



December 5, 2022

Mr. James Rebarchak
Regional Air Program Manager
Bureau of Air Quality
Pennsylvania Department of Environmental Protection
Southeast Regional Office
2 East Main Street
Norristown, PA 19401-4915

**Re: Notification of RACT III Applicability
Title V Operating Permit No. 46-00020
Superior Tube Company, Inc. – Collegeville, PA**

Dear Mr. Rebarchak:

The Superior Tube Company, Inc. (STCI) is providing this summary of Reasonably Available Control Technology (RACT) applicability for its facility in Collegeville, Pennsylvania (Facility) in accordance with the recently promulgated provisions of 25 Pa. Code §§129.111-129.115. This document is the required notification of applicability and compliance proposal in accordance with 25 Pa. Code §129.115(a). In addition, this document includes the analysis of alternative RACT compliance required under 25 Pa. Code §129.114(i) for eight sources at the Facility that were subject to a case-by-case RACT determination and were previously approved by the Pennsylvania Department of Environmental Protection (PADEP) under 25 Pa. Code §129.99(e).

Facility Background and RACT III Rule Applicability

The Facility manufactures small-diameter, high-quality, fabricated metal tubing. The primary operations at the Facility include two boilers, degreasing operations, pickling operations, as well as lubrication and washing operations. Ancillary operations include one natural gas-fired emergency generator, air stripping, two isopropyl alcohol tanks, and an inspection/repair area. The Facility operates under Title V Operating Permit (TVOP) No. 46-00020.

PADEP published 25 Pa. Code §§129.111-129.115, “Additional RACT Requirements for Major Sources of NO_x and VOCs for the 2015 Ozone NAAQS” (RACT III). The requirements or emissions limitations under RACT III supersede the requirements or emissions limitations of a RACT permit previously issued in accordance with 25 Pa. Code §§129.91-129.95 and 129.96-129.100, except in cases where an existing RACT permit specifies more stringent requirements and/or emissions limitations. Compliance with applicable RACT III Rule requirements or emissions limitations must be demonstrated no later than January 1, 2023.



The RACT III Rule applies to major nitrogen oxides (NO_x) and/or major volatile organic compounds (VOC) emitting facilities. 25 Pa. Code §121.1 defines major NO_x and VOC emitting facilities as follows:

- Major NO_x emitting facility – a facility-wide potential to emit (PTE) greater than 100 tons per year (TPY).
- Major VOC emitting facility – a facility-wide PTE greater than 50 TPY.

The Facility is a major VOC emitting Facility under 25 Pa. Code §121.1 and is subject to the VOC provisions of RACT III in accordance with 25 Pa. Code §129.111(a). The Facility is not a major NO_x emitting facility because the facility-wide PTE of NO_x is less than 100 TPY. Therefore, the NO_x provisions of RACT III do not apply and are not addressed further. This notification is being made in accordance with the requirements of the RACT III Rule for the Facility's VOC-emitting sources.

Notification of Applicability and Compliance Proposal [25 Pa. Code §129.115(a)]

The following subsections provide the notification of applicability and compliance proposal required under 25 Pa. Code §129.115(a).

25 Pa. Code §129.115(a)(1) – Submission Deadline

Because the Facility was a major VOC-emitting facility prior to August 3, 2018, this submittal is being made on or before December 31, 2022, in accordance with 25 Pa. Code §129.115(a)(1)(i).

25 Pa. Code §129.115(a)(2) – Identification of Air Contamination Sources That Commenced Operation on or Before August 3, 2018

Table A-1 of Attachment A provides the RACT III Rule Applicability Summary, which identifies the following:

- Air contamination sources that do not emit VOC and are not required to be evaluated under the RACT III Rule.
- Air contamination sources exempted from 25 Pa. Code §§129.112-129.114 because they are already subject to certain Chapter 129 requirements [i.e., §§129.51, 129.52(a)-(k) and Table I categories 1-11, 129.52a-129.52e, 129.54-129.63a, 129.64-129.69, 129.71-129.75, 129.77, and 129.101-129.107].
- Air contamination sources subject to a presumptive RACT requirement or RACT emissions limitation in 25 Pa. Code §129.112.



- Air contamination sources subject to an alternative RACT requirement or RACT emissions limitation under 25 Pa. Code §129.114.

