County of Forsyth

**PUBLIC NOTICE OF INTENT TO ISSUE A TITLE V AIR QUALITY PERMIT**

**FORSYTH COUNTY**
**OFFICE OF ENVIRONMENTAL ASSISTANCE AND PROTECTION**
**WINSTON-SALEM, NORTH CAROLINA**

**March 27, 2017**

Notice is hereby given by the Forsyth County Office of Environmental Assistance and Protection (EAP) of an opportunity for the public to review and comment on a draft Title V air quality permit for:

**Highland Industries, Inc. – Kernersville Plant**
**Kernersville, NC**
**Permit #00460-TV-16**

This facility had applied for a renewal of its Title V Air Quality operating permit. The draft permit meets the Title V requirements as specified in FCAQTC Section 3Q .0500.

EPA will process this draft permit as a proposed permit and perform its 45-day review provided by Rule 3Q .0522 *Review by EPA and Affected States* concurrently with the public notice period. If public comments are received that result in a change to the permit, EPA's 45-day review period will cease to be performed concurrently with the public notice period. The deadline for citizen's petitions to the EPA Administrator will be determined based on EPA's 45-day review period beginning after the public comment period has ended. The status regarding EPA's 45-day review of this project and the deadline for citizen's petitions can be found at the following website address:

https://www.epa.gov/caa-permitting/north-carolina-proposed-title-v-permits

The EAP will issue a final Air Quality Permit, in accordance with the conditions of the draft/proposed Air Quality Permit, unless there are public comments which result in a different decision or significant change in the permit.

A copy of the draft permit and statement of basis is available at the EAP's website:

http://www.forsyth.cc/EAP/public_notices.aspx

Additional information regarding the draft permit may be obtained from the Office of Environmental Assistance and Protection, Forsyth County Government Center, 201 N. Chestnut Street, Winston-Salem, NC 27101-4120; telephone (336) 703-2440. The public may submit written comments on these proceedings to the address above or by e-mail to lloydpb@forsyth.cc on or before April 26, 2017, the close of the public comment period.

Peter B. Lloyd, Ph.D., P.E., Manager
Compliance Assistance & Permitting Division

# OFFICE OF ENVIRONMENTAL ASSISTANCE AND PROTECTION

**FORSYTH COUNTY GOVERNMENT CENTER**
**201 NORTH CHESTNUT STREET**
**WINSTON-SALEM, NC 27101-4120**

**PERMIT TO CONSTRUCT/OPERATE**
**AIR QUALITY CONTROL**
**CLASS: Title V**

| PERMIT NUMBER | EFFECTIVE DATE | EXPIRATION DATE | RENEWAL DUE |
|---|---|---|---|
| 00460-TV-16 | (2017) | May 1, 2018 | August 1, 2017 |

**Facility Name:** Highland Industries, Inc.
Kernersville Finishing Plant
**Mailing Address:** 215 Drummond Street
**City, State, ZIP Code:** Kernersville, NC 27284

**Facility Location:** 215 Drummond Street
**City:** Kernersville, NC

In accordance with the provisions set forth in the Forsyth County Air Quality Technical Code and Chapter 3 of the Forsyth County Code, "Air Quality Control", the facility identified above is authorized to operate, as outlined in Part I, "Air Quality Title V Operation Permit", and to construct and operate, as outlined in Part II, "Air Quality Construction and Operation Permit", the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations contained within this permit.

The permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete air quality permit application to the Forsyth County Office of Environmental Assistance and Protection and received an Air Quality Permit, except as provided in this permit or in accordance with applicable provisions of the Forsyth County Air Quality Technical Code.

This permit supersedes all previous permits issued to the permittee by the Forsyth County Environmental Affairs Department or Forsyth County Office of Environmental Assistance and Protection.

_____ DATE:
Peter B. Lloyd, Ph.D., P.E., Manager
Compliance Assistance & Permitting Division

# Highland Industries, Inc.
# Air Quality Permit #00460-TV-16
## (2017)
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# PART I
# AIR QUALITY TITLE V OPERATION PERMIT

## SECTION 1
## PERMITTED EQUIPMENT

### 1.1 Facility-Wide Permitted Equipment and Associated Control Devices

| Emission Source ID No. | Emission Source Description | Control Device Description | Control Device ID No. | Emission Point ID No. |
|---|---|---|---|---|
| ES-21 | Kewanee H5-500-G natural gas-fired boiler (NSPS - Subpart Dc, NESHAP - Subpart DDDDD), with a maximum heat input rate of 20.923 mmBtu/hr. | None | N/A | EP-2.1-1 |
| ES-31 | # 18 Finishing Range* with natural gas fired (NG-fired) curing section consisting of 16 x 0.5 mmbtu/hr burners (8 mmbtu/hr total). | None | N/A | EP-3.1-1 |
| | | | | EP-3.1-2 |
| | | | | EP-3.1-3 |
| | | | | EP-3.1-4 |
| | | | | EP-3.1-5 |
| ES-33 | # 3 Finishing Range with NG-fired oven (8 mmBtu/hr max heat input rate). ES-33 must be ducted to CD-51 while processing coatings that are not *waterborne coatings*** with VOC content not exceeding 9% by weight of the volatile fraction. | Solvent Recovery Unit | CD-51 | EP-5.1-1 |
| | | None | N/A | EP-3.3-1 |

* Formerly designated "#18 Finishing Range", with total burner heat input of 12mmbtu/hr. Burner replacement in 2013 resulted in a total heat input reduction of 4 mmbtu/hr.

** *Waterborne coating* means a coating which contains more than 5 weight percent water in its volatile fraction. <40 CFR Part 60, Subpart VVV, 60.741>

## Facility-Wide Permitted Equipment and Associated Control Devices (Continued)

| Emission Source ID No. | Emission Source Description | | | Control Device Description | Control Device ID No. | Emission Source ID No. |
|---|---|---|---|---|---|---|
| ES-34<br><br>Dryer Section: NG-fired, 4 mmBtu/hr max heat input rate<br><br>Curing Section: NG-fired, 3 mmBtu/hr max heat input rate<br><br>When applying Phenolic Resin Coatings or Melamine Resin Coatings, ES-34 emissions shall be ducted to the Cor-Pak Thermal Oxidizer (CD-42). | When applying coatings such that NSPS Subpart VVV does apply* to the finishing range. | Enclosure Section, Dyer Section, Curing Section, and Cooling Section | | Solvent Recovery Unit; **or** | CD-51 | EP-5.1-1 |
| | | | | Cor-Pak Thermal Oxidizer NG-fired with 8 mmBtu/hr max heat input rate | CD-42 | EP-4.2-2 |
| | When applying coatings such that NSPS Subpart VVV does <u>not</u> apply* to the finishing range. | Enclosure Section | | None | N/A | EP-3.4-1 |
| | | Dryer Section | **When $SiO_2$ is <u>not</u> formed | Donaldson-Torit dust collector (model DFO 4-64), **or** | CD-122 | EP-12.1-2 |
| | | | | None | N/A | EP-3.4-3 |
| | | | **When $SiO_2$ is formed | Donaldson-Torit dust collector (model DFO 4-64) | CD-122 | EP-12.1-2 |
| | | Curing Section | | None | N/A | EP-3.4-4 |
| | | Cooling Section | | None | N/A | EP-3.4-6 |
| ES-35<br><br>Coater Section: NG-fired, 9 mmBtu/hr max heat input rate<br><br>Heatset Section: NG-fired, 13.5 mmBtu/hr max heat input rate | Only permitted to apply coatings such that NSPS Subpart VVV does <u>not</u> apply* to the finishing range. | Coater Section | **When $SiO_2$ is <u>not</u> formed | Donaldson-Torit dust collector (model DFO 4-64), **or** | CD-122 | EP-12.1-2 |
| | | | | None | N/A | EP-3.5-1 |
| | | | **When $SiO_2$ is formed | Donaldson-Torit dust collector (model DFO 4-64) | CD-122 | EP-12.1-2 |
| | | Heatset Section | | None | N/A | EP-3.5-2 |

* 40 CFR 60, Subpart VVV does <u>not</u> apply to the finishing range during times when it is used to apply waterborne coatings so long as the VOC content of the coating does not exceed 9 percent by weight of the volatile fraction <40 CFR 60.740(d)(2)>. *Waterborne coating* means a coating which contains more than 5 weight percent water in its volatile fraction. <40 CFR 60.741(a)>.

** Some silicone-based coatings form silicone dioxide ($SiO_2$) particulate as the coating dries or cures.

## Facility-Wide Permitted Equipment and Associated Control Devices (Continued)

| Emission Source ID No. | Emission Source Description | | Control Device Description | Control Device ID No. | Emission Point ID No. |
|---|---|---|---|---|---|
| ES-36 | # 6 Finishing Range<br>(NSPS Subpart VVV) | | Solvent Recovery Unit; or | CD-51 | EP-5.1-1 |
| | | | Cor-Pak Thermal Oxidizer NG-fired with 8 mmBtu/hr max heat input rate | CD-42 | EP-4.2-2 |
| ES-38 | #9 Laminator and associated tote storage | | None | N/A | EP-3.8-1 |
| ES-61 | Solvated Rubber Mixing and Storage (NSPS, Subpart VVV) (ES-61 must be ducted to CD-51 as required in permit conditions 3.3(A)(1)(f)(i) and (iii)). | | Solvent Recovery Unit ; or | CD-51 | EP-5.1-1 |
| | | | None | N/A | EP-6.1-1 |
| ES-62 | Aqueous Coating Mixing and Storage | | None | N/A | EP-6.2-1 |
| | | | | | EP-6.2-2 |
| | | | | | EP-6.2-3 |
| ES-81 | Two Toluene Storage Tanks: | One 8,000 gallon Virgin Toluene Storage Tank | Solvent Recovery Unit | CD-51 | EP-5.1-1 |
| | | One 10,000 gallon Reclaim Toluene Storage Tank | | | |
| ES-82 | Two Latex Storage Tanks: each 20,000 gallons | UST A: Vinyl Pyridine Latex | None | N/A | EP-8.2-1 |
| | | UST B: Styrene Butadiene Rubber Latex | None | N/A | EP-8.2-2 |
| ES-83 | Tote Storage | | None | N/A | EP-8.3-1 |
| ES-90 | Groundwater Stripper, subject to 40 CFR 63, Subpart GGGGG | | Solvent Recovery Unit | CD-51 | EP-5.1-1 |
| ES-91 | Groundwater/Soil Air Sparger , subject to 40 CFR 63, Subpart GGGGG | | None | N/A | EP-9.1-1<br>EP-9.1-2 |

* *Waterborne coating* means a coating which contains more than 5 weight percent water in its volatile fraction. <40 CFR Part 60, Subpart VVV, 60.741>.

## 1.2 **Operating Conditions Not Covered Under the Permit Shield**

The following specific conditions have been revised or added to this permit following procedures other than the Significant Modification procedures in Section 3Q .0500 of the Forsyth County Air Quality Control Ordinance and Technical Code. As required under Rule 3Q .0512 Permit Shield and Application Shield, a permit shield is not provided for these new or revised permit requirements. During the next Significant Modification as defined in Rule 3Q .0516 or renewal of this permit, the Title V permit applications for the new and revised permit requirements listed below will also be processed according to the Significant Modification procedures and the a permit shield will be extended at that time.

| Emission Source ID No. | Emission Source Description | Unshielded Operating Condition(s) | Effective Date |
|---|---|---|---|
| - - - | - - - | - - - | - - - |

# SECTION 2
# FACILITY GENERAL ADMINISTRATIVE CONDITIONS

2.1 **General Provisions** [Sections 3-0100, 3-0200, and Rule 3Q .0508(i)(16)]

A. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in Subchapters 3D and 3Q of the Forsyth County Air Quality Technical Code (FCAQTC).
B. The terms, conditions, requirements, limitations and restrictions set forth in this permit are binding and enforceable pursuant to Sections 3-0100, 3-0200 of the Forsyth County Air Quality Ordinance (FCAQO), including assessment of civil and/or criminal penalties. This permit is valid only for the specific processes and operations applied for and indicated in the air quality permit application. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and enforcement action by this Office.
C. This permit is not a waiver of or approval of any other permits that may be required for other aspects of the facility which are not addressed in this permit.
D. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore. This permit does not allow the permittee to cause pollution in contravention of local laws or rules, unless specifically authorized by an order from the Director, or to cause pollution in contravention of state laws or rules.
E. Terms and conditions contained herein shall be enforceable by this Office, the U.S. EPA and citizens of the United States as defined in the federal Clean Air Act, except those identified as ***Locally Enforceable Only*** requirements which are enforceable by this Office.
F. Any stationary installation which will reasonably be expected to be a source of pollution shall not be operated, maintained or modified without the appropriate and valid permits issued by this Office, unless the source is exempted by rule. This Office may issue a permit only after it receives reasonable assurance that the installation will not cause pollution in violation of any of the applicable requirements.
G. In addition to the authority found in Rules 3D. 0501 and 3Q .0508(i)(16), any deviation from the monitoring provisions of this permit may result in a request by this Office to submit data on rates of emissions in order to demonstrate compliance with any applicable regulation.

2.2 **Permit Availability** [Rules 3Q .0507(k), .0508(i)(16), .0508(i)(9) and .0110]

The permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of this Office or the U.S. EPA upon request.

2.3 **Submissions** [Rules 3Q .0507(c), .0508(i)(16) and .0104]

All documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required to be sent to this Office by this permit shall be submitted to the **Office of Environmental Assistance and Protection, Forsyth County Government Center, 201 N. Chestnut Street, Winston-Salem, NC 27101-4120**.

2.4 **Severability Clause** [Rule 3Q .0508(i)(2)]

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any specific circumstance, is challenged, the application of the provision in question to other circumstances, as well as the remainder of this permit's provisions, shall not be affected.

2.5 **Duty to Comply** [Rule 3Q .0508(i)(3)]

The permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2.6 **Need to Halt or Reduce Activity Not a Defense** [Rule 3Q .0508(i)(4)]

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

2.7 **Permit Shield** [Rule 3Q .0512(a)]

A. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
B. A permit shield shall not alter or affect:
    1. the power of the Forsyth County Board of Commissioners, Director, or Governor under NCGS 143-215.3(a)(12) or the U.S. EPA under Section 303 of the federal Clean Air Act;
    2. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
    3. the applicable requirements under Title IV of the Clean Air Act; or
    4. the ability of the Director or the U.S. EPA under Section 114 of the federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
C. A permit shield shall not apply to any change made at a facility that does not require a permit or to any permit revision made under Rule 3Q .0523.
D. A permit shield shall not extend to minor permit modifications made under Rule 3Q .0515.

2.8 **Circumvention** [Rules 3D .0502 and 3Q .0508(i)(16)]

No person shall circumvent any permitted air pollution control device, or allow the emissions of regulated air pollutants without the applicable air pollution control device operating properly. Unless otherwise specified by this permit, no permitted emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

2.9 **Good Air Pollution Control Practice** [Rules 3D .0502 and 3Q .0508(i)(16)]

At all times, the equipment listed in *Section 1* shall be operated and maintained in a manner consistent with the design and emissions control as applied for in the application.

2.10 **Reporting Requirements for Excess Emissions and Permit Deviations** [Rules 3D .0535(f) and 3Q .0508(f)(2), 3Q .0508(i)(16) and 3Q .0508(g)]

"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections 3D .0500, .0900, .1200 or .1400; or by a permit condition; or that exceeds a ***Locally Enforceable Only*** emission limit established in a permit issued under Section 3Q .0700. (*Note: This definition applies where the NSPS does not further define excess emissions for an affected NSPS emissions source.*)
"Deviation" - means any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions.

A. Sources subject to Rules 3D .0524, .1110 or .1111 Excess Emissions and Permit Deviations
   1. If the source specific NSPS (3D .0524) or NESHAP (3D .1110 or .1111) defines "excess emissions", these shall be reported as prescribed in 3D .0524, .1110 or .1111.
   2. If the source specific NSPS (3D .0524) or NESHAP (3D .1110 or .1111) does NOT define "excess emissions", the permittee shall report excess emissions as deviations from permit requirements as prescribed in paragraph 3, below.
   3. In addition to any specific NSPS or NESHAP reporting requirements the permittee shall upon becoming aware:
      a. report to this Office any deviations from permit requirements by the next business day, unless an alternative reporting schedule is specifically provided in the permit, and
      b. report in writing to this Office all deviations from permit requirements or any excess emissions within two business days, unless an alternative reporting schedule is specifically provided in the permit. The written report shall include the probable cause of such deviations and any corrective actions or preventative actions taken. Reports of all deviations from permit requirements shall be certified by a responsible official.

B. Sources NOT subject to Rules 3D .0524, 1110 or .1111
   1. Excess Emissions Greater that Four Hours in Duration [3D .0535(f)] - The permittee shall report excess emissions greater than four hours in duration as prescribed in Rule 3D .0535(f) including, but not limited to the following:
      a. Notify this Office of any such occurrence by 9:00 a.m. Eastern time of this Office's next business day of becoming aware of the occurrence as described in Rule 3D .0535(f)(1);
      b. Notify this Office immediately when corrective measures have been accomplished; and
      c. Submit, if requested, to this Office within 15 days after the request, a written report as described in Rule 3D .0535(f)(3).
   2. Excess Emissions Less than Four Hours in Duration and Deviations [3Q.0508(f)] - The permittee shall report excess emissions less than four hours in duration and deviations from permit requirements as follows:

a. Report to this Office any excess emissions less than four hours in duration and any deviations from permit requirements quarterly, unless an alternative reporting schedule is specifically provided in the permit; and
b. Report in writing to this Office any excess emission less than four hours in duration or any deviations from permit requirements quarterly, unless an alternative reporting schedule is specifically provided in the permit. The written report shall include the probable cause of such excess emissions and deviations and any corrective actions or preventative actions taken. All reports of excess emissions and deviations from permit requirements shall be certified by a responsible official.

