarding this permit, please do not hesitate to contact David Little, 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:dlj

Enclosures

c: Kansas City Regional Office
PAMS File: 2017-06-029

Permit Number: **032018-001**