25 Pa. Code §129.115(a)(3) – Identification of Air Contamination Sources That Commenced Operation After August 3, 2018

Not Applicable (N/A) – the Facility was considered a major VOC emitting facility prior to August 3, 2018. Therefore, 25 Pa. Code §129.111(b) does not apply.

25 Pa. Code §129.115(a)(4) – Identification of Air Contamination Sources That Emit Less Than 1 TPY

Table A-1 of Attachment A identifies the Facility’s air contamination sources that are exempt from the RACT III Rule on the basis that they emit less than 1 TPY of VOC.

25 Pa. Code §129.115(a)(5) – Air Contamination Source Information (Commenced Operation on or Before August 3, 2018)

Table A-2 of Attachment A provides a Source Inventory that includes a description, make, model, and location (as available) of each air contamination source subject to the RACT III Rule. The applicable RACT requirement or RACT emissions limitation for each source is provided in the RACT III Rule Applicability Summary as Table A-1 of Attachment A.

25 Pa. Code §129.115(a)(6) – Air Contamination Source Information (Commenced Operation on or After 3, 2018)

N/A – the Facility was already a major VOC emitting facility prior to August 3, 2018; therefore, 25 Pa. Code §129.115(a)(6) does not apply.

25 Pa. Code §129.115(a)(7) – Air Contamination Source Information (That Emit Less Than 1 TPY)

Table A-2 of Attachment A provides a Source Inventory that includes a description, make, model, and location (as available) of each air contamination source subject to the RACT III Rule. The applicable RACT requirement or RACT emissions limitation for each source is provided in the RACT III Rule Applicability Summary as Table A-1 of Attachment A. Table A-3 includes information sufficient to demonstrate that the listed sources have a PTE less than 1 TPY of VOC.

Alternative RACT Proposal [25 Pa. Code §129.114]

Analysis of Alternative RACT Compliance [25 Pa. Code §129.114(i)]

STCI has identified the following eight sources in Table 1 as air contamination sources that require case-by-case RACT determinations and proposed RACT for control of VOC



emissions because they do not fall into a presumptive RACT category included in 25 Pa. Code §129.112:

Table 1
Sources Subject to Case-by-Case Analysis

| Source ID | Source Name |
|-----------|-------------------------------|
| 101 | Flush/Blowout Booth #1603 |
| 102 | Flush/Blowout Booth #1960 |
| 103 | Lubrication Spray Booth #6779 |
| 117 | Solvent Cleaner Tank #6836 |
| 124 | Lubrication Spray Booth #1976 |
| 125 | General Source Fugitive |
| 141 | Solvent Cleaner Tank #6172 |
| 142 | Solvent Cleaning Tank #6169 |

In accordance with 25 Pa. Code §129.114(i), an alternative RACT proposal, as required per 25 Pa. Code §129.114(d), is not necessary if the air contamination source in question was in operation prior to October 24, 2016, has not been modified or changed since October 24, 2016, and does not fall into one of the presumptive source categories subject to 25 Pa. Code §§129.112(c)(11) or (i)-(k). The sources listed in Table 1 above meet the stated criteria and, therefore, an analysis may be submitted that demonstrates that compliance with RACT II alternative RACT requirements or RACT emissions limitations, approved by PADEP under 25 Pa. Code §129.99(e), assures compliance with 25 Pa. Code §§129.114(a)-(c) and (e)-(h). This letter serves as a demonstration that STCI can maintain compliance with the alternative RACT requirements and/or emissions limitations previously approved under 25 Pa. Code §129.99(c) as RACT by PADEP.

The following subsections provide the analysis of alternative RACT compliance in accordance with 25 Pa. Code §129.114(i)(1). STCI has determined that there are no new pollutant-specific air cleaning devices, air pollution control technologies or techniques available at the time of submittal.

25 Pa. Code §129.114(i)(1)(i)(A) – Identification of New Air Cleaning Devices, Air Pollution Control Technologies, or Techniques

STCI reviewed entries in the Reasonably Available Control Technology / Best Available Control Technology / Lowest Achievable Emissions Rate (RACT/BACT/LAER)



Clearinghouse (RBLC) to determine if new technologies were applicable to the sources listed in Table 1. No new technically feasible technologies were discovered and the work practices for the affected units are consistent with recent and historical BACT determinations.