C. Other Requirements under Rule 3D .0535 (Rule 3D .0535(g) is ***Locally Enforceable Only***.) - The permittee shall comply with all other requirements contained in Rule 3D .0535.

2.11 **Emergency Provisions** <40 CFR 70.6(g)> - The permittee shall be subject to the following provision with regard to emergencies:

A. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.
B. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in paragraph C below are met.
C. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs, or other relevant evidence that include information as follows:
    1. an emergency occurred and that the permittee can identify the cause(s) of the emergency;
    2. the permitted facility was at the time being properly operated;
    3. during the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the standards, or other requirements in the permit; and
    4. the permittee submitted notice of the emergency to this Office within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, and steps taken to mitigate emissions, and corrective actions taken.
D. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.
E. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

2.12 **Permit Fees** [Rules 3Q .0206(b), .0508(i)(10)) and .0519(a)(4)]

If, within 30 days after being billed, the permittee fails to pay an annual permit fee required under Subchapter 3Q .0200 of the FCAQTC, the Director may initiate action to terminate this permit under Rule 3Q .0519 of the FCAQTC.

2.13 **Annual Emission Inventory Requirements** [Rule 3Q .0207]

The permittee shall report to the Director by June 30th of each year the actual emissions of each air pollutant listed in Rule 3Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form(s) as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

2.14 **Compliance Certification** <40 CFR 70.6(c)> [Rules 3Q .0508(n) and .0508((i)(16))]

By March 1st unless another date is established by the Director, the permittee shall submit to this Office and the U.S. EPA **(U.S. EPA Region 4, Air Enforcement Section, Mail Code: 4APT-AEEB, 61 Forsyth Street, S.W., Atlanta, GA 30303)** a compliance certification by a responsible official with all terms and conditions in the permit, including emissions limitations, standards, or work practices. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the federal Clean Air Act. The compliance certification shall include all of the following (provided that the identification of applicable information may cross-reference the permit or previous reports as applicable):

A. the identification of each term or condition of the permit that is the basis of the certification;
B. the status of compliance with the terms and conditions of the permit for the period covered by the certification, based on the methods or means designated in 40 CFR 70.6(c)(5)(iii)(B). The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR 64 occurred;
C. whether compliance was continuous or intermittent;
D. the identification of the method(s) or other means used by the owner and operator for determining the compliance status with each term and condition during the certification period; these methods shall include the methods and means required under 40 CFR Part 70.6(a)(3); and
E. such other facts as the Director may require to determine the compliance status of the source.

2.15 **Retention of Records** [Rule 3Q .0508(f)]

The permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit.

2.16 **NESHAP - Recordkeeping Requirement for Applicability Determinations** <40 CFR 63.10(b)(3)> [Rule 3D .1111]

If the permittee determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants is not subject to a relevant standard or other requirement established under 40 CFR Part

63, the permittee shall keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source. This record shall include all of the information required under 40 CFR 63.10(b)(3).

2.17 **Duty to Provide Information** [Rule 3Q .0508(i)(9))]

A. The permittee shall furnish to this Office, in a timely manner, any reasonable information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
B. The permittee shall furnish this Office copies of records required to be kept by the permit when such copies are requested by the Director.

2.18 **Duty to Supplement or Correct Application** [Rule 3Q .0507(f)]

The permittee, upon becoming aware that any relevant facts were omitted from the application or that incorrect information was submitted with the application, shall promptly submit such supplementary facts or corrected information to this Office. The permittee shall also provide additional information necessary to address any requirements that become applicable to the source after the date a complete application was submitted but prior to release of the draft permit.

2.19 **Certification by Responsible Official** [Rule 3Q .0520]

A responsible official (as defined in 40 CFR 70.2) shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statement and information in the document are true, accurate, and complete.

2.20 **Inspection and Entry** [Rule 3Q .0508(l)]

A. Upon presentation of credentials and other documents as may be required by law, the permittee shall allow authorized representatives of this Office to perform the following:
    1. enter upon the permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
    2. have access to and copy, at reasonable times, any records that must be kept under conditions of the permit;
    3. inspect, at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
    4. sample or monitor substances or parameters, at reasonable times and using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements.

    Nothing in this condition shall limit the ability of the U.S. EPA to inspect or enter the premises of the permittee under Section 114 or other provisions of the Clean Air Act.
B. No person shall obstruct, hamper or interfere with any such authorized representative while in the process of carrying out his official duties.

2.21 **Averaging Times** <40 CFR 70.6(a)(3)> [Rule 3Q .0508(f)]

Unless otherwise specified in *Section 3* of this permit for a specific emission standard or limitation, the applicable averaging period for determining compliance with an emission standard or limitation during compliance testing shall be based on the applicable U.S. EPA reference test method.

2.22 **Compliance Testing** [Rule 3D .2602(e)]

When requested by this Office for determining compliance with emission control standards, the permittee shall provide sampling ports, pipes, lines, or appurtenances for the collection of samples and data required by the test procedure; scaffolding and safe access to the sample and data collection locations; and light, electricity, and other utilities required for sample and data collection.

2.23 **General Emissions Testing and Reporting Requirements** [Rule 3D .2602 and Rule 3Q .0508(i)(16)]

Testing shall be conducted in accordance with FCAQTC Section 3D .2600 except as may be otherwise required in FCAQTC Rules 3D .0524, 3D .0912, 3D .1110, 3D .1111, 3D .1415 or a permit condition specific to the emissions source. Requests to use an alternative test method or procedure must be made in writing at least 45 days prior to the test and approved by this Office. Alternatives to test methods or procedures specified for emissions sources subject to test requirements under 40 CFR 60, 40 CFR 61 or 40 CFR 63, may require approval by the U.S. EPA. When required to conduct emissions testing under the terms of the permit:

A. The permittee shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved prior to air pollution testing. Emission testing protocols must be submitted at least 45 days before conducting the test for pre-approval prior to testing if requested by the permittee.
B. The permittee shall notify this Office of the specific test dates at least 15 days prior to the scheduled test date in order to afford this Office the opportunity to have an observer on-site during the sampling program.
C. During all sampling periods, the permittee shall operate the emission source(s) under operating conditions that best fulfill the purpose of the test and are approved by the Director or his delegate.
D. The permittee shall submit one copy of the test report to this Office not later than 30 days after sample collection. The permittee may request an extension to submit the final test report if the extension request is a result of actions beyond the control of the permittee. The test report shall contain at a minimum the following information:
    1. a certification of the test results by sampling team leader and facility representative;
    2. a summary of emissions results expressed in the same units as the emission limits given in the rule for which compliance is being determined and text detailing the objectives of the testing program, the applicable state and federal regulations, and conclusions about the testing and compliance status of the emission source(s) as appropriate;
    3. a detailed description of the tested emission source(s) and sampling location(s) process flow diagrams, engineering drawings, and sampling location schematics

as necessary;
4. all field, analytical and calibration data necessary to verify that the testing was performed as specified in the applicable test methods;
5. example calculations for at least one test run using equations in the applicable test methods and all test results including intermediate parameter calculations; and
6. documentation of facility operating conditions during all testing periods and an explanation relating these operating conditions to maximum normal operation. If necessary, provide historical process data to verify maximum normal operation.

E. This Office will review emission test results with respect to the specified testing objectives as proposed by the permittee and approved by this Office.

2.24 **Termination, Modification, and Revocation of the Permit** [Rule 3Q .0519]

The Director may terminate, modify, or revoke and reissue this permit if:

A. the information contained in the application or presented in support thereof is determined to be incorrect;
B. the conditions under which the permit or permit renewal was granted have changed;
C. violations of conditions contained in the permit have occurred;
D. the permit holder fails to pay fees required under Section 3Q .0200 within 30 days after being billed;
E. the permittee refuses to allow the Director or his authorized representative upon presentation of credentials:
   1. to enter, at reasonable times and using reasonable safety practices, the permittee's premises in which a source of emissions is located or in which any records are required to be kept under terms and conditions of the permit;
   2. to have access, at reasonable times, to any copy or records required to be kept under terms and conditions of the permit;
   3. to inspect, at reasonable times and using reasonable safety practices, any source of emissions, control equipment, and any monitoring equipment or method required in the permit; or
   4. to sample, at reasonable times and using reasonable safety practices, any emission sources at the facility;
F. the U.S. EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
G. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of Chapter 3 of the Forsyth County Code.

2.25 **Permit Reopenings, Modifications, Revocations and Reissuances, or Terminations** [Rule 3Q .0508(i)(5))]

The Director may reopen, modify, revoke and reissue, or terminate this permit for reasons specified in Rule 3Q .0517 or .0519. The filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, notification of planned changes, or anticipated noncompliance does not stay any permit condition in this permit.

2.26 **Permit Renewal** [Rule 3Q .0508(e) and Rule 3Q .0513]

This permit is issued for a term not to exceed **five** (5) years. Permits issued under Title IV of the Clean Air Act shall be issued for a fixed period of five years. This permit shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete renewal application is submitted at least nine months before the date of permit

expiration. If the permittee or applicant has complied with Rule 3Q .0512(b)(1), this permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of this permit shall remain in effect until the renewal permit has been issued or denied.

2.27 **Reopening for Cause** [Rules 3Q .0517 and .0508(g)]

This permit shall be reopened and revised in accordance with Rule 3Q .0517 prior to its expiration date, for any of the following reasons:

A. Additional applicable requirements become applicable to the facility with remaining permit term of three or more years.
B. Additional requirements, including excess emissions requirements, become applicable to this source under Title IV of the Clean Air Act. Excess emissions offset plans for this source shall become part of this permit upon approval by the U.S. EPA.
C. The Director or the U.S. EPA finds that a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.
D. The Director or the U.S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

2.28 **Construction and Operation Permits** [Sections 3Q .0100 and .0300]

A construction and operating permit shall be obtained by the permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of Sections 3Q .0100 and .0300.

2.29 **Permit Modifications** [Rules 3Q .0514, .0515, .0516, .0517, .0523 and .0524]

A. Permit modifications may be subject to the requirements of Rules 3Q .0514, .0515, .0516 and .0524.
B. Changes made pursuant to Rules 3Q .0523(a) and (b) do not require a permit modification.
C. The permittee shall submit an application for reopening for cause in accordance with Rule 3Q .0517 if notified by this Office.
D. To the extent that emissions trading is allowed under FCAQTC Subchapter 3D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to Rule 3Q .0523(c).

2.30 **Insignificant Activities** [Rules 3Q .0503 and .0508(i)(15)]

Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The permittee shall have available at the facility at all times and made available to an authorized representative of this Office upon request, documentation, including calculations if necessary, to demonstrate that an emission source or activity is insignificant.

2.31 **Standard Application Form and Required Information** [Rules 3Q .0505 and .0507]

The permittee shall submit applications and required information in accordance with the provision of Rules 3Q .0505 and .0507.

2.32 **Property Rights** [Rule 3Q .0508(i)(8)]

This permit does not convey any property rights of any sort, or any exclusive privileges.

2.33 **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [Rule 3Q .0508(b)]

A. If the permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR 82 Subpart A, Appendices A and B, the permittee shall service, repair, and maintain such equipment according to the work practices and personnel certification requirements, and the permittee shall use certified recycling and recovery equipment specified in 40 CFR 82 Subpart F.
B. The permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR 82 Subpart F.
C. The permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the U.S. EPA or its designee as required.

2.34 **Prevention of Accidental Releases - Section 112(r)** [Rule 3Q .0508(h)]

If the permittee is required to develop and register a risk management plan pursuant to Section 112(r) of the federal Clean Air Act, then the permittee is required to register this plan in accordance with 40 CFR Part 68.

2.35 **Title IV Allowances** [Rule 3Q .0508(i)(1)]

The facility’s emissions are prohibited from exceeding any allowances that the facility lawfully holds under Title IV of the Clean Air Act. This permit shall not limit the number of allowances held by the permittee, but the permittee may not use allowances as a defense to noncompliance with any other applicable requirement.

2..36 **Air Pollution Alert, Warning or Emergency** [Section 3D .0300]

Should the Director of this Office declare an Air Pollution Alert, Warning or Emergency, the permittee will be required to operate in accordance with the permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in Section 3D .0300.

2.37 **Registration of Air Pollution Sources** [Rule 3D .0202]

The Director of this Office may require the permittee to register a source of air pollution. If the permittee is required to register a source of air pollution, this registration and required information shall be in accordance with Rule 3D .0202(b).

2.38 **Ambient Air Quality Standards** [Rule 3D .0501(e)]

In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in Rule 3D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

2.39 **Odor** [Rule 3D .0522] ***Locally Enforceable Only***

The permittee shall not cause or permit the emission of odors beyond the facility's property lines which are harmful, irritating or which unreasonably interfere with the use and enjoyment of any person's properties or living conditions, or any public properties or facilities. Such odors are prohibited by Rule 3D .0522. No violation shall be cited, provided that the best practical treatment, maintenance, and control of odor(s) currently available is used. This requirement does not apply to normal agricultural practices, nor to accidental emissions of odors which are not normally produced during routine operations and activities as determined by the Director.

2.40 **Fugitive Dust Control Requirement** [Rule 3D .0540]

The permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR 60, Appendix A), the owner or operator may be required to submit and implement a fugitive dust control plan as described in 3D .0540(f).

**New Source Performance Standards (NSPS) General Conditions - [Rule 3D .0524]**

Following are conditions found in the 40 CFR Part 60 NSPS General Provisions. The following conditions only apply to sources subject to a relevant standard of a subpart of 40 CFR Part 60 except when otherwise specified in a particular subpart or in a relevant standard.

2.41 **NSPS - General Provisions** <40 CFR 60 Subpart A> [Rule 3D .0524]

The permittee shall comply with all applicable requirements specified in the general provisions of the New Source Performance Standards (40 CFR 60 Subpart A) including but not limited to requirements concerning notifications, testing, monitoring, recordkeeping, modifications and reconstruction.

2.42 **NSPS - Good Air Pollution Control Practice** <40 CFR 60.11(d)> [Rule 3D .0524]

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

2.43 **NSPS - Circumvention** <40 CFR 60.12> [Rule 3D .0524]

The permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of an applicable standard under 40 CFR 60. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard which is based on the concentration of a pollutant in the gases discharged to the atmosphere.

2.44 **NSPS - Maintain Records - Startup/Shutdown/Malfunction** <40 CFR 60.7(b)> [Rule 3D .0524]

The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of the affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

2.45 **NSPS - Files Available for Inspection** <40 CFR 60.7(f)> [Rule 3D .0524]

The permittee shall maintain a file of all measurements, including, if applicable, performance test measurements and all other information required in 40 CFR 60. This file shall be kept in a permanent form suitable for inspection and shall be retained at least two years following the date of such measurements, maintenance, reports, and records.

2.46 **NSPS - Performance Testing Facilities Provided by Permittee** <40 CFR 60.8(e)> [Rule 3D .0524]

For any performance testing, the permittee shall provide, or cause to be provided, performance testing facilities as follows:

A. Sampling ports adequate for the applicable test methods. This includes:
   1. constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and
   2. providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
B. Safe sampling platform(s) with safe access.
C. Utilities for sampling and testing equipment.
D. Unless otherwise specified in the applicable subpart, each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For purposes of determining compliance with an applicable standard, the arithmetic means of results of the three (3) runs shall apply.

**National Emission Standards for Hazardous Air Pollutants for Source Categories (NESHAP) General Conditions - [Rule 3D .1111]**

Following are conditions found in the 40 CFR Part 63 NESHAP General Provisions. The following conditions only apply to sources subject to a relevant standard of a subpart of 40 CFR Part 63 except when otherwise specified in a particular subpart or in a relevant standard.

2.47 **NESHAP - General Provisions** <40 CFR 63 Subpart A> [Rule 3D .1111]

The permittee shall comply with all applicable requirements specified in the general provisions of the National Emission Standards for Hazardous Air Pollutants for Source Categories (40 CFR 63 Subpart A) including but not limited to requirements concerning notifications, testing, monitoring, recordkeeping, modifications, construction, and reconstruction.

2.48 **NESHAP - Startup Shutdown and Malfunction Plan** <40 CFR 63.6(e)(3)> [Rule 3D .1111]

The permittee shall develop and implement a written startup, shutdown and malfunction plan in accordance with the requirements in 40 CFR 63.6(e)(3).

2.49 **NESHAP - Good Air Pollution Control Practice** <40 CFR 63.6(e) and 63.8(c)> [Rule 3D .1111]

At all times, including periods of startup, shutdown, and malfunction, the permittee shall maintain and operate any affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions at least to the levels required by all relevant standards. The permittee also shall maintain and operate each continuous monitoring system (CMS) as specified in 40 CFR 63.8, or in a relevant standard, and in a manner consistent with good air pollution control practices. Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan required by 40 CFR 63.6(e)(3). Operation and maintenance requirements established pursuant to Section 112 of the Clean Air Act are enforceable independent of emissions limitations or other requirements in relevant standards.

2.50 **NESHAP - Circumvention** <40 CFR 63.4(b)> [Rule 3D .1111]

The permittee shall not build, erect, install, or use any article, machine, equipment or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere, the use of diluents to achieve compliance with a relevant standard for visible emissions, and the fragmentation of an operation such that the operation avoids regulation by a relevant standard.

2.51 **NESHAP - Maintain Records** <40 CFR 63.10(b)(2)> [Rule 3D .1111]

For affected sources, the permittee shall maintain relevant records of:

A. the occurrence and duration of each startup, shutdown, or malfunction of operation;
B. the occurrence and duration of each malfunction of the air pollution control equipment;
C. all maintenance performed on the air pollution control equipment;
D. actions taken during periods of startup, shutdown, and malfunction;
E. all information necessary to demonstrate compliance with the affected source's startup, shutdown, and malfunction plan when all actions taken are consistent with the procedures specified in the plan;

F. each period during which a CMS is malfunctioning or inoperative;
G. all required measurement needed to demonstrate compliance with a relevant standard;
H. all results of performance tests, CMS performance evaluations, and opacity and visible emission observations;
I. all measurements as may be necessary to determine the conditions of performance tests and performance evaluations;
J. all CMS calibration checks;
K. all adjustments and maintenance performed on CMS;
L. any information demonstrating whether a source is meeting the requirements for a waiver of recordkeeping or reporting requirements if the source has been granted a waiver under 40 CFR 63.10(f);
M. all emission levels relative to the criterion for obtaining permission to use an alternative to the relative accuracy test if the source has been granted such permission under 40 CFR 63.8(f)(6); and
N. all documentation supporting initial notifications and notifications of compliance status under 40 CFR 63.7.

2.52 **NESHAP - Files Available for Inspection** <40 CFR 63.10(b)(1)> [Rule 3D .1111]

The permittee shall maintain files of all information required by 40 CFR Part 63 recorded in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least five years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two years of data shall be retained on site. The remaining three years of data may be retained off site.

2.53 **NESHAP - Performance Testing Facilities Provided by Permittee** <40 CFR 63.7(d)> [Rule 3D .1111]

For any performance testing for each new source and, at the request of the Director, for each existing source, the permittee shall provide performance testing facilities as follows:

A. Sampling ports adequate for test methods applicable to the affected source. This includes:
    1. Constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures; and
    2. Providing a stack or duct free of cyclonic flow during performance tests, as demonstrated by applicable test methods and procedures.
B. Safe sampling platform(s).
C. Safe access to sampling platform(s).
D. Utilities for sampling and testing equipment.
E. Any other facilities that the Director deems necessary for safe and adequate testing of a source.
F. Unless otherwise specified in the applicable subpart, each performance test shall be conducted according to the requirements in 40 CFR 63.7.

**Compliance Assurance Monitoring for Major Stationary Sources (CAM) General Conditions - [40 CFR Part 64]**

Following are conditions based on the requirements found in 40 CFR Part 64. These conditions only apply to sources subject to the CAM requirements.

2.54 **CAM - Proper Maintenance** <40 CFR 64.7(b)> [Rule 3D .0614]

At all times, the permittee shall maintain the monitoring equipment, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.

2.55 **CAM - Continued Operation** <40 CFR 64.7(c)> [Rule 3D .0614]

Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The permittee shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

2.56 **CAM - Response to Excursions or Exceedances** <40 CFR 64.7(d)> [Rule 3D .0614]
Upon detecting an excursion or exceedance, the permittee shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designed condition, or below the applicable emissions limitation or standard, as applicable.

Determination of whether the permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include but is not limited to, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process. Based on the results of this determination, this Office may require the permittee to develop and implement a Quality Improvement Plan (QIP). The elements of a QIP are identified in 40 CFR 64.8(b).

2.57 **CAM - Documentation of Need for Improved Monitoring** <40 CFR 64.7(e)> [Rule 3D .0614]

After approval of the CAM plan, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify this Office and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conduction monitoring and collecting data, or the monitoring of additional parameters.

# SECTION 3
# SPECIFIC LIMITATIONS AND CONDITIONS

## 3.0 Emissions Sources and Applicability Table

| Emissions Point | Applicable Permit Section | | | | | | |
|---|---|---|---|---|---|---|---|
| | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 |
| ES-21, Kewanee Boiler | **X** | **X** | | | | | |
| ES-31, #18 Finishing Range | | **X** | | | | | **X** |
| ES-33, #3 Finishing Range | | **X** | | | **X** | | **X** |
| ES-34, #4 Finishing Range | | **X** | **X** | **X** | **X** | | **X** |
| ES-35, #5 Finishing Range | | **X** | | **X** | | | **X** |
| ES-36, #6 Finishing Range | | **X** | **X** | **X** | **X** | | **X** |
| ES-38, #9 Laminator | | **X** | | **X** | | | **X** |
| ES-61, Solvated Rubber Mixing & Storage | | **X** | **X** | **X** | **X** | | **X** |
| ES-62, Aqueous Coating Mixing & Storage | | **X** | | **X** | | | **X** |
| ES-81, Toluene Storage Tanks | | **X** | | | | | **X** |
| ES-82, Latex Storage Tanks | | **X** | | | | | **X** |
| ES-83, Tote Storage | | **X** | | | | | **X** |
| ES-90, Groundwater Stripper | | **X** | | | | **X** | |
| ES-91, Groundwater Sparger | | **X** | | | | **X** | |

The emission source(s) and/or associated air pollution control device(s) listed in each subsequent subsection are subject to the following specific terms, conditions, and limitations, including all applicable monitoring recordkeeping, and reporting requirements.

## 3.1 ES-21: Natural Gas-Fired Kewanee Boiler, Uncontrolled

A. **Particulates from Fuel Burning Indirect Heat Exchangers** [Rule 3D .0503]

1. **Standard** - [Rule 3D .0503] - Emissions of particulate matter from the combustion of natural gas that are discharged from this source into the atmosphere shall not exceed **0.495 pounds per million Btu heat input**.
2. **Testing** - [Rule 3D .0501(b)] - The permittee shall follow the testing requirements specified in condition **3.2(A)(3)**.
3. **Monitoring/Recordkeeping/Reporting** - No monitoring, recordkeeping, or reporting is required for particulate matter from the firing of natural gas in this source.

B. **40 CFR Part 60, Subpart Dc - Standards of Performance for Small Industrial - Commercial - Institutional Steam Generating Units**; **Boiler Fuel Combustion Report** [Rule 3D.0524]

1. The permittee shall maintain records of the total annual quantities of all fuel combusted in the Kewanee Boiler, in accordance with revised recordkeeping requirements as described in a U.S. EPA, Region IV guidance memorandum dated February 20, 1992 [in lieu of the specific requirements of 40 CFR 60.48c.(g)]
2. This information shall be reported to the Forsyth County Office of Environmental Assistance and Protection by January 31st of each year for the previous calendar year.

**C. National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters [Rule 3D .1111 and 40 CFR 63, Subpart DDDDD]**

1. **Compliance Date** [Rule 3D .1111 and 40 CFR 63.7495] - The permittee must comply with this subpart no later than January 31, 2016.
2. **Tune-up of Boiler** [Rule 3D .1111 and 40 CFR 63.7515 and 63.7540(a)(10)] - The permittee shall conduct an initial tune-up of the boiler no later than January 31, 2016. Subsequent to the initial tune-up, the permittee shall conduct an annual tune-up to demonstrate continuous compliance. The annual tune-up shall be performed no more than 13 months after the previous tune-up and be performed as specified below:
   a. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;
   b. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;
   c. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (you may delay the inspection until the next scheduled unit shutdown);
   d. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any $NO_X$ requirement

to which the unit is subject;

e. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer; and

f. Maintain on-site and submit, if requested by this Office, an annual report containing the information below:

i. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater;

ii. A description of any corrective actions taken as a part of the tune-up; and

iii. The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit.

3. **Energy Assessment** [Rule 3D .1111 and Item 4 of Table 3 to Subpart DDDDD of Part 63]

a. The permittee shall have a one-time energy assessment performed by a *qualified energy assessor*, as defined in 40 CFR 63.7575, no later than January 31, 2016. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements in the permit condition, satisfies the energy assessment requirement. A facility that operates under an energy management program compatible with ISO 50001 that includes the affected units also satisfies the energy assessment requirement.

b. The energy assessment shall include items **(i) through (viii)** below:

i. A visual inspection of the boiler or process heater system;

ii. An evaluation of operating characteristics of the boiler or process heater systems, specifications of energy using systems, operating and maintenance procedures, and unusual operating constraints;

iii. An inventory of major energy use systems consuming energy from affected boilers and process heaters and which are under the control of the boiler/process heater owner/operator;

iv. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage;

v. A review of the facility's energy management practices and provide recommendations for improvements consistent with the definition of energy management practices, if identified;

vi A list of cost-effective energy conservation measures that are within the facility's control;

vii. A list of the energy savings potential of the energy conservation measures identified; and

viii. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

c. The length of the energy assessment shall not include less than eight (8) on-site technical labor hours.

d. The time necessary to complete the evaluation of items **(C)(3)(b)(i) through**

**(v)** shall be considered appropriate use of the eight (8) on-site technical labor hours.

e. The boiler system and any on-site energy use system(s) accounting for at least 50 percent of the affected boiler energy (e.g., steam, hot water, process heat, or electricity production, as applicable) shall be evaluated to identify energy savings opportunities, within the limit of performing the 8-hour on-site energy assessment

4. **Notification of Compliance Status** [Rule 3D .1111 and 40 CFR 63.7(h)(2)(ii) and 63.7530(d), (e), and (f)] - The permittee shall send an initial Notification of Compliance Status to this Office before the close of business on the 60th day following the completion of the initial tune-up of the boiler and the one-time energy assessment. The notification shall include the following information:
   a. A signed certification that you have met all applicable work practice standards;
   b. A signed statement that indicates that you conducted a tune-up of the unit;
   c. A signed certification that the energy assessment was completed according to permit condition **3.1(C)(3)** and is an accurate depiction of your facility at the time of the assessment; and
   d. If you had a deviation from any work practice standard, you must also submit a description of the deviation, the duration of the deviation, and the corrective action taken.
5. **Recordkeeping Requirements** [Rule 3D .1111, 40 CFR 63.7555, 63.7560]
   a. The permittee shall maintain files of all information (including all reports and notifications, and all documentation supporting initial notifications and notifications of compliance status) required by Subpart DDDDD recorded in a form suitable and readily available for expeditious inspection and review.
   b. The files shall be retained for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site. Such files may be maintained on microfilm, on a computer, on computer floppy disks, on magnetic tape disks, or on microfiche.
6. **Reporting Requirements** [Rule 3D .1111 and 40 CFR 63.7550]
   a. The permittee shall submit a compliance report to this Office containing the following information:
      i. Company and Facility name and address;
      ii. Process unit information;
      iii. Date of report and the beginning and ending dates of the reporting period (January 1st through December 31st);
      iv. The total operating time during the reporting period; and
      v. The date of the most recent tune-up of the boiler and the date of the most recent burner inspection if it was not done annually and was delayed until the next scheduled or unscheduled boiler shutdown.
   b. The first report is due January 31, 2017 and shall cover the period January 1, 2016 through December 31, 2016. Subsequent reports shall be postmarked or submitted no later than January 31st of each year. In addition to submitting the compliance report to this Office, the permittee shall submit the compliance report electronically using CEDRI that is accessed through the EPA's Central Data Exchange (CDX) (www.epa.gov/cdx).

## 3.2 General and Facility-Wide Emissions Conditions

**ES-21: Natural Gas-Fired Kewanee Boiler, Uncontrolled**
**ES-31: #18 Finishing Range, Uncontrolled; and**
**ES-33: #3 Finishing Range, Controlled by Solvent Recovery Unit (SRU)**
***ES-34: #4 Finishing Range, Controlled by the SRU or Cor-Pak Thermal Oxidizer, including the Dryer Section controlled by the Donaldson-Torit dust collector when $SiO_2$ is formed;**
***ES-35: #5 Finishing Range, Uncontrolled or including the Coater Section controlled by the Donaldson-Torit dust collector when using $SiO_2$;**
**ES-36: #6 Finishing Range, Controlled by the Cor-Pak Thermal Oxidizer or the SRU;**
**ES-38: #9 Laminator, Uncontrolled**
**ES-61: Solvated Rubber Mixing and Storage, Controlled by the SRU;**
**ES-62: Aqueous Coating Mixing and Storage, Uncontrolled**
**ES-81: Toluene Storage Tanks (Two Above-Ground Tanks), Controlled by the SRU;**
**ES-82: Latex Storage Tanks (Two Underground Tanks), Uncontrolled**
**ES-83: Tote Storage, Uncontrolled**
**ES-90: Groundwater Stripper, Controlled by SRU; and**
**ES-91: Groundwater/Soil Air Sparger, Uncontrolled**

** Some silicone-based coatings form silicone dioxide ($SiO_2$) particulate as the coating dries or cures. Emissions from the ES-34 Dryer Section and the ES-35 Coater Section **shall** be vented to the Donaldson-Torit dust collector (CD-122) for all operations involving the formation of $SiO_2$ particulate.*

**Table 3.2: Summary of Applicable Requirements**

| Pollutant | Applicable Condition(s) | Emission Point(s) Subject |
|---|---|---|
| Visible Emissions | 3.2(A)(1) | ES-31 |
| | 3.2(A)(2) | ES-21, ES-33, ES-34, ES-35 |
| Sulfur Dioxide | 3.2(B) | ES-31, ES-33, ES-34, ES-35 |
| VOCs | 3.2(C) | ES-31, ES-33, ES-34, ES-35, ES-36, ES-38, ES-61, ES-62, ES-81, ES-82, ES-83 |
| Particulate Matter | 3.2(D) | ES-31, ES-33, ES-34, ES-35 |
| Local Air Toxics | 3.2(E) | ES-31, ES-33, ES-34, ES-35, ES-36, ES-38, ES-61, ES-62, ES-81, ES-82, ES-83, ES-90, ES-91 |

**A. Control of Visible Emissions** [Rule 3D .0521]

1. **Standard Applicable to sources existing as of July 1, 1971** [Rule 3D .0521(c)] Visible emissions for sources existing as of July 1, 1971 shall not exceed 40% opacity when averaged over a six-minute period except that six-minute periods averaging not more than 90% opacity may occur not more than once in any hour nor more than four times in any 24-hour period.
2. **Standard Applicable to sources established after July 1, 1971** [Rule 3D .0521(d)] - Visible emissions for sources established after July 1, 1971 shall not

exceed 20% opacity when averaged over a six-minute period except that six-minute periods averaging not more than 87% opacity may occur not more than once in any hour nor more than four times in any 24-hour period.

**Table 3.2(A): Applicable Visible Emissions Standards**

| Emission Source ID # | Emission Source Description | Visible Emission Standard |
|---|---|---|
| *ES-21 | Kewanee Boiler | **20% Opacity** [3D .0521(d)] Sources Established After July 1, 1971 |
| ES-31, ES-33, ES-34, ES-35 | Finishing Ranges (#3, #4 & #5) | |

** The monitoring/recordkeeping and reporting requirements below do not apply to this source based on the combustion of only natural gas as the only fuel.*

3. **Testing** - [Rule 3D .0501(b)] - If emissions testing is required by this Office or the U.S. EPA, or the permittee submits emissions testing to this Office in support of a permit application, the permittee shall perform such testing in accordance with the appropriate U.S. EPA reference method(s) as approved by this Office. The permittee may request approval from this Office for an alternate test method or procedure in writing.
4. **Monitoring/Recordkeeping** [Rule 3Q .0508(f)]
   a. The permittee shall make a daily observation of the stacks/vents venting emissions from these sources. The permittee should attempt to make this observation during a period when the plant is operating at an average or greater than average capacity.
   b. The permittee shall keep a daily record of this daily visible emission stack observation. The record shall contain the following:
      i. the date and time of visual observation,
      ii. the person(s) who performed visual observation,
      iii. identification of stack(s) where visible emissions were occurring (otherwise, input a general overall statement or check that there were no problems noted on a plant-wide basis),
      iv. the operating conditions under which the visual observation was conducted, and
      v. any actions taken to reduce the visible emissions.
   c. The visible emissions observation data must be available for at least 90 percent of the operating days at the facility during the six- month reporting period to ensure compliance with this requirement. If the emission source is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily check. These records shall be retained for at least 5 years from the event recorded and shall be made readily available upon request by an authorized representative of this Office or the U.S. EPA.
5. **Reporting Deviations from Requirements -** All instances of deviations from the requirements for these emission sources and the duration of these deviations must be clearly identified and reported in writing to this Office by July 30$^{th}$ for the previous months of January through June, and by January 30$^{th}$ for the previous months of July through December. If no deviations have occurred, the permittee shall make this statement in the report.