25 Pa. Code §129.114(i)(1)(i)(B) – List Previously-Identified Technically Feasible Controls

The previously identified technically feasible controls examined under 25 Pa. Code §§129.92(b)(1)-(3) that were included in STCI’s 25 Pa. Code §129.99(d) RACT submittal, previously approved by PADEP, were as follows:

Source ID 101, Source ID 102, Source ID 103, & Source ID 125

STCI identified good operating practices and a regenerative thermal oxidizer (RTO) as technically feasible options. STCI also identified carbon adsorption, condensing technologies, and alternative low-VOC or non-VOC materials as potential control technologies; however, they were determined to be technically infeasible options.

Source ID 117, Source ID 124, Source ID 141 & Source ID 142

STCI identified good operating practices as the only technically feasible option. STCI also identified an RTO, carbon adsorption, condensing technologies, and alternative low-VOC or non-VOC materials as potential control technologies; however, they were determined to be technically infeasible options.

25 Pa. Code §§129.114(i)(1)(i)(C) and (D) – Summary of Previous Economic Feasibility Analyses

STCI had previously determined that an RTO and good operating practices were technically feasible control options for Source ID 101, Source ID 102, Source ID 103, and Source ID 125. The only technically feasible control option for Source ID 117, Source ID 124, Source ID 141, and Source ID 142 was identified as good operating practices. STCI currently employs the use of good operating practices on Source ID 117, Source ID 124, Source ID 141, and Source ID 142; therefore, a cost analysis was not performed for these sources.

STCI conducted the previous economic feasibility evaluation assuming that a combined system would capture and collect multiple emissions sources at the Facility. STCI included the following sources in the evaluation: Source IDs 101, 102, 103, and 125. Based on the site-specific configuration, this was deemed to be the most cost-effective design. Therefore, the conclusion of cost-effectiveness would be the same as if evaluated on an



individual emissions unit basis. The previous economic analysis included in STCI’s 25 Pa. Code §129.99(d) RACT submittal, previously approved by PADEP, is summarized below:

Table 2
Summary of RACT II Economic Analysis

| Source | Technically Feasible Control Options | Economic Feasibility Cost Analysis Result |
|--|--------------------------------------|---|
| 101: Flush/Blowout Booth #1603 | Good Operating Practices RTO | Economically Feasible Economically Infeasible (\$27,381/ton VOC removed) |
| 102: Flush/Blowout Booth #1960 | | |
| 103: Lubrication Spray Booth #6779 | | |
| 125: General Source Fugitive Emissions | | |

The RTO for all four sources in Table 2 had a cost effectiveness greater than \$12,000 per ton of VOC removed. Because STCI did not identify new or upgraded pollutant-specific air cleaning devices, air pollution control technologies or techniques, a new economic feasibility analysis under 25 Pa. Code §129.114(i)(1) is not required for these sources.

25 Pa. Code §129.114(i)(1)(i)(E) – Additional Information for Sources

Upon request from PADEP, STCI will provide additional information to support the Alternative RACT Compliance Analysis included herein.

Alternative RACT Compliance Summary

Based on the 25 Pa. Code §129.114(i) analysis provided above, STCI has determined that the alternative RACT requirements and/or RACT emissions limitations that were previously approved by PADEP under 25 Pa. Code §129.99(e) continue to represent RACT for the sources identified in Table 1. STCI will comply with the RACT III Rule by complying with the applicable RACT conditions of the current TVOP No. 46-00020 and will meet the January 1, 2023, compliance deadline of the RACT III Rule by continued compliance with these conditions.



SuperiorTube

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Certification of Alternative RACT Compliance Analysis

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this 25 Pa. Code §129.114(i) Alternative RACT Compliance Analysis are true, accurate, and complete.

Ryan O'Connell – Plant Manager

Responsible Official Name

Signature

RACT III Rule Recordkeeping

In accordance with 25 Pa. Code §129.115(f), STCI will keep sufficient records for demonstrating compliance with the RACT III Rule, including continued compliance with the RACT-specific recordkeeping conditions of the TVOP. Per 25 Pa. Code §129.115(k), all records will be maintained for at least five years, and will be made available to PADEP upon receipt of a written request.

If you have any additional questions, please contact me at (484) 200-1368 or marc.vanderwal@ametek.com.

Sincerely,
Superior Tube Company, Inc.