B. **Sulfur Dioxide Emissions from Combustion Sources** [Rule 3D .0516]

1. **Standard** - [Rule 3D .0516] - Emissions of sulfur dioxide from affected sources shall not exceed **2.3 pounds per million Btu heat input.** Sulfur dioxide ($SO_2$) formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard.
2. **Testing** - [Rule 3D .0501(b)] - The permittee shall follow the testing requirements specified in permit condition **3.2(A)(3)** for affected sources.
3. **Monitoring/Recordkeeping/Reporting** - No monitoring, recordkeeping, or reporting is required for sulfur dioxide from the firing of natural gas in affected sources. The emissions from the combustion of natural gas are accounted for in the facility annual emissions inventories.

**C. Work Practices for Sources of Volatile Organic Compounds** [Rule 3D .0958]

**1. Facility-wide Work Practice Standards** [Rules 3D .0958(c) and 3Q .0508(i)(16)] The owner or operator of any facility subject to this Rule shall:
   a. store all material, including waste material, containing volatile organic compounds in containers covered with a tightly fitting lid that is free of cracks, holes, or other defects, when not in use,
   b. clean up spills as soon as possible following proper safety procedures,
   c. store wipe rags in closed containers,
   d. not clean sponges, fabric, wood, paper products, and other absorbent materials, unless volatile organic compound emissions are captured and controlled,
   e. drain solvents used to clean supply lines and other coating equipment into containers designed for closure, and close containers immediately after each use, and
   f. clean mixing, blending, and manufacturing vats and containers by adding cleaning solvent, closing the vat or container before agitating the cleaning solvent. The spent cleaning solvent shall then be poured into a closed container.

**2. Facility-wide Work Practice Standards Specific to Parts Cleaning** [Rules 3D .0958(d) and 3Q .0508(i)(16)] - When cleaning parts, the owner or operator of any facility subject to this Rule shall:
   a. flush parts in the freeboard area,
   b. take precautions to reduce the pooling of solvent on and in the parts,
   c. tilt or rotate parts to drain solvent and allow a minimum of 15 seconds for drying or until all dripping has stopped, whichever is longer,
   d. not fill cleaning machines above the fill line, and
   e. not agitate solvent to the point of causing splashing, unless volatile organic compound emissions are captured and controlled.

**3. Facility-wide Work Practice Standards Specific to Control Devices** [Rules 3D .0958(e) and 3Q .0508(i)(16)] - The owner or operator of a source on which a control device has been installed to comply with 3D .0518(d) shall continue to maintain and operate the control device. The following emission units previously utilized a control device to comply with 3D .0518(d):

**Table 3.2(C)(3), Applicable Control Devices**

| Emission Source ID | Emission Source Description | Control Device ID | Control Device Description |
|---|---|---|---|
| ES-33 | #3 Finishing Range | CD-51 | Solvent Recovery Unit |
| ES-34 | #4 Finishing Range | CD-51 | Solvent Recovery Unit |
| | | CD-42 | Cor-Pak Thermal Oxidizer |
| | | CD-122 | Donaldson-Torit Dust Collector |
| ES-35 | #5 Finishing Range | CD-122 | Donaldson-Torit Dust Collector |
| ES-36 | #6 Finishing Range | CD-51 | Solvent Recovery Unit |
| | | CD-42 | Cor-Pak Thermal Oxidizer |
| ES-61 | Solvated Rubber Mixing and Storage | CD-51 | Solvent Recovery Unit |
| ES-81 | 2 Toluene Tanks | CD-51 | Solvent Recovery Unit |
| ES-91 | Groundwater Sparger | CD-51 | Solvent Recovery Unit |

The permittee shall continue to operate these control devices unless the Director determines that the removal of the control device shall not cause or contribute to a violation of the ambient air quality standard (NAAQS) for ozone (3D .0405).

4. **Monitoring/Recordkeeping** [Rule 3Q .0508(f)] - To ensure compliance with the work practice standards above, the permittee shall perform weekly inspections at each affected emissions unit to verify compliance with the work practices and identify any deviations. The results of the inspections and any deviations shall be recorded in a log (written or electronic form) on site and be readily available upon request by an authorized representative of this Office or the U.S. EPA. The log shall contain the following records:
   a. the date and time of each inspection,
   b. the results of each inspection, and
   c. all deviations from required work practice standards and the corrective actions taken.
5. **Reporting Requirements [Rule 3D.0508(f) and (g)] -** The permittee shall submit a summary report of the monitoring requirements specified in permit condition **3.2(C)(4)**, to this Office by July 30th for the previous months of January through June, and by January 30th for the previous months of July through December. This report shall contain the total number of weeks in which the work practice standards weekly check was not made during the reporting period.

D. **Particulates from Miscellaneous Industrial Processes** [Rule 3D .0515]

1. **Standard/Operation Requirements** - [Rule 3D .0515] - Emissions of particulate matter from affected sources shall not exceed the allowable emission rate calculated by the equation:

**$E = 4.10 * P^{0.67}$** where;
E = allowable emission rate for particulate matter in lb/hr, and
P = process weight rate in tons/hr.

2. **Monitoring Requirement** - The Donaldson-Torit dust collector (CD-122) shall be equipped with a differential pressure gauge which continuously indicates the pressure drop through the control device when in operation. This gauge shall be operated and maintained at all times in accordance with the manufacturer's recommendations.
3. **Reporting Deviations from Requirements** [Rule 3Q. 0508(f)] - The permittee shall follow the reporting requirements specified in permit condition **3.2(A)(5)** for these sources.

E. **Air Toxics Pollutant Emissions - *Local Enforcement Only*** [Rules 3Q .0712, 3Q .0317 and 3Q .0308(a)(1)]

1. **Air toxics - general** [Rule 3Q .0712] - Upon the written request of the Director and in accordance with Section 3D .1100 ("Control of Toxic Air Pollutants") of the FCAQTC, the permittee shall demonstrate to the satisfaction of the Director that the facility's emissions of the toxic air pollutants listed in Section 3D .1100 do not "cause or contribute to any significant ambient air concentration that may adversely affect human health". This demonstration shall be made in accordance with Sections 3D .1100 and 3Q .0700.
2. **Air Toxics Recordkeeping Requirements** [Rules 3D .0605 and 3Q .0308(a)(1)]
   a. The permittee shall maintain updated records of production rates, throughputs, material usage, and other process operational information as is necessary to determine toxic air pollutant emissions. At a minimum these records shall include data sufficient to calculate monthly averaged emission rates (in pounds per hour of emission source operation) for TAPs with 1-hour or 24-hour emission limits and yearly emission rates (in pounds per calendar year) for TAPs with annual emission limits.
   b. Copies of the records specified in paragraph **3.2(E)(2)(a)** shall be retained by the permittee for a period of two (2) years after the date on which the record was made, except that the Director may extend the retention period in particular instances. The permittee shall readily furnish copies of these records upon request by this Office.

## 3.3 Standards of Performance for Polymeric Coating of Supporting Substrates Facilities (40 CFR 60, Subpart VVV)

**ES-34: # 4 Finishing Range, Controlled by the SRU or Cor-Pak Thermal Oxidizer, including the Dryer Section controlled by the Donaldson-Torit dust collector when emitting $SiO_2$;**
**ES-36: # 6 Finishing Range, Controlled by the Cor-Pak Thermal Oxidizer or the Solvent Recovery Unit (SRU);**
**ES-61: Solvated Rubber Mixing and Storage, Controlled by the SRU;**

A. **New Source Performance Standards Subpart VVV Requirements - ES-34 and ES-61** [Rule 3D .0524] <40 CFR Part 60, Subpart VVV> - Subpart VVV of 40 CFR 60 entitled *Standards of Performance for Polymeric Coating of Supporting Substrates*

*Facilities* applies to the #4 Finishing Range (ES-34) and Solvated Rubber Mixing and Storage (ES-61) at all times except during those times when the equipment is used to prepare or apply waterborne coatings so long as the volatile organic compound (VOC) content of the coating does not exceed 9 percent by weight of the volatile fraction. *Waterborne coating* means a coating which contains more than 5 weight percent water in its volatile fraction. Except when mixing or using these exempt waterborne coatings, Subpart VVV applies to ES-34 and ES-61 and emissions from these sources must be directed to the appropriate control devices.

1. **Standards & Operational Requirements -** The permittee shall comply with the following conditions when applying coatings subject to Subpart VVV:
   a. **Vent ES-34 to Control Device** [Rule 3D .0524] <40 CFR 60.742(b)(2)> - The #4 Finishing Range (ES-34) shall be vented to either the solvent recovery unit (SRU) **or** the Cor-Pak Thermal Oxidizer.
   b. **SRU Must Be at Least 95% Efficient** [Rule 3D .0524] <40 CFR 60.742(b)(2)> - The solvent recovery unit shall operate at a VOC control efficiency of at least 95% according to the requirements of 40 CFR 60.742(b)(2) and Rule 3D 0.524 of the FCAQTC. By meeting or exceeding a 95% control efficiency, this system meets the NSPS requirement for control as well as provides the desired control efficiency needed to determine compliance with PSD requirements found in **Section 3.4**.
   c. **Cor-Pak Must Be at Least 95% Efficient** [Rule 3D .0524] <40 CFR 60.742(b)(2)> - The Cor-Pak Thermal Oxidizer shall maintain a minimum overall VOC control efficiency of 95% according to the requirements of 40 CFR 60.742(b)(2) and Rule 3D 0.524 of the FCAQTC. (As stated in permit conditions **3.4(A)(1)(a) and 3.4(A)(2)(a)**, the permittee shall refer to the most recent performance test VOC control efficiency results approved by this Office for determining VOC emissions under the PSD requirements in **Section 3.4**.). Parameters shall be used to determine compliance with this requirement:
      i. a minimum residence time of 0.8 seconds shall be maintained in the combustion chamber by not exceeding the maximum design air flow capacity of 20,000 SCFM. Any change in this design capacity shall be applied for and approved by this Office prior to operation.
      ii. a minimum operating temperature of 1400 ºF shall be maintained in the combustion chamber.
   d. **Total Enclosure Required for ES-34** [Rule 3D .0524] <40 CFR 60.743(b)(1)> - In accordance with the requirements of 40 CFR 60.742(b)(2) and Rule 3D .0524 of the FCAQTC, the #4 Finishing Range shall operate within a total enclosure designed to achieve 100% capture of process emissions. The enclosure shall meet the following design and operating criteria as required by 40 CFR 60.743(b)(1) when running solvent-based coatings:
      i. The only openings in the enclosure shall be forced makeup air and exhaust ducts and natural draft openings such as those which raw materials enter and exit the coating operation.
      ii. The total area of all natural draft openings shall not exceed 5% of the total surface area of the total enclosure's walls, floor, and ceiling.
      iii. Access doors #18, #2, #3, #4 and #6 shall be closed during normal operation of the enclosed coating operation, except for brief, occasional openings to accommodate process equipment adjustments. If such

openings are frequent, or if the access door remains open for a significant amount of time during the process operation, it must be considered a natural draft opening. Door #5 will remain open during the operation of the range.

iv. The average inward face velocity across all natural draft openings shall be at least 200 feet per minute. The direction of air flow through all natural draft openings shall be into the enclosure.

v. All sources of volatile organic compounds shall be located a minimum of four equivalent diameters away from each natural draft opening.

vi. All exhaust vents from the #4 Finishing Range total enclosure shall be directed to the solvent recovery unit **or** Cor Pak Thermal Oxidizer when processing VOC based coatings.

e. **Access Doors Closed - ES-34** [Rule 3D .0524] <40 CFR 60.743(b)(1)> - In order to maintain the 200 feet per minute inward face velocity needed to assure 100% capture of emissions to the control device, the access doors to the enclosure for the # 4 range shall be operated as follows when using VOC based coatings:

i. Access doors #18, #2, #3, #4 and #6 shall remain closed on the #4 finishing Range during normal operation, except that doors #2 and #4 may be opened for a brief period of time when re-supplying fabric to the #4 Finishing Range. Door numbers shall be marked clearly on each door so that both plant personnel and regulatory inspectors can easily identify them.

ii. All access doors on the #4 Finishing Range shall be equipped with an alarm or range shut-down system interlocked with the operation of the range. These alarms or shut-down systems shall be triggered within 10 minutes of the time that a door (required to be closed) is left opened.

iii. In accordance with 40 CFR 40.743 (b)(1)(iii), all access doors used routinely by workers to enter and exit the enclosed area shall be equipped with automatic closure devices.

f. **Solvent Coating Mix Room Requirements (ES-61)** - The following conditions apply to the solvent coating mixing room and tanks at all times:

i. **Storage Tanks Covered and Vented to SRU** [Rule 3D .0524] <40 CFR 60.743(c)(1) and (3)> - The solvent coating mix storage tanks shall be equipped with covers and shall be vented to the solvent recovery unit during any mixing operation in these tanks.

ii. **Procedures Posted** [Rule 3D .0524] <40 CFR 60.743(c)(2)> - Procedures detailing the proper use of covers, as specified in 40 CFR 6 0.743(c)(1)(i), shall be posted in all areas where coating mix preparation equipment are subject to NSPS.

iii. **Mixing Equipment Covered and Vented to SRU** [Rule 3D .0524] <40 CFR 60.743(c)(1) and (3)> - All solvent coating mix preparation equipment shall be equipped with covers. These, except the 50 gallon drum mixer, shall be vented to the solvent recovery unit whenever coating is being formulated and/or mixed. Covers shall be closed at all times except when adding ingredients, withdrawing samples, transferring the contents, or making visual inspections, when such activities cannot be carried out with the cover in place. Provided the covers are in place, the mixing equipment may be vented away from the solvent recovery unit during periods of temporary storage of previously prepared coating mix.

Under no circumstances shall any phase of coating mix preparation take place unless the mixers are vented to the solvent recovery unit.

2. **Monitoring/Recordkeeping -** The permittee shall comply with the following monitoring requirements for ES-34 when applying coatings subject to this requirement:
   a. **SRU Monitoring** [Rule 3D .0524] <40 CFR 60.744(c)(1)> - The permittee shall calibrate, properly maintain and operate monitoring devices that continuously indicate and record the levels of organic compounds in both the inlet and outlet gas streams of the solvent recovery unit.
   b. **Cor-Pak Temperature Monitoring** [Rule 3D .0524] <40 CFR 60.744(e)> The permittee shall calibrate, maintain and operate, according to the manufacturer's specifications, a monitoring device that continuously indicates and records the combustion temperature of the Cor-Pak Thermal Oxidizer. The monitoring device shall have an accuracy within ±1% of the temperature being measured in Fahrenheit degrees.
   c. **Total Enclosure Monitoring on ES-34** [Rule 3D .0524] <40 CFR 0.744(h)> According to the specifications of the monitoring plan submitted by the applicant on January 15, 1990 and as amended and approved by the Office of Environmental Assistance and Protection on February 13, 1990, the permittee shall perform the following monitoring requirements:
      i. Continuously monitor and record the exhaust fan amperages to indicate the performance of the total enclosure for the #4 Finishing Range. Fan amperages from the #4 Finishing Range Oven Exhaust Fan, when averaged over a three-hour period shall be **11.4 amps or greater**. Excursions that are 11.4 amps (5% below 12 amps) must be reported to the Office of Environmental Assistance and Protection in accordance with the reporting requirements below. Any corrective actions taken to limit these excursions shall be included in the report. Continued excursions will this Office to require the permittee to undergo a compliance test at the reduced amperages to verify that the permittee is still meeting the inward face velocity requirements when operating at these lower rates.
      ii. The permittee shall calibrate, properly maintain and operate the amperage meters which indicate that the total enclosure is operating at the baseline conditions established during the performance testing.
3. **Testing** - [Rule 3D .0501(b)] - The permittee shall follow the testing requirements specified in condition **3.2(A)(3)** when applying coatings subject to Subpart VVV of 40 CFR 60.
4. **Reporting -** The permittee shall comply with the requirements of conditions **3.2(A)(5), and Section 3.5(D)** of this permit for these sources.

B) **New Source Performance Standards Subpart VVV Requirements - ES-36** [Rule 3D .0524] <40 CFR Part 60, Subpart VVV> - Subpart VVV of 40 CFR 60 entitled "*Standards of Performance for Polymeric Coating of Supporting Substrates Facilities"* applies to the #6 Finishing Range (ES-36) at all times because the range does not apply waterborne coatings. However, as long as the #6 Finishing Range (ES-36) continues to use less than 95 Mg (104.7 tons) of VOC per consecutive 12-month period, it is only subject to the requirements of 40 CFR 60.744(b), 60.747(b) and 60.747(c).

The permittee shall comply with all of the applicable requirements in 40 CFR 60,

Subpart VVV and Subpart A. The following requirements apply to affected facilities using less than 95 Mg (104.7 tons) per 12 month period. If actual VOC use on the #6 Finishing Range (ES-36) equals or exceed 95 Mg (104.7 tons) per 12 month period the permittee shall comply with the additional requirements in 40 CFR 60, Subpart VVV.

1. **Projected and actual VOC usage** [Rule 3D. 0524] <40 CFR 60.744(b)>
   a. The permittee shall make semiannual estimates of the projected annual amount of VOC to be used for the manufacture of polymeric coated substrate on ES-36 in that year.
   b. The permittee shall maintain records of actual VOC usage.
2. **VOC usage recordkeeping and reporting** [Rule 3D. 0524] <40 CFR 60.747(c)>
   a. The permittee shall record semiannual estimates of projected VOC use and actual 12-month VOC use.
   b. The permittee shall report the first semiannual estimate in which projected annual VOC use exceeds 95 Mg (104.7 tons).
   c. The permittee shall report the first 12-month period in which the actual VOC use exceeds 95 Mg (104.7 tons).
3. **Reporting due dates and records retention**
   <40 CFR 60.747(g)> [Rule 3D. 0524]
   a. The records associated with the requirements of paragraphs **(1)** and **(2)** above, shall be retained for at least two years.
   b. The reports associated with the requirements of paragraphs **(2)(b)** and **(2)(c)** above shall be postmarked within 30 days of the end of the reporting period.

## 3.4 PREVENTION OF SIGNIFICANT DETERIORATION (PSD) [Rules 3Q .0315 & 3D .0530]

These emission sources have a federally enforceable limit of emitting **no more than 79,000 lbs of VOC in any consecutive 12-month period** applied to them in order to avoid the provisions of Rule 3D .0530. For permitting and compliance demonstration purposes, sources have been ***grouped*** *based on when they became subject to PSD avoidance requirements*. Should any of the following applicable conditions be violated, this facility may become subject to the requirements of this rule:

**GROUP #1:**
**ES-34: # 4 Finishing Range, Controlled by the SRU or Cor-Pak Thermal Oxidizer, including the Dryer Section controlled by the Donaldson-Torit dust collector when emitting $SiO_2$;**
**ES-61: Solvated Rubber Mixing and Storage, Controlled by the SRU;**
**ES-62: Aqueous Coating Mixing and Storage, uncontrolled**

**GROUP #2:**
**ES-35: # 5 Finishing Range, Uncontrolled or including the Coater Section controlled by the Donaldson-Torit dust collector when using $SiO_2$;**
**ES-36: # 6 Finishing Range, Controlled by the Cor-Pak Thermal Oxidizer or the SRU;**
**ES-61: Solvated Rubber Mixing and Storage, Controlled by the SRU;**
**ES-62: Aqueous Coating Mixing and Storage, uncontrolled**

**GROUP #3:**
**ES-38: #9 Laminator, Uncontrolled**

A. **Emission Requirements**
In order to avoid the applicability of 3D .0530(g) for major sources and major modifications, for the emission source groups listed below, the following requirements shall apply:

1. **GROUP #1: ES-34, ES-61, ES-62**
   a. Volatile organic compound (VOC) emissions shall not exceed 79,000 lbs per 12-month period. The VOC emissions shall be calculated based on the following VOC control efficiencies:
      i. For the solvent recovery unit (SRU, CD-51), 95% control efficiency.
      ii. For the Cor-Pak thermal oxidizer (CD-42) the control efficiency shall be based upon the most recent performance test VOC control efficiency results approved by this Office.
   b. Operate and/or control emissions during solvent operations as specified in condition **3.3(A)(1)(a)-(e)** for ES-34 and **3.3(A)(1)(b) and (f)** for ES-61.
   c. ES-62 shall use only non-solvent based formulations in all phases of operation.
2. **GROUP #2: ES-35, ES-36, ES-61, ES-62**
   a. Volatile organic compound (VOC) emissions shall not exceed 79,000 lbs per 12-month period.The VOC emissions shall be calculated based on the following VOC control efficiencies:
      i. For the solvent recovery unit (CD-51), 95% control efficiency.
      ii. For the Cor-Pak thermal oxidizer (CD-42) the control efficiency shall be based upon the most recent performance test VOC control efficiency results approved by this Office.
   b. Operate and/or control emissions during solvent operations as specified in conditions **3.3(A)(1)(b)-(c)** for ES-36 and **3.3(A)(1)(b) and (f)** for ES-61.
   c. The #6 Finishing Range (ES-36) shall operate within a total enclosure designed to achieve 100% capture of process emissions. The enclosure shall meet the following design and operating criteria:
      i. The only openings in the enclosure shall be forced makeup air and exhaust ducts and natural draft openings such as those which raw materials enter and exit the coating operation.
      ii. The total area of all natural draft openings shall not exceed 5% of the total surface area of the total enclosure's walls, floor, and ceiling.
      iii. All access doors and windows shall be closed during normal operation of the enclosed coating operation, except for brief, occasional openings to accommodate process equipment adjustments. If such openings are frequent, or if the access door remains open for a significant amount of time during the process operation, if must be considered a natural draft opening.
      iv. The average inward face velocity across all natural draft openings shall be at least 200 feet per minute. The direction of air flow through all natural draft openings shall be into the enclosure.
   d. ES-35 shall apply only waterborne coatings with VOC content not exceeding 9% by weight of the volatile fraction.
   e. ES-62 shall use only non-solvent based formulations in all phases of

operation.

3. **GROUP #3: ES-38**
   a. Volatile organic compound emissions shall not exceed 79,000 lbs per 12-month period.
   b. The #9 Laminator (ES-38) shall use only non-solvent based formulations in all phases of its operation.

B. **Monitoring/Recordkeeping**

1. **VOC Emissions**
   **GROUP #1: ES-34, ES-61, ES-62**
   **GROUP #2: ES-35, ES-36, ES-61, ES-62**
   **GROUP #3: ES-38**
   a. The permittee shall monitor and record the VOC emissions for these sources. Compliance with the emissions limitation for these units shall be demonstrated by calculating the combined VOC emissions using actual equipment-specific VOC consumption data and the efficiency, if applicable, for control equipment.
   b. The emissions shall be calculated on a monthly basis and summed for the most current consecutive 12-month period. These records shall be made readily available upon request by an authorized representative of this Office or the U.S. EPA.
   c. The permittee shall maintain daily records providing the following information for each day that these ranges are in operation. These records shall be maintained on-site for at least 5 years from the event recorded and shall be made readily available upon request by an authorized representative of this Office or the U.S. EPA:
      i. the product and type of formulation (solvent or aqueous based) used on each range and
      ii. where the emissions from each formulation being used on the range are being vented (i.e. - name of control device, if applicable, or directly to atmosphere).
2. **Processes, Control Devices and Enclosures**
   a. **GROUP #1: ES-34, ES-61, ES-62 *and***
      **GROUP #2: ES-35, ES-36, ES-61, ES-62**
      i. **SRU Control Device Monitoring**
         The permittee shall follow the monitoring requirements as specified in **3.3(A)(2)(a) and 3.5(B)(1)(b)** for ES-34, ES-36 and ES-61.
      ii. **Cor-Pak Control Device Monitoring**
         The permittee shall follow the monitoring requirements as specified in **3.3(A)(2)(b) and 3.5(B)(1)(a)** for ES-34 and ES-36.
      iii. **Enclosure Monitoring for ES-34**
         The permittee shall follow the monitoring requirements as specified in **3.3(A)(2)(c) and 3.5(B)(2)(b)** for ES-34.
      iv. **Enclosure Monitoring for ES-36**
         The permittee shall follow the monitoring requirements as specified in **3.5(B)(2)(c)** for ES-36.

   b. **GROUP #3: ES-38**
      No monitoring required because there is no control device and no enclosure.

C. **Testing** - [Rule 3D .0501(b)]
The permittee shall follow the testing requirements specified in permit condition **3.2(A)(3)** for these sources.

D. **Reporting VOC Emissions**
VOC Emissions from Groups 1- 3 shall be reported semi-annually to the Office of Environmental Assistance and Protection. The report shall include the total VOC emissions for each month and the 12-month rolling totals for each month. This report shall be received by this Office by **July 30th** for the previous months of January through June, and by **January 30th** for the previous months of July through December.

E. **Reporting Deviations from Requirements** [Rule 3Q. 0508(f)]
The permittee shall follow the reporting requirements specified in permit condition **3.2(A)(5)** for these sources.

## 3.5 COMPLIANCE ASSURANCE MONITORING

The following emission sources, control devices, and for the finishing ranges the associated enclosures are subject to the provisions of Rule 3D .0614 <40 CFR Part 64>:

**Table 3.5: Summary of Applicable Control Equipment**

| Emission Source ID No. | Emission Source Description | Control Device ID No. | Control Device Description |
|---|---|---|---|
| ES-33 | # 3 Finishing Range | CD-51 | Solvent Recovery Unit |
| ES-34 | # 4 Finishing Range | CD-51 | Solvent Recovery Unit |
| | | CD-42 | Cor-Pak Thermal Oxidizer |
| ES-36 | # 6 Finishing Range | CD-51 | Solvent Recovery Unit |
| | | CD-42 | Cor-Pak Thermal Oxidizer |
| ES-61 | Solvated Rubber Mixing and Storage | CD-51 | Solvent Recovery Unit |

A. **Standard** [Rule 3D .0614] <40 CFR Part 64> - Pollutant-specific emissions units (PSEUs) at a facility required to obtain permit under 3Q .0500 shall be subject to the provisions of this rule, and the requirements of 40 CFR Part 64, based on the following criteria:

1. The unit is subject to an emission limitation or standard for the applicable regulated air pollutant;
2. The unit uses a control device to achieve compliance with any such emission limitation or standard; and
3. The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 tons per year.

B. **Monitoring** [Rule 3D .0614] <40 CFR Part 64> - The permittee shall conduct the following monitoring of PSEUs at the facility, including enclosures and control devices,

to ensure compliance with this rule, the requirements of 40 CFR Part 64, and the applicable standards:

1. **Control Device Monitoring**
   a. **Cor-Pak Thermal Oxidizer (CD-42) for (ES-34, and ES-36)**

| Indicators | Primary Indicators: Combustion Chamber Temperature and VOC % Destruction | Secondary Indicator: Residence Time |
|---|---|---|
| **Measurement Approach** | Combustion chamber temperature shall be monitored with a thermocouple and maintained in accordance with permit condition **3.3(A)(1)(c)(ii)**. Flame Ionization Detectors (FIDs) measure the VOC concentration (ppm) at the inlet to the Cor-Pak and VOC concentration (ppm) in the exhaust outlet of the Cor-Pak. The inlet and outlet concentrations are used to calculate the VOC percent destruction efficiency of the Cor-Pak. | Minimum residence time of 0.8 seconds shall be maintained in the combustion chamber in accordance with permit condition **3.3(A)(c)(i)** by maintaining air flow capacity #20,000 SCFM (Negative static pressure ∃0.3 inches $H_2O$) in the Cor-Pak Oxidizer. |
| **Indicator Range** | An excursion is defined as a (3) three hour period during actual solvent coating operations, where average combustion temperature drops below 1400 ºF or the VOC percent destruction efficiency drops below 95%. Excursions will automatically shut down the equipment that triggered the excursion. Excursions will also trigger an inspection, corrective action, and a deviation reporting requirement per condition **3.2(A)(5)**. | An excursion is defined as a (3) three hour period during actual solvent coating operations where air flow to the device exceeds 20,000 SCFM in the Cor-Pak Oxidizer. Excursions will automatically shut down the equipment that triggered the excursion. Excursions will also trigger an inspection, corrective action, and a deviation reporting requirement per condition **3.2(A)(5)**. |
| **Data Represent-ativeness** | Combustion temperature is measured by a thermocouple located in the combustion chamber. The inlet VOC concentration is measured in the inlet to the Cor-Pak by an FID. The outlet VOC concentration is measured in the Cor-Pak exhaust stack by an FID. Displays for the VOC percent destruction efficiency and the inlet and outlet VOC concentrations are located at the ES-34 Solvent Panel. | The airflow is monitored and controlled by a pressure monitoring and control system located at the entry to the Cor-Pak afterburner. Pressure data is recorded on a paperless recorder. |
| **QA/QC Procedures** | Instrument and recorders are part of a gauge calibration preventive maintenance program. | The paperless recorders are monitored and memory changed per preventive maintenance procedures. |
| **Monitoring Frequency** | Measured and recorded electronically on a continuous basis and three hour averages calculated with a minimum of four readings per hour < or = to once every 15 minutes. | Measured and recorded electronically on a continuous basis and three hour averages calculated with a minimum of four readings per hour < or = to once every 15 minutes. |
| **Averaging Period** | 1 hour | 1 hour |

The monitoring program for this control device incorporates the requirements of Rules 3Q .0315 & 3D .0530 (Synthetic Minor Facilities & Prevention of Significant Deterioration) and Rule 3D .0958(e) (VOC Work Practices) for ES-34 and ES-36; and Rule 3D .0524 (New Source Performance Standards) specifically Subpart VVV of 40 CFR 60 for ES-34.

b. **Solvent Recovery Unit (CD-51) for (ES-33, ES-34, ES-36 and ES-61)**

| Indicators | Inlet/Outlet VOC ppm |
|---|---|
| **Measurement Approach** | Solvent detectors measure % LEL at the inlet to the SRU and VOC PPM in the outlet. The inlet measurement is converted to PPM to calculate the % efficiency of the SRU. |
| **Indicator Range** | An excursion is defined as a 3 hour period, during actual solvent coating operations, where the efficiency of the SRU falls below 95% efficiency. Excursions will automatically shut down the equipment that triggered the excursion. Excursions will also trigger an inspection, corrective action, and a deviation reporting requirement per condition **3.2(A)(5)**. |
| **Data Representativeness** | The %LEL inlet measurement is taken by a solvent detector placed in the inlet to the SRU. The VOC outlet PPM reading is taken by a solvent detector placed in the SRU stack outlet. Inlet and outlet computer displays are located at the ES-34 Solvent Panel and an inlet measurement recorder is located at the Boiler room wall. An outlet VOC PPM computer display and recorder are also located in SRU room. |
| **QA/QC Procedures** | Instrument and recorders are part of a gauge calibration preventive maintenance program. |
| **Monitoring Frequency** | Measured and recorded electronically on a continuous basis and three hour averages calculated with a minimum of four readings per hour < or = to once every 15 minutes. |
| **Averaging Period** | 1 hour |

The monitoring program for this control device incorporates the requirements of Rule 3D .0958(e)(VOC Work Practices) for ES-33, ES-34, ES-36 and ES-61; Rules 3Q .0315 & 3D .0530 (Synthetic Minor Facilities & Prevention of Significant Deterioration) for ES-34, ES-36 and ES-61; and Rule 3D .0524 (New Source Performance Standards) specifically Subpart VVV of 40 CFR 60 for ES-34 and ES-61.

2. **Enclosure Monitoring**

a. **Enclosure for (ES-33)**

| Indicators | Airflow via pressure drop across enclosure |
|---|---|
| **Measurement Approach** | A pressure drop of 0.013 mm Hg (0.007 in. $H_20$) corresponds to a face velocity (FV) of 3,600 m/hr (200 fpm). Pressure drop will be monitored across the enclosure to assure that 0.007 in $H_20$ is maintained. |
| **Indicator Range** | An excursion is defined as a five (5) minute period during actual solvent coating operations that the air flow for the total enclosure allows the face velocity to drop to less than 200 feet per minute. Excursions will automatically shut down the equipment that triggered the excursion. Excursions will also trigger an inspection, corrective action, and a deviation reporting requirement per condition **3.2(A)(5)**. |
| **Data Representativeness** | A pressure drop of 0.013 mm Hg (0.007 in. $H_20$) corresponds to a face velocity (FV) of 3,600 m/hr (200 fpm).Pressure drop across the enclosure is measured by a room monitor unit in the vicinity of ES-33. Pressure drop is to be recorded via paperless recorder. Personnel will not allow the range to operate in the event of an excursion. |
| **QA/QC Procedures** | Room monitor and paperless recorder are monitored and maintained per preventive maintenance schedules. |
| **Monitoring Frequency** | Data is recorded on no more than 15-minute increments. |
| **Averaging Period** | 1 hour |

The monitoring program for this enclosure incorporates the requirements of Rule 3D .0958(e) (VOC Work Practices).

b. **Enclosure for (ES-34)**

| Indicators | Primary Indicator: Fan Amperage | Secondary Indicator: Pressure drop across enclosure |
|---|---|---|
| **Measurement Approach** | Fan amperage on the primary exhaust system for the total enclosure for ES-34. | Pressure drop across the enclosure will be monitored to assure that 0.007 in $H_20$ is maintained. |
| **Indicator Range** | An excursion is defined as a (3) three hour period during actual solvent coating operations that Oven Exhaust fan amperage drops below 11.4 amps (5% below 12 amps). Excursions will automatically shut down the equipment that triggered the excursion. Excursions will also trigger an inspection, corrective action, and a deviation reporting requirement per condition **3.2(A)(5)**. | An excursion is defined as a five (5) minute period during which the pressure drop falls below 0.007 in $H_20$, corresponding to a face velocity lower than 200 feet per minute. Excursions will automatically shut down the process equipment and control device. Excursions will also trigger an inspection, corrective action, and a deviation reporting requirement per condition **3.2(A)(5)**. |
| **Data Representativeness** | Fan amperage is measured with ammeters and recorded electronically in the vicinity ES-34. | Pressure drop is recorded on a paperless recorder. Pressure drop is observed by personnel in the vicinity of ES-34 during emission source operation. Personnel will not allow the range to operate in the event of an excursion. |
| **QA/QC Procedures** | Instrument and recorders are part of a gauge calibration preventive maintenance program and shall be calibrated semi-annually. | The room monitor and recorders are part of a gauge calibration preventive maintenance program and shall be calibrated semi-annually or as specified by the vendor. |
| **Monitoring Frequency** | Data is recorded on no more than 15- minute increments. | Data is recorded on no more than 15- minute increments. |
| **Averaging Period** | 1 hour | 1 hour |

The monitoring program for this enclosure incorporates the requirements of Rule 3D .0958(e) (VOC Work Practices); Rules 3Q .0315 & 3D .0530 (Synthetic Minor Facilities & Prevention of Significant Deterioration); and Rule 3D .0524 (New Source Performance Standards) specifically Subpart VVV of 40 CFR 60).

c. **Enclosure for (ES-36)**

| Indicators | Air Flow via pressure drop across enclosure |
|---|---|
| **Measurement Approach** | A pressure drop of 0.013 mm Hg (0.007 in. $H_20$) corresponds to a face velocity (FV) of 3,600 m/hr (200 fpm). Pressure drop will be monitored across the enclosure to assure that 0.007 in $H_20$ is maintained. |

| Indicators | Air Flow via pressure drop across enclosure |
|---|---|
| **Indicator Range** | An excursion is defined as a five (5) minute period during actual solvent coating operations that the air flow for the total enclosure allows the face velocity to drop to less than 200 feet per minute. Excursions will automatically shut down the equipment that triggered the excursion. Excursions will also trigger an inspection, corrective action, and a deviation reporting requirement per condition **3.2(A)(5)**. |
| **Data Representativeness** | A pressure drop of 0.013 mm Hg (0.007 in. $H_20$) corresponds to a face velocity (FV) of 3,600 m/hr (200 fpm).Pressure drop across the enclosure is measured by a room monitor unit in the vicinity of ES-36. Pressure drop is to be recorded via paperless recorder. Personnel will not allow the range to operate in the event of an excursion. |
| **QA/QC Procedures** | Room monitor and paperless recorder are monitored and maintained per preventive maintenance schedules. |
| **Monitoring Frequency** | Data is recorded on no more than 15-minute increments. |
| **Averaging Period** | 1 hour |

The monitoring program for this enclosure incorporates the requirements of Rule 3D .0958(e) (VOC Work Practices) and Rules 3Q .0315 & 3D .0530 (Synthetic Minor Facilities & Prevention of Significant Deterioration).