Marc VanderWal
Director, Environmental Health and Safety

cc: Daniel Brese (ALL4)
Nicholas Leone (ALL4)
Ryan O'Connell (STCI)

Attachment A: RACT III Applicability Analysis

ATTACHMENT A
RACT III APPLICABILITY ANALYSIS

**Table A-1
RACT III Rule Applicability Summary - VOC
Superior Tube Company, Inc. - Collegeville, PA**

| Source ID | Source Name/Description | RACT III Citation | Applicability & Compliance Approach | VOC RACT |
|-----------|--|--|--|---|
| 031 | Titusville Boiler #2166 | 25 Pa. Code §129.111(c) | Exempt because the source has a potential VOC emissions rate less than 1.0 tons of VOC per year. | |
| 032 | Titusville Boiler #2526 | 25 Pa. Code §129.111(c) | Exempt because the source has a potential VOC emissions rate less than 1.0 tons of VOC per year. | |
| 101 | Flush/Blowout Booth #1603 | 25 Pa. Code §129.114(c) and 114(i) | Case-by-Case RACT analysis required because the source has a potential VOC emission rate greater than 2.7 tons of VOC per year located at a major VOC emitting facility. | Case-by-Case RACT analysis. |
| 102 | Flush/Blowout Booth #1960 | 25 Pa. Code §129.114(c) and 114(i) | Case-by-Case RACT analysis required because the source has a potential VOC emission rate greater than 2.7 tons of VOC per year located at a major VOC emitting facility. | Case-by-Case RACT analysis. |
| 103 | Lubrication Spray Booth #6779 <i>(SuperKote ID)</i> | 25 Pa. Code §129.114(c) and 114(i) | Case-by-Case RACT analysis required because the source has a potential VOC emission rate greater than 2.7 tons of VOC per year located at a major VOC emitting facility. | Case-by-Case RACT analysis. |
| 117 | Solvent Cleaner Tank #6836 <i>(Coil Degreaser)</i> | 25 Pa. Code §129.114(c) and 114(i) | Case-by-Case RACT analysis required because the source has a potential VOC emission rate greater than 2.7 tons of VOC per year located at a major VOC emitting facility. | Case-by-Case RACT analysis. |
| 124 | Lubrication Spray Booth #1976 <i>(SuperKote ID Sponge Spray)</i> | 25 Pa. Code §129.114(c) and 114(i) | Case-by-Case RACT analysis required because the source has a potential VOC emission rate greater than 2.7 tons of VOC per year located at a major VOC emitting facility. | Case-by-Case RACT analysis. |
| 125 | General Source Fug Emis <i>(SuperKote #1678, Lab Use, General Use nPB, IPA Tanks)</i> | 25 Pa. Code §129.114(c) and 114(i) | Case-by-Case RACT analysis required because the source has a potential VOC emission rate greater than 2.7 tons of VOC per year located at a major VOC emitting facility. | Case-by-Case RACT analysis. |
| 131 | Air Stripping Column #3542 | 25 Pa. Code §129.112(c)(2) | Presumptive RACT: The VOC PTE for Source ID 131 is less than 2.7 tpy. | Maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices. |
| 133 | Annealing Furnaces (2) | 25 Pa. Code §129.112(c)(2) | Presumptive RACT: The VOC PTE for Source ID 133 is less than 2.7 tpy. | Maintain and operate the source in accordance with the manufacturer's specifications and with good operating practices. |
| 141 | Solvent Cleaner Tank #6172 <i>(IPA Tank)</i> | 25 Pa. Code §129.114(c) and 114(i) | Case-by-Case RACT analysis required because the source has a potential VOC emission rate greater than 2.7 tons of VOC per year located at a major VOC emitting facility. | Case-by-Case RACT analysis. |
| 142 | Solvent Cleaning Tank #6169 <i>(IPA Tank)</i> | 25 Pa. Code §129.114(c) and 114(i) | Case-by-Case RACT analysis required because the source has a potential VOC emission rate greater than 2.7 tons of VOC per year located at a major VOC emitting facility. | Case-by-Case RACT analysis. |
| 149 | Vapor Degreaser #661 | 25 Pa. Code §129.111(a) | Exempt because the unit is subject to 25 Pa. Code 129.63; therefore, RACT III does not apply. | |
| 160 | Emergency Generator | 25 Pa. Code §129.111(c) | Exempt because the source has a potential VOC emissions rate less than 1.0 tons of VOC per year. | |
| 161 | 2 Pickling Tanks With Mist Eliminator & One Passivation Tank | Not Applicable (N/A) - Source does not emit VOC. | | |
| 170 | Lubrication Station | N/A - This source has been deactivated and, therefore, is not subject to RACT III. | | |