C. **Recordkeeping** <40 CFR 64.9> [Rule 3Q .0614]

1. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.
2. In accordance with Rule 3Q .0508(j), the permittee shall record the operating scenario under which these sources are operating. This shall be recorded contemporaneously with making a change from one operating scenario to another.
3. The permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements.

D. **Reporting** <40 CFR 64.9> [Rule 3Q .0614] - The permittee shall submit a summary report of the compliance assurance monitoring required in permit conditions **3.5(A)-(B)** including, as a minimum:

1. Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
2. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with calibration checks, if applicable); and
3. A description of the actions taken to implement a QIP (if required by this Office) during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

4. These reports shall be received by this Office by July 30th for the previous months of January through June, and by January 30th for the previous months of July through December.

## 3.6 Site Remediation

**ES-90: Groundwater Stripper, Controlled by SRU; and**
**ES-91: Groundwater/Soil Air Sparger, Uncontrolled**

**Table 3.6: Summary of Emission Limits, Standards, and Other Applicable requirements.**

| Regulated Pollutant | Applicable Standard | Applicable Regulation |
|---|---|---|
| Hazardous Air Pollutants (HAPs) | 40 CFR Part 63, Subpart GGGGG | Rule 3D .1111 |

A. **National Emissions Standards for Hazardous Air Pollutants: Site Remediation (40CFR Part 63, Subpart GGGGG) General Requirements** <40 CFR Part 63, Subpart GGGGG> [Rule 3D .1111] - Upon initial start-up of the Groundwater Stripper (ES-90) or Groundwater/Soil Air Sparger (ES-91), the permittee shall be in compliance with 40 CFR Part 63, Subpart GGGGG. ES-90 and ES-91 are not subject to 40 CFR Part 63, Subpart GGGGG, except for the recordkeeping requirements specified below, if the site remediation meets all of the conditions in **paragraphs (1) through (3)** below as specified in 40 CFR 63.7881(c):

1. The permittee determines for the remediation material that the permittee excavates, extracts, pumps or otherwise removes during the site remediation that the total quantity of the HAP listed in Table 1 of 40 CFR Part 63, Subpart GGGGG which is contained in the material is less than 1 megagram per year (Mg/yr).
2. The permittee prepares and maintains at the facility written documentation to support the permittee's determination of the total HAP quantity used to demonstrate compliance with **paragraph (1)** above. This documentation must include a description of the permittee's methodology and data the permittee used for determining the total HAP content of the material.
3. This exemption may be applied to more than one site remediation at the facility provided that the total quantity of the HAP listed in Table 1 of 40 CFR Part 63, Subpart GGGGG for all of the permittee's site remediation activities exempted under this provision is less than 1 Mg/yr.

## 3.7 Printing, Coating, Dyeing of Fabrics and Other Textiles (40 CFR 63, Subpart OOOO)

**ES-31: # 18 Finishing Range;**
**ES-33: # 3 Finishing Range;**
**ES-34: # 4 Finishing Range;**
**ES-35: # 5 Finishing Range;**
**ES-36: # 6 Finishing Range;**
**ES-38: # 9 Laminator;**
**ES-61: Solvated Rubber Mixing and Storage;**
**ES-62: Aqueous Coating Mixing and Storage;**
**ES-81: Toluene Storage Tanks (Two Above-Ground Tanks);**
**ES-82: Latex Storage Tanks (Two Underground Tanks); and**
**ES-83: Tote Storage**

**Table 3.7: Summary of Emission Limits, Standards, and Other Applicable requirements.**

| Regulated Pollutant | Applicable Standard | Applicable Regulation |
|---|---|---|
| Hazardous Air Pollutants (HAPs) | 40 CFR Part 63, Subpart OOOO | Rule 3D .1111 |

A. **National Emissions Standards for Hazardous Air Pollutants: Printing, Coating, Dyeing of Fabrics and Other Textiles (40 CFR Part 63, Subpart OOOO) General Requirements** <40 CFR Part 63, Subpart OOOO> [Rule 3D .1111] - The permittee shall comply with the applicable standards, provisions and requirements of Title 40 of the Code of Federal Regulations Part 63 Subpart OOOO "National Emission Standard for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles".

1. The permittee may demonstrate compliance with Subpart OOOO using any of the applicable compliance options listed in Subpart OOOO as long as the permittee satisfies all of the requirements applicable to the compliance option(s) used. The affected source at the facility consists of items in the web coating and printing subcategory of Subpart OOOO, as described in 40 CFR 63.4282(b). This permit specifically describes standards, provisions and requirements for two compliance options: The Emission Rate Without Add-On Controls Option and the Emission Rate With Add-On Controls Option.
   <40 CFR 63.4281(a)(1), 63.4282(b) and 63.4291(a)> [Rule 3D .1111]
2. The permittee may use different compliance options for different web coating / printing operations or at different times on the same web coating/printing operation. However, the permittee may not use different compliance options at the same time on the same web coating/printing operation. If the permittee switches between compliance options for any web coating/printing operation or group of operations, this switch must be documented as required by permit condition **3.7(G)(3)**, and it must be reported in the next semiannual compliance report required in permit condition **3.7(F)(1)**.
   <40 CFR 63.4291(a)> [Rule 3D .1111]

B. **Emission Limit: Emission Rate Without Add-On Controls Option**. <40 CFR 63.4291(a)(2), 63.4331(a) and Table 1 to Subpart OOOO of 40 CFR Part 63> [Rule 3D .1111] - The permittee shall demonstrate that, based on the regulated materials applied in the web coating/printing operations, the organic HAP emission rate for the web coating/printing operations is less than or equal to 0.12 kg of organic HAP per kg of solids applied, calculated as a rolling 12-consecutive-month average emission rate.

1. The permittee may use the Emission Rate Without Add-On Controls Option for any individual web coating/printing operation, for any group of web coating/ printing operations in the affected source, or for all of the web coating/ printing operations as a group in the affected source. For any web coating/ printing operation in the affected source for which the permittee does not use the Emission Rate Without Add-On Controls Option, the permittee must use one or more of the other compliance options listed in 40 CFR Part 63 Subpart OOOO.
2. The permittee must meet all the requirements of permit condition **3.7(D)** to demonstrate continuous compliance with the applicable emission limit using this option.

C. **Emission Limit: Emission Rate <u>With</u> Add-On Controls Option.** <40 CFR 63.4291(a)(3), 63.4292(c), 63.4341(a), 63.4364(d) and Table 1 to Subpart OOOO of 40 CFR Part 63> [Rule 3D .1111] - The permittee shall demonstrate that, based on the regulated materials applied in the web coating/printing operations, and the organic HAP emissions reductions achieved by emission capture systems and add-on controls, the organic HAP emission rate for the web coating/printing operations is less than or equal to 0.12 kg of organic HAP per kg of solids applied, calculated as a rolling 12-consecutive-month average emission rate.

The permittee may use the Emission Rate With Add-On Controls Option for any individual web coating/printing operation,for any group of web coating/printing operations in the affected source, or for all of the web coating/printing operations in the affected source. The permittee may include both controlled and uncontrolled web coating/ printing operations in a group for which this option is used. For any web coating/printing operation in the affected source for which the permittee does not use the Emission Rate With Add-On ControlOption, the permittee must use one or more of the other compliance options listed in 40 CFR Part 63 Subpart OOOO.

If this compliance option is used, the permittee must also demonstrate that all capture systems and control devices for the web coating/printing operations meet the operating limits described in **paragraphs (1) and (2)** below except for solvent recovery systems for which liquid-liquid material balances are conducted according to permit condition **3.7(E)(9)(e)**. If the Emission Rate With Add-On Controls Option is used, the permittee must also demonstrate that the work practice standards required in **paragraph (3)** are met. The permittee must meet all the requirements of permit condition **3.7(E)** and 40 CFR 63.4360 through 63.4364 to demonstrate compliance with the emission limits, operating limits, and work practice standards using this option.

1. **Thermal Oxidizer Operating Limit:** <40 CFR 63.4292(b), 63.4364(c) and Table 2 to Subpart OOOO of 40 CFR Part 63> [Rule 3D .1111] - The average oxidizer combustion temperature in any 3-hour block period must not fall below 1400 ºF. Continuous compliance with the operating limit must be demonstrated by:
   a. Collecting the temperature data according to **paragraphs (i) and (ii)**:
      <40 CFR 63.4364(c) and Table 2 to Subpart OOOO of 40 CFR Part 63> [Rule 3D .1111]
      i. The permittee shall install, calibrate, maintain, and operate temperature monitoring equipment according to the manufacturer's specifications. The calibration of the chart recorder, data logger, or temperature indicator must be verified every 3 months or the chart recorder, data logger, or temperature indicator must be replaced.
      <40 CFR 63.4364(c)(i)> [Rule 3D .1111]
      ii. The permittee shall install, calibrate, operate, and maintain a temperature monitoring device equipped with a continuous recorder. The device must have an accuracy of ±1 percent of the temperature being monitored in degrees Celsius, or ±1 degree Celsius, whichever is greater. The thermocouple or temperature sensor must be installed in the combustion chamber at a location in the combustion zone.
      <40 CFR 63.4364(c)(ii)> [Rule 3D .1111]

b. Reducing the data to 3-hour block averages.
<Table 2 to Subpart OOOO of 40 CFR Part 63> [Rule 3D .1111]
c. Maintaining the 3-hour block average temperature at or above the 1400ºF temperature limit.
<Table 2 to Subpart OOOO of 40 CFR Part 63> [Rule 3D .1111]

2. **Emission Capture System Operating Limit:** <40 CFR 63.4292(b), 63.4364(e) and Table 2 to Subpart OOOO of 40 CFR Part 63> [Rule 3D .1111] - The enclosures for Finishing Range #3 (ES-33), Finishing Range #4 (ES-34), and Finishing Range #6 (ES-36) shall be operated and maintained in accordance with the emission capture system monitoring plan described in permit condition **3.7(B)(2)** except for web coating/printing operations for which the permittee uses a solvent recovery system and conducts a liquid-liquid material balance according to permit condition **3.7(E)(9)(e)**.
a. Any deviation from the operating parameter value or range of values which are monitored according to the plan will be considered a deviation from the operating limit.
<40 CFR 63.4364(e)(4)> [Rule 3D .1111]
b. The permittee must review and update the capture system monitoring plan at least annually.
<40 CFR 63.4364(e)(5)> [Rule 3D .1111]

3. **Work Practice Standards:** <40 CFR 63.4293(b)> [Rule 3D .1111] - The permittee must develop and implement a work practice plan to minimize organic HAP emissions from the storage, mixing, and conveying of regulated materials used in, and waste materials generated by, the coating/printing operations for which the Emission Rate With Add-On Controls Option is used. The plan must specify practices and procedures to ensure that, at a minimum, the elements specified in **paragraphs (a) through (e)** below are implemented:
a. All organic-HAP-containing regulated materials and waste materials must be stored in closed containers.
<40 CFR 63.4293(b)(1)> [Rule 3D .1111]
b. Spills of organic-HAP-containing regulated materials, and waste materials must be minimized.
<40 CFR 63.4293(b)(2)> [Rule 3D .1111]
c. Organic-HAP-containing regulated materials and waste materials must be conveyed from one location to another in closed containers or pipes.
<40 CFR 63.4293(b)(3)> [Rule 3D .1111]
d. Mixing vessels that contain organic-HAP-containing regulated materials must be closed except when adding to, removing, or mixing the contents.
<40 CFR 63.4293(b)(4)> [Rule 3D .1111]
e. Emissions of organic HAP must be minimized during cleaning of web coating/ printing storage, mixing, and conveying equipment.
<40 CFR 63.4293(b)(5)> [Rule 3D .1111]

4. **Startup, Shutdown, and Malfunction Plan:** <40 CFR 63.4300(c)> [Rule 3D .1111] - If using an emission capture system and add-on control device, the permittee must develop a written startup, shutdown, and malfunction plan according to the provisions in 40 CFR 63.6(e)(3). The plan must address the startup, shutdown, and corrective actions in the event of a malfunction of the emission capture system or the add-on control device. The plan must also address any web coating/printing operation equipment such as conveyors that move the

substrate among enclosures that may cause increased emissions or that would affect capture efficiency if the process equipment malfunctions.

D. **Continuous Compliance Demonstration Requirements: Emission Rate <u>Without</u> Add-On Controls Option**. <40 CFR 63.4332> [Rule 3D .1111] - If using the Emission Rate Without Add-On Controls Option, continuous compliance shall be demonstrated according to the applicable requirements in **paragraphs (1) through (5)** below:

1. To demonstrate continuous compliance, the organic HAP emission rate for each compliance period, determined according to **paragraph (5)** for web coating/ printing operations, must be less than or equal to the applicable emission limit in permit condition **3.7(B)**. Each month is a compliance period consisting of that month and the preceding 11 months. The calculations in **paragraph (5)** must be performed on a monthly basis.
   <40 CFR 63.4332(a)> [Rule 3D .1111]
2. If the organic HAP emission rate for any compliance period exceeded the applicable emission limit in permit condition **3.7(B)**, this is a deviation from the emission limitations for that compliance period and must be reported as specified in permit condition **3.7(F)(1)(d)**.
   <40 CFR 63.4332(b)> [Rule 3D .1111]
3. As part of each semiannual compliance report required by permit condition **3.7(F)(1)**, the permittee shall identify any web coating/printing operation for which the Emission Rate Without Add-On Controls Option was used. If there were no deviations from the applicable emission limit in permit condition **3.7(B)**, a statement must be submitted indicating that, as appropriate, the web coating/ printing operations were in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit.
   <40 CFR 63.4332(c)> [Rule 3D .1111]
4. The permittee shall maintain records as specified in permit condition **3.7(G)**.
   <40 CFR 63.4332(d)> [Rule 3D .1111]
5. The permittee shall meet all the requirements of **paragraphs (a) through (f)** below to demonstrate compliance with the applicable emission limit in permit condition **3.7(B)** for the web coating/printing operations using the Emission Rate <u>Without</u> Add-On Controls Option. When calculating the organic HAP emission rate according to this condition, do <u>not</u> include any coating, printing, thinning, or cleaning materials applied on web coating/printing operations for which any of the other compliance options listed in 40 CFR Part 63 Subpart OOOO is used. Use the procedures in this condition on each regulated material in the condition it is in when it is received from its manufacturer or supplier and prior to any alteration. The regulated materials for the web coating and printing category are the coating, printing, thinning and cleaning materials, as defined in 40 CFR 63.4371, used at the affected source.
   <40 CFR 63.4282(b), 63.4331(a) and 63.4332(a)> [Rule 3D .1111]
   a. **Determine the mass fraction of organic HAP for each material**
      Determine the mass fraction of organic HAP for each coating, printing, thinning, and cleaning material applied during the compliance period by using one of the options in **paragraphs (i) through (v)** below. Determine the mass fraction of organic HAP for each printing material applied during the compliance period by using the option in **paragraph (iv)** below:

<40 CFR 63.4331(a)(1) and 63.4321(e)(1)> [Rule 3D .1111]

i. **Method 311** (Appendix A to 40 CFR Part 63) - Method 311 may be used for determining the mass fraction of organic HAP. Use the procedures specified in **paragraphs (*A*) and (*B*)** below when performing a Method 311 test.
<40 CFR 63.4321(e)(1)(i)> [Rule 3D .1111]

*A*. Count each organic HAP that is measured to be present at 0.1% by mass or more for Occupational Safety and Health Administration (OSHA)-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds. Express the mass fraction of each organic HAP counted as a value truncated than four places after the decimal point.
<40 CFR 63.4321(e)(1)(i)(A)> [Rule 3D .1111]

*B*. Calculate the total mass fraction of organic HAP in the regulated material being tested by adding up the individual organic HAP mass fractions and truncating the result to no more than three places after the decimal point.
<40 CFR 63.4321(e)(1)(i)(B)> [Rule 3D .1111]

ii. **Method 24** (Appendix A to 40 CFR Part 60) - Method 24 may be used to determine the mass fraction of non-aqueous volatile matter and use that value as a substitute for mass fraction of organic HAP. For a multi-component coating with reactive chemicals, the permittee may use Method 24 on the coating as applied to determine the mass fraction of non-aqueous volatile matter and use that value as a substitute for the mass fraction of organic HAP determined from the sum of organic HAP in each component.
<40 CFR 63.4321(e)(1)(ii)> [Rule 3D .1111]

iii. **Alternative method** - An alternative test method may be used for determining the mass fraction of organic HAP, mass fraction of solids, or fraction of organic HAP emitted from a reactive coating once the U.S. EPA has approved it. The permittee shall follow the procedure in 40 CFR 63.7(f) to submit an alternative test method for approval.
<40 CFR 63.4321(e)(1)(iii)> [Rule 3D .1111]

iv. **Information from the supplier or manufacturer of the material** - The permittee may rely on information other than that generated by the test methods specified in **paragraphs (i) through (iii)** above, such as manufacturer's formulation data, if it represents each organic HAP that is present at 0.1% by mass or more for OSHA-defined carcinogens as specified in 29 CFR 1910.1200(d)(4) and at 1.0% by mass or more for other compounds. If there is a disagreement between such information and results of a test conducted according to **paragraphs (i) through (iii)** above on coating, thinning, or cleaning material, then the test method results will take precedence. Information from the supplier or manufacturer of the printing material is sufficient for determining the mass fraction of organic HAP.
<40 CFR 63.4321(e)(1)(iv)> [Rule 3D .1111]

v. **Solvent blends** - Solvent blends may be listed as single components for some materials in data provided by manufacturers or suppliers. Solvent blends may contain organic HAP that must be counted toward the total organic HAP mass fraction of the materials. When test data and

manufacturer's data for solvent blends are not available, the default values for the mass fraction of organic HAP in these solvent blends listed in Table 4 or Table 5 to Subpart OOOO may be used. If using the tables, the permittee shall use the values in Table 4 for all solvent blends that match Table 4 entries, and Table 5 may only be used if the solvent blends in the materials used do not match any of the solvent blends in Table 4 and it is only known whether the blend is aliphatic or aromatic. However, if the results of a Method 311 test indicate higher values than those listed on Table 4 or Table 5 to Subpart OOOO, the Method 311 results will take precedence.
<40 CFR 63.4321(e)(1)(v)> [Rule 3D .1111]

b. **Determine the mass fraction of solids for each material** - Determine the mass fraction of solids (kg of solids per kg of coating or printing material) for each coating material applied during the compliance period by a test or by information provided by the supplier or the manufacturer of the material, as specified in **paragraphs (i) through (iii)** below. If test results obtained according to **paragraph (i) or (ii)** below for a coating material do not agree with the information obtained under **paragraph (iii)** below, the test results will take precedence. To determine mass fraction of solids for each printing material applied during the compliance period, information provided by the supplier or manufacturer of the material should be used, as specified in **paragraph (iii)** below:
<40 CFR 63.4321(e)(2) and 63.4331(a)(2)> [Rule 3D .1111]

   i. **Method 24** (Appendix A to 40 CFR Part 60) - Method 24 may be used for determining the mass fraction of solids of coating materials.
   <40 CFR 63.4321(e)(2)(i)> [Rule 3D .1111]

   ii. **Alternative method** - An alternative test method may be used for determining solids content of each coating material once the U.S. EPA has approved it. The permittee shall follow the procedure in 40 CFR 63.7(f) to submit an alternative test method for approval.
   <40 CFR 63.4321(e)(2)(ii)> [Rule 3D .1111]

   iii. Information from the supplier or manufacturer of the material - The mass fraction of solids for each coating and printing material may be obtained from the supplier or manufacturer. If there is disagreement between such information and the test method results for a coating material, then the test method results will take precedence.
   <40 CFR 63.4321(e)(2)(iii)> [Rule 3D .1111]

c. **Determine the mass of each material** - Determine the mass (kg) of each coating, printing, thinning, or cleaning material applied during the compliance period by measurement or usage records.
<40 CFR 63.4331(a)(3)> [Rule 3D .1111]

d. **Calculate the mass of organic HAP emissions** - The mass of organic HAP emissions is the combined mass of organic HAP contained in all coating, printing, thinning, and cleaning materials applied during the compliance period minus the organic HAP in certain waste materials. Calculate the mass of organic HAP emissions using **Equation 3.7-1** below:
<40 CFR 63.4331(a)(4)> [Rule 3D .1111]

$$H_e = A + B - R_w \qquad \text{(Equation 3.7-1)}$$

Where:

$H_e$ = Mass of organic HAP emissions during the compliance period, kg.

A = Total mass of organic HAP in the coating and printing materials applied during the compliance period, kg, as calculated in **Equation 3.7-1A** in **paragraph (i)**.

B = Total mass of organic HAP in the thinning and cleaning materials applied during the compliance period, kg, as calculated in **Equation 3.7-1B** in **paragraph (ii)**.

$R_w$ = Total mass of organic HAP in waste materials sent or designated for shipment to a hazardous waste TSDF for treatment or disposal during the compliance period, kg, determined according to **paragraph (iii)**. (A value of zero may be assigned to $R_w$ if it is decided not to use this allowance.)

i. Calculate the kg organic HAP in the coating and printing materials applied during the compliance period using **Equation 3.7-1A** below:
<40 CFR 63.4331(a)(4)(i)> [Rule 3D .1111]

$$A = \sum_{i=1}^{m} \left(M_{c,i}\right)\left(W_{c,i}\right) \qquad \text{(Equation 3.7-1A)}$$

Where:

A = Total mass of organic HAP in the coating and printing materials applied during the compliance period, kg.

$M_{c,i}$ = Total mass of coating or printing material, i, applied during the compliance period, kg.

$W_{c,i}$ = Mass fraction of organic HAP in coating or printing material, i, kg organic HAP per kg of material.

m = Number of different coating and printing, materials applied during the compliance period.

ii. Calculate the kg of organic HAP in the thinning and cleaning materials applied during the compliance period using **Equation 3.7-1B** below:
<40 CFR 63.4331(a)(4)(ii)> [Rule 3D .1111]

$$B = \sum_{j=1}^{n} \left(M_{t,j}\right)\left(W_{t,j}\right) \qquad \text{(Equation 3.7-1B)}$$

Where:

B = Total mass of organic HAP in the thinning and cleaning materials applied during the compliance period, kg.

$M_{t,j}$ = Total mass of thinning or cleaning material, j, applied during the compliance period, kg.

$W_{t,j}$ = Mass fraction of organic HAP in thinning or cleaning material, j, kg organic HAP per kg thinning or cleaning material.

n = Number of different thinning and cleaning materials applied during the compliance period.

iii. If accounting for the mass of organic HAP contained in waste materials sent or designated for shipment to a hazardous waste TSDF in **Equation 3.7-1**, $R_w$, then it must be determined according to **paragraphs (*A*) through (*D*)** below:
<40 CFR 63.4331(a)(4)(iii)> [Rule 3D .1111]

*A*. The only waste materials that may be included in the determination are those generated by web coating/printing operations that will be included in the calculations using **Equation 3.7-1** above and that will be treated or disposed of by a facility that is regulated as a TSDF under 40 CFR Part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. Organic HAP contained in wastewater may not be included.
<40 CFR 63.4331(a)(4)(iii)(A)> [Rule 3D .1111]

*B*. Determine either the amount of the waste materials sent to a TSDF during the compliance period or the amount collected and stored during the compliance period designated for future transport to a TSDF. Do not include in the determination any waste materials sent to a TSDF during a compliance period if they have already been included in the amount collected and stored during that compliance period or a previous compliance period.
<40 CFR 63.4331(a)(4)(iii)(B)> [Rule 3D .1111]

*C*. Determine the total mass of organic HAP contained in the waste materials specified in **paragraph (*B*)** above.
<40 CFR 63.4331(a)(4)(iii)(C)> [Rule 3D .1111]

*D*. Document the methodology used to determine the amount of waste materials and the total mass of organic HAP they contain, as required in permit condition **3.7(G)(7)**. To the extent that waste manifests include this, they may be used as part of the documentation of the amount of waste materials and mass of organic HAP contained in them.
<40 CFR 63.4331(a)(4)(iii)(D)> [Rule 3D .1111]

e. **Calculate the total mass of coating and printing solids -** Determine the total mass of coating and printing solids applied, kg, which is the combined mass of the solids contained in all the coating and printing materials applied during the compliance period, using **Equation 3.7-2** below:
<40 CFR 63.4331(a)(5)> [Rule 3D .1111]

$$H_t = \sum_{i=1}^{m} \left(M_{c,i}\right)\left(W_{f,i}\right) \qquad \text{(Equation 3.7 - 2)}$$

Where:
$H_t$ = Total mass of solids contained in coating and printing materials applied during the compliance period, kg.

$M_{c,i}$ = Mass of coating or printing material, i, applied during the compliance period, kg.
$W_{f,i}$ = Mass fraction of solids in coating or printing material, i, applied during the compliance period, kg solids per kg of coating or printing material.
m = Number of coating and printing materials applied during the compliance period.

f. **Calculate the organic HAP emission rate for the compliance period**, kg organic HAP emitted per kg solids used, using **Equation 3.7-3** below: <40 CFR 63.4331(a)(6)> [Rule 3D .1111]

$$H_{yr} = \frac{H_e}{H_t} \qquad \text{(Equation 3.7-3)}$$

Where:
$H_{yr}$ = Organic HAP emission rate for the compliance period, kg of organic HAP emitted per kg of solids in coating and printing materials applied.
$H_e$ = Total mass organic HAP emissions from all coating, printing, thinning, and cleaning materials applied during the compliance period, kg, as calculated by **Equation 3.7-1**.
$H_t$ = Total mass of coating and printing solids in materials applied during the compliance period, kg, as calculated by **Equation 3.7-2**.

E. **Continuous Compliance Demonstration Requirements: Emission Rate With Add-On Controls Option** - If using the Emission Rate With Add-On Controls Option, continuous compliance shall be demonstrated according to the applicable requirements in **paragraphs (1) through (9)** below. The permittee may include both controlled and uncontrolled web coating/printing operations in a group for which this option is used. <40 CFR 63.4342 and 63.4341(a)> [Rule 3D .1111]

1. To demonstrate continuous compliance with the applicable emission limit in permit condition **3.7(C)**, the organic HAP emission rate for each compliance period, determined according to **paragraph (9)** below for web coating/printing operations, must be equal to or less than the applicable emission limit in permit condition **3.7(C)**. Each month is a compliance period consisting of that month and the preceding 11 months. The calculations in **paragraph (9)** below must be performed on a monthly basis. <40 CFR 63.4342(a)> [Rule 3D .1111]
2. If the organic HAP emission rate with add-on controls for any compliance period exceeded the applicable emission limit in permit condition **3.7(C)**, this is a deviation from the emission limitation for that compliance period and must be reported as specified in permit condition **3.7(F)(1)(e)**.
<40 CFR 63.4342(b)> [Rule 3D .1111]
3. As part of each semiannual compliance report required in permit condition **3.7(F)(1)**, the permittee shall identify the coating/printing operations for which the Emission Rate With Add-On Controls Option was used. If there were no deviations from the applicable emission limit in permit condition **3.7(C)**, a statement must be submitted indicating that, as appropriate, the web coating/printing operations were

in compliance with the emission limitations during the reporting period because the organic HAP emission rate for each compliance period was less than or equal to the applicable emission limit in permit condition **3.7(C)**, and the operating limits required by permit condition **3.7(C)(1) and (2)** and the work practice standards required by permit condition **3.7(C)(3)** were achieved during each compliance period.
<40 CFR 63.4342(f)> [Rule 3D .1111]

4. The permittee shall maintain records as specified in permit condition **3.7(G)**.
<40 CFR 63.4342(j)> [Rule 3D .1111]
5. The permittee shall demonstrate continuous compliance with each operating limit required by permit conditions **3.7(C)(1) and (2)**.
<40 CFR 63.4342(c)> [Rule 3D .1111]
    i. If an operating parameter is out of the allowed range specified in permit conditions **3.7(C)(1) or (2)**, this is a deviation from the operating limit that must be reported as specified in permit condition **3.7(F)(1)(e)**.
    <40 CFR 63.4342(c)(1)> [Rule 3D .1111]
    ii. If an operating parameter deviates from the operating limit specified in permit conditions **3.7(C)(1) or (2)**, then it must be assumed that the emission capture system and add-on control device were achieving zero efficiency during the time period of the deviation. For the purposes of completing the compliance calculations specified in permit condition **3.7(E)(9)(d)** the regulated materials applied during a deviation on a controlled coating/printing must be treated as if they were applied on an uncontrolled coating/printing operation for the time period of the deviation, as indicated in **Equation 3.7-4** for a web coating/printing operation.
    <40 CFR 63.4342(c)(2)> [Rule 3D .1111]
6. The permittee shall meet the requirements for bypass lines in 40 CFR 63.4364(b) for controlled coating/printing operations for which liquid-liquid material balances are not conducted. If any bypass line is opened and emissions are diverted to the atmosphere when the web coating/printing operation is running, this is a deviation that must be reported as specified in permit condition **3.7(F)(1)(e)**. For the purposes of completing the compliance calculations specified in permit condition **3.7(E)(9)(d)**, the coating, printing, thinning, and cleaning materials applied during a deviation on a controlled web coating/printing operation must be treated as if they were used on an uncontrolled web coating/printing operation for the time period of the deviation, as indicated in **Equation 3.7-4**.
<40 CFR 63.4342(d)> [Rule 3D .1111]
7. The permittee shall demonstrate continuous compliance with the work practice standards in permit condition **3.7(C)(3)**. If a work practice plan was not developed, or the plan was not implemented, or the records required by permit condition **3.7(G)(9)(g)** were not kept, this is a deviation from the work practice standards that must be reported as specified in permit condition **3.7(F)(1)(e)**.
<40 CFR 63.4342(e)> [Rule 3D .1111]
8. Consistent with 40 CFR 63.6(e) and 63.7(e)(1), deviations that occur during a period of startup, shutdown, or malfunction of the emission capture system, add-on control device, or web coating/printing operation that may affect emission capture or control device efficiency are not violations if you demonstrate to this Office's satisfaction that you were operating in accordance with 40 CFR 63.6(e)(1). This Office will determine whether deviations that occur during a period of startup,

shutdown, or malfunction are violations according to the provisions in 40 CFR 63.6(e).
<40 CFR 63.4342(h)> [Rule 3D .1111]

9. Compliance with web coating/printing emission limits. The permittee shall follow the procedures in **paragraphs (a) through (g) below** to demonstrate compliance with the applicable web coating/printing emission limit in permit condition **3.7(C)** for the web coating/printing operations using the Emission Rate With Add-On Controls Option. The permittee may include both controlled and uncontrolled web coating/ printing operations in a group for which this option is used. When calculating the organic HAP emission rate according to this condition, do not include any coating, printing, thinning, or cleaning materials applied on web coating/printing operations for which any of the other compliance options listed in 40 CFR Part 63 Subpart OOOO is used.
<40 CFR 63.4341(a), 63.4341(e) and 63.4342(a)> [Rule 3D .1111]
   a. **Determine the mass fraction of organic HAP, the mass fraction of solids, and mass of materials** - Follow the procedures specified in permit condition **3.7(D)(5)(a), (b) and (c)** to determine the mass fraction of organic HAP for each coating, printing, thinning, and cleaning material applied during the compliance period; the mass fraction of solids for each coating and printing material applied during the compliance period; and mass of each coating, printing, thinning, and cleaning material applied during the compliance period.
   <40 CFR 63.4341(e)(1)> [Rule 3D .1111]
   b. **Calculate the mass of organic HAP emissions before add-on controls** - Using **Equation 3.7-1** of permit condition **3.7(D)(5)(d)**, calculate the mass of organic HAP emissions before add-on controls from all coating, printing, thinning, and cleaning materials applied during the compliance period minus the organic HAP in certain waste materials in the web coating/printing operation or group of web coating/printing operations for which the Emission Rate With Add-On Controls Option is used.
   <40 CFR 63.4341(e)(2)> [Rule 3D .1111]
   c. **Calculate the organic HAP emissions reductions for each controlled web coating/ printing operation** - Determine the mass of organic HAP emissions reduced for each controlled web coating/printing operation during the compliance period. The emissions reductions determination quantifies the total organic HAP emissions that pass through the emission capture system and are destroyed or removed by the add-on control device. Use the procedures in **paragraph (d)** of this condition to calculate the mass of organic HAP emissions reductions for each controlled web coating/printing operation using an emission capture system and add-on control device other than a solvent recovery system for which liquid-liquid material balances are conducted. For each controlled web coating/printing operation using a solvent recovery system for which a liquid-liquid material balance is conducted, use the procedures in **paragraph (e)** of this condition to calculate the organic HAP emissions reductions.
   <40 CFR 63.4341(e)(3)> [Rule 3D .1111]
   d. **Calculate the organic HAP emission reduction for each controlled web coating/printing operation not using liquid-liquid material balance** - For each controlled web coating/printing operation using an emission capture system and add-on control device, other than a solvent recovery system for which liquid-liquid material balances are conducted, calculate the organic HAP

emissions reductions using **Equation 3.7-4** of this condition. The equation applies the emission capture system efficiency and add-on control device efficiency to the mass of organic HAP contained in the coating, printing, thinning, and cleaning materials applied in the web coating/printing operation served by the emission capture system and add-on control device during the compliance period. For any period of time a deviation specified in permit condition **3.7(E)(5) or (6)** occurs in the controlled web coating/printing operation, including a deviation during startup, shutdown, or malfunction, then zero efficiency must be assumed for the emission capture system and add-on control device. **Equation 3.7-4** below treats the coating, printing, thinning, and cleaning materials applied during such a deviation as if they were used on an uncontrolled web coating/printing operation for the time period of the deviation.
<40 CFR 63.4341(e)(4)> [Rule 3D .1111]

$$H_C = \left(A_I + B_I - H_{UNC}\right)\left(\frac{CE}{100} \times \frac{DRE}{100}\right) \qquad \text{(Equation 3.7 - 4)}$$

Where:

$H_C$ = Mass of organic HAP emission reduction for the controlled web coating/printing operation during the compliance period, kg.