Table A-2
RACT III Units Summary
Superior Tube Company, Inc. - Collegeville, PA

| Source ID | Source Name | Source Description | Make | Model | Location |
|-----------|-------------------------------|--|---------------------------|-----------|--|
| 031 | Titusville Boiler #2166 | Natural gas-fired boiler rated at 20 MMBtu/hr. This unit also burns #2 fuel oil. | Titusville | Custom | Southwest Portion of Plant |
| 032 | Titusville Boiler #2526 | Natural gas-fired boiler rated at 25 MMBtu/hr. This unit also burns #2 fuel oil. | Titusville | Custom | Southwest Portion of Plant |
| 101 | Flush/Blowout Booth #1603 | Non-HAP VOC Solvent. | Unknown | Custom | Southern or South-Central Portion of Plant |
| 102 | Flush/Blowout Booth #1960 | Non-HAP VOC Solvent. | Unknown | Custom | Southern or South-Central Portion of Plant |
| 103 | Lubrication Spray Booth #677 | Non-HAP VOC Solvent. | Unknown | Custom | Southern or South-Central Portion of Plant |
| 117 | Solvent Cleaner Tank #6836 | Non-HAP VOC Solvent. | Unknown | Custom | Southern or South-Central Portion of Plant |
| 124 | Lubrication Spray Booth #1976 | Non-HAP VOC Solvent. | Unknown | Custom | Southern or South-Central Portion of Plant |
| 125 | General Source Fug Emis | General fugitive emissions from facility operations including the lab, general use nPB, and the isopropyl alcohol tanks. | Unknown | Custom | Various |
| 131 | Air Stripping Column #3542 | Air stripping used to remove VOC from groundwater flow. | Unknown | Custom | Northeast Portion of Plant |
| 133 | Annealing Furnaces (2) | Two natural gas-fired annealing furnaces rated at 1.6 MMBtu/hr each. | Unknown | Custom | Central Portion of Plant |
| 141 | Solvent Cleaner Tank #6172 | Isopropyl alcohol tank. | Unknown | Custom | Northern Portion of Plant |
| 142 | Solvent Cleaning Tank #6169 | Isopropyl alcohol tank. | Unknown | Custom | Portable |
| 149 | Vapor Degreaser #661 | Degreasing operations to clean product. | Finishing Equipment, Inc. | AE-2DU-SP | Southeast Portion of Plant |
| 160 | Emergency Generator | Natural gas-fired emergency generator. | Cummins Onan | Unknown | Southern Portion of Plant |

**Table A-3
Potential VOC Emissions Calculations for Sources Exempt from the RACT III Rule Pursuant to 25 Pa. Code §129.111(c)
Superior Tube Company, Inc. - Collegeville, PA**

| Source ID | Source Name | Source Description | Fuel Type | Rating | Units | Maximum Operating Hours/Year | VOC Emissions Factor | Units | Emissions Factor Reference | VOC PTE | Total VOC PTE |
|-----------|-------------------------|--|-------------|--------|----------|------------------------------|----------------------|----------|-----------------------------|----------|---------------|
| | | | | | | | | | | (tpy) | |
| 031 | Titusville Boiler #2166 | Natural gas-fired boiler rated at 20 MMBtu/hr. This unit also burns #2 fuel oil. | Natural Gas | 0.02 | MMscf/hr | 8,712 | 5.5 | lb/MMscf | U.S. EPA AP-42, Table 1.4-2 | 0.48 | 0.48 |
| | | | #2 Fuel Oil | 0.146 | MGal/hr | 48 | 0.34 | lb/Mgal | U.S. EPA AP-42, Table 1.3-3 | 1.19E-03 | |
| 032 | Titusville Boiler #2526 | Natural gas-fired boiler rated at 25 MMBtu/hr. This unit also burns #2 fuel oil. | Natural Gas | 0.025 | MMscf/hr | 8,712 | 5.5 | lb/MMscf | U.S. EPA AP-42, Table 1.4-2 | 0.60 | 0.60 |
| | | | #2 Fuel Oil | 0.185 | MGal/hr | 48 | 0.34 | lb/Mgal | U.S. EPA AP-42, Table 1.3-3 | 1.51E-03 | |
| 160 | Emergency Generator | Natural gas-fired emergency generator. | Natural Gas | 0.33 | MMBtu/hr | 500 | 0.12 | lb/MMBtu | U.S. EPA AP-42, Table 3.2-1 | 0.01 | |