$A_I$ = Total mass of organic HAP in the coating and printing materials applied in the controlled web coating/printing operation during the compliance period, kg, as calculated in **Equation 3.7-4A**.

$B_I$ = Total mass of organic HAP in the thinning and cleaning materials applied in the controlled web coating/printing operation during the compliance period, kg, as calculated in **Equation 3.7-4B**.

$H_{UNC}$ = Total mass of organic HAP in the coating, printing, thinning, and cleaning materials applied during all deviations specified in permit conditions **3.7(E)(5) and (6)** that occurred during the compliance period in the controlled web coating/printing operation, kg, as calculated in **Equation 3.7-4C**.

CE = Capture efficiency of the emission capture system vented to the add-on control device, percent.

DRE = Organic HAP destruction or removal efficiency of the add-on control device, percent.

i. Calculate, $A_I$, the total mass of organic HAP in the coating and printing materials applied in the controlled web coating/printing operations during the compliance period, kg, using **Equation 3.7-4A** below:
<40 CFR 63.4341(e)(4)(i)> [Rule 3D .1111]

$$A_I = \sum_{i=1}^{m}\left(M_{c,i}\right)\left(W_{c,i}\right) \qquad \text{(Equation 3.7 - 4A)}$$

Where:

$A_l$ = Total mass of organic HAP in the coating and printing materials applied in the controlled web coating/printing operations during the compliance period, kg.

$M_{c,i}$ = Mass of coating or printing material, i, applied during the compliance period, kg.

$W_{c,i}$ = Mass fraction of organic HAP in coating or printing material, i, kg per kg.

m = Number of different coating and printing materials applied during compliance period.

ii. Calculate, $B_l$, the total mass of organic HAP in the thinning and cleaning materials applied in the controlled web coating/printing operations during the compliance period, kg, using **Equation 3.7-4B** below:
<40 CFR 63.4341(e)(4)(ii)> [Rule 3D .1111]

$$B_I = \sum_{j=1}^{n} (M_{t,j})(W_{t,j}) \qquad \text{(Equation 3.7 - 4B)}$$

Where:

$B_l$ = Total mass of organic HAP in the thinning and cleaning materials applied in the controlled web coating/printing operations during the compliance period, kg.

$M_{t,j}$ = Total mass of thinning or cleaning material, j, applied during the compliance period, kg.

$W_{t,j}$ = Mass fraction of organic HAP in thinning or cleaning material, j, kg per kg.

n = Number of different thinning and cleaning materials applied during the compliance period.

iii. Calculate the mass of organic HAP in the coating, printing, thinning, and cleaning materials applied in the controlled web coating/printing operation during deviations specified in permit conditions **3.7(E)(5) and (6)**, using **Equation 3.7-4C** below:
<40 CFR 63.4341(e)(4)(iii)> [Rule 3D .1111]

$$H_{UNC} = \sum_{h=1}^{q} (M_h)(W_h) \qquad \text{(Equation 3.7 - 4C)}$$

Where:

$H_{UNC}$ = Total mass of organic HAP in the coating, printing, thinning, and cleaning materials applied during all deviations specified in permit conditions **3.7(E)(5) and (6)** that occurred during the compliance period in the controlled web coating/printing operation, kg.

$M_h$ = Total mass of coating, printing, thinning, or cleaning material, h, applied in the controlled web coating/printing operation during deviations, kg.

$W_h$ = Mass fraction of organic HAP in coating, printing, thinning, or cleaning material, h, kg organic HAP per kg material.

q = Number of different coating, printing, thinning, and cleaning materials applied and used.

e. **Calculate the organic HAP emissions reductions for controlled web coating/printing operation <u>using</u> liquid-liquid material balances** - For each controlled web coating/printing operation using a solvent recovery system for which liquid-liquid material balances are conducted, calculate the organic HAP emissions reductions by applying the volatile organic matter collection and recovery efficiency to the mass of organic HAP contained in the coating, printing, thinning, and cleaning materials applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period. Perform a liquid-liquid material balance for the compliance period as specified in **paragraphs (i) through (v)** below. Calculate the mass of organic HAP emissions reductions by the solvent recovery system as specified in **paragraph (vi)** below:
<40 CFR 63.4341(e)(5)> [Rule 3D .1111]

i. For each solvent recovery system, install, calibrate, maintain, and operate according to the manufacturer's specifications, a device that indicates the cumulative amount of volatile organic matter recovered by the solvent recovery system for the compliance period. The device must be initially certified by the manufacturer to be accurate to within ± 2.0 percent of the mass of volatile organic matter recovered.
<40 CFR 63.4341(e)(5)(i)> [Rule 3D .1111]

ii. For each solvent recovery system, determine the mass of volatile organic matter recovered for the compliance period, kg, based on measurement with the device required in **paragraph (i)** above.
<40 CFR 63.4341(e)(5)(ii)> [Rule 3D .1111]

iii. Determine the mass fraction of volatile organic matter for each coating, printing, cleaning, and thinning material applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg volatile organic matter per kg coating, printing, cleaning, and thinning material. The volatile organic matter mass fraction may be determined using Method 24 of 40 CFR Part 60, Appendix A, or an EPA approved alternative method, or information provided by the manufacturer or supplier of the coating or printing material may be used. In the event of any inconsistency between information provided by the manufacturer or supplier and the results of Method 24 of 40 CFR Part 60, Appendix A, or an approved alternative method, the test method results will govern.
<40 CFR 63.4341(e)(5)(iii)> [Rule 3D .1111]

iv. Measure the mass of each coating, printing, thinning, and cleaning material applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg.
<40 CFR 63.4341(e)(5)(iv)> [Rule 3D .1111]

v. For the compliance period, calculate the solvent recovery system's volatile organic matter collection and recovery efficiency using **Equation 3.7-5** below:
<40 CFR 63.4341(e)(5)(v)> [Rule 3D .1111]

$$R_v = 100 \frac{M_{VR}}{\sum_{i=1}^{m} M_i WV_{c,i} + \sum_{j=1}^{n} M_j WV_{t,j}} \qquad \text{(Equation 3.7-5)}$$

Where:

$R_V$ = Volatile organic matter collection and recovery efficiency of the solvent recovery system during the compliance period, percent.

$M_{VR}$ = Mass of volatile organic matter recovered by the solvent recovery system during the compliance period, kg.

$M_i$ = Mass of coating or printing material, i, applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg.

$WV_{c,i}$ = Mass fraction of volatile organic matter for coating or printing material, i, kg volatile organic matter per kg coating or printing material.

Mj = Mass of thinning or cleaning material, j, applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg.

$WV_{t,j}$ = Mass fraction of volatile organic matter for thinning or cleaning material, j, kg volatile organic matter per kg thinning or cleaning material.

m = Number of different coating and printing materials applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period.

n = Number of different thinning and cleaning materials applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period.

vi. Calculate the mass of organic HAP emission reductions for the web coating/printing operation controlled by the solvent recovery system during the compliance period using **Equation 3.7-6** below and according to **paragraphs (*A*) and (*B*)** below:
<40 CFR 63.4341(e)(5)(vi)> [Rule 3D .1111]

$$H_{CSR} = \left(A_{CSR} + B_{CSR}\right)\left(\frac{R_V}{100}\right) \qquad \text{(Equation 3.7-6)}$$

Where:

$H_{CSR}$ = Mass of organic HAP emission reduction for the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg.

$A_{CSR}$ = Total mass of organic HAP in the coating and printing material applied in the web coating/printing operation controlled by the solvent recovery system during the compliance period, kg, calculated using **Equation 3.7-6A** below.

$B_{CSR}$ = Total mass of organic HAP in the thinning and cleaning materials applied in the web coating/printing operation controlled by the

solvent recovery system during the compliance period, kg, calculated using **Equation 3.7-6B** below.

$R_V$ = Volatile organic matter collection and recovery efficiency of the solvent recovery system, percent, from **Equation 3.7-5** above.

*A*. Calculate the total mass of organic HAP in the coating and printing materials applied in the web coating/printing operations controlled by the solvent recovery system during the compliance period, kg, using **Equation 3.7-6A** below:
<40 CFR 63.4341(e)(5)(vi)(A)> [Rule 3D .1111]

$$A_{CSR} = \sum_{i=1}^{m} (M_{c,i})(W_{c,i}) \qquad \text{(Equation 3.7-6A)}$$

Where:

$A_{CSR}$ = Total mass of organic HAP in the coating and printing materials applied in the web coating/printing operations controlled by the solvent recovery system during the compliance period, kg.

$M_{c,i}$ = Mass of coating or printing material, i, applied during the compliance period in the web coating/printing operations controlled by the solvent recovery system, kg.

$W_{c,i}$ = Mass fraction of organic HAP in coating or printing material, i, kg per kg.

m = Number of different coating and printing materials applied during compliance period.

*B*. Calculate the total mass of organic HAP in the thinning and cleaning materials applied in the web coating/printing operations controlled by the solvent recovery system during the compliance period, kg, using **Equation 3.7-6B** below:
<40 CFR 63.4341(e)(5)(vi)(B)> [Rule 3D .1111]

$$B_{CSR} = \sum_{j=1}^{n} (M_{t,j})(W_{t,j}) \qquad \text{(Equation 3.7-6B)}$$

Where:

$B_{CSR}$ = Total mass of organic HAP in the thinning and cleaning materials applied in the web coating/printing operations controlled by the solvent recovery system during the compliance period, kg.

$M_{t,j}$ = Total mass of thinning or cleaning material, j, applied during the compliance period in the web coating/printing operations controlled by the solvent recovery system, kg.

$W_{t,j}$ = Mass fraction of organic HAP in thinning or cleaning material, j, kg per kg.

n = Number of different thinning and cleaning materials applied during the compliance period.

f. **Calculate the total mass of coating and printing solids, $H_t$** - Determine the total mass of coating and printing solids applied, kg, which is the combined

mass of the solids contained in all the coating and printing material applied during the compliance period in the web coating/printing operations for which the Emission Rate With Add-On Controls Option is used, using **Equation 3.7-2** of permit condition **3.7(D)(5)(e)**.
<40 CFR 63.4341(e)(6)> [Rule 3D .1111]

g. **Calculate the organic HAP emission rate with add-on controls for the compliance period, $H_{HAP}$** - Determine the organic HAP emission rate with add-on controls for the compliance period, kg organic HAP emitted per kg solids applied during the compliance period, using **Equation 3.7-7** below:
<40 CFR 63.4341(e)(7)> [Rule 3D .1111]

$$H_{HAP} = \frac{H_e - \sum_{i=1}^{q}\left(H_{C,i}\right) - \sum_{j=1}^{r}\left(H_{CSR,j}\right)}{H_t} \qquad \text{(Equation 3.7 - 7)}$$

Where:

$H_{HAP}$,= Organic HAP emission rate with add-on controls for the compliance period, kg organic HAP emitted per kg solids applied.

$H_e$ = Total mass of organic HAP emissions before add-on controls from all the coating, printing, thinning, and cleaning materials applied during the compliance period, kg, determined according to **Equation 3.7-1** in permit condition **3.7(D)(5)(d)**.

$H_{C,i}$ = Total mass of organic HAP emissions reduction for controlled web coating/printing operation, i, not using a liquid-liquid material balance, during the compliance period, kg, from **Equation 3.7-4** in permit condition **3.7(E)(9)(d)**.

$H_{CSR,j}$ = Total mass of organic HAP emissions reduction for web coating/ printing operation, j, controlled by a solvent recovery system using a liquid-liquid material balance, during the compliance period, kg, from **Equation 3.7-6** of permit condition **3.7(E)(9)(e)(vi)**.

$H_t$ = Total mass of coating and printing solids applied during the compliance period, kg, from **Equation 3.7-2** of permit condition **3.7(D)(5)(e)**.

q = Number of controlled web coating/printing operations not using a liquid-liquid material balance.

r = Number of web coating/printing operations controlled with a solvent recovery system.

h. **Compliance demonstration** - To demonstrate compliance with the emission limit, the organic HAP emission rate with add-on controls for the compliance period, calculated using **Equation 3.7-7** of **paragraph (g)** above, must be less than or equal to the applicable emission limit in permit condition **3.7(C)**. All records must be kept as required by permit condition **3.7(G)**.
<40 CFR 63.4342(e)(8)> [Rule 3D .1111]

F. **Reports** - The permittee shall submit the reports as specified in **paragraphs (1) through (3)**:
<40 CFR 63.4311> [Rule 3D .1111]

1. **Semiannual compliance reports** - The permittee shall submit semiannual compliance reports for each affected source according to the requirements of **paragraphs (a) through (f)** below. The semiannual compliance reporting requirements below may be satisfied by reports required under other parts of the Clean Air Act (CAA), as specified in **paragraph (b)** below.
   <40 CFR 63.4311(a)> [Rule 3D .1111]
   a. **Dates** - The permittee shall prepare and submit each semiannual compliance report according to the dates specified in **paragraphs (i) and (ii)** below:
      <40 CFR 63.4311(a)(1)> [Rule 3D .1111]
      i. Each semiannual compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.
         <40 CFR 63.4311(a)(1)(ii)> [Rule 3D .1111]
      ii. Each semiannual compliance report must be postmarked or delivered no later than July 30 or January 30, whichever date is the first date following the end of the semiannual reporting period.
         <40 CFR 63.4311(a)(1)(iii)> [Rule 3D .1111]
   b. **General requirements** - The semiannual compliance report must contain the information specified in **paragraphs (i) through (v)** below, the information specified in **paragraphs (1)(d) through (1)(f)** below, and the information specified in permit condition **3.7(F)(3)(a)** that is applicable to the affected source.
      <40 CFR 63.4311(a)(3)> [Rule 3D .1111]
      i. Company name and address.
         <40 CFR 63.4311(a)(3)(i)> [Rule 3D .1111]
      ii. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
         <40 CFR 63.4311(a)(3)(ii)> [Rule 3D .1111]
      iii. Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31.
         <40 CFR 63.4311(a)(3)(iii)> [Rule 3D .1111]
      iv. Identification of the compliance option or options specified in permit conditions **3.7(B) and (C)** that were used on each web coating/printing operation during the reporting period. If compliance options were changed during the reporting period, the permittee shall report the beginning and ending dates for each option used.
         <40 CFR 63.4311(a)(3)(iv)> [Rule 3D .1111]
      v. If the permittee used the Emission Rate Without Add-On Controls Option or the Emission Rate With Add-On Controls Option, for web coating/ printing operations in permit conditions **3.7(B) and (C)**, the calculation results for each compliance period ending each month during the 6-month reporting period.
         <40 CFR 63.4311(a)(3)(v)> [Rule 3D .1111]
   c. **No deviations** - If there were no deviations from the operating limitations in permit conditions **3.7(C)(1) and (2)** or from the work practice standards in permit condition **3.7(C)(3)** that apply, the semiannual compliance report must include a statement that there were no deviations from the emission limitations during the reporting period. If the permittee used the Emission Rate With Add-

On Controls Option in permit condition **3.7(C)**, and there were no periods during which the continuous parameter monitoring systems (CPMS) were out-of-control as specified in 40 CFR 63.8(c)(7), the semiannual compliance report must include a statement that there were no periods during which the CPMS were out-of-control during the reporting period.
<40 CFR 63.4311(a)(4)> [Rule 3D .1111]

d. **Deviations: Emission Rate <u>Without</u> Add-On Controls Option** - If using the Emission Rate Without Add-On Controls Option in permit condition **3.7(B)** and there was a deviation from the applicable emission limit in permit condition **3.7(B)**, the semiannual compliance report shall contain the information in **paragraphs (i) through (iii)** below:
<40 CFR 63.4311(a)(6)> [Rule 3D .1111]
   i. The beginning and ending dates of each compliance period during which the organic HAP emission rate exceeded the applicable emission limit in permit condition **3.7(B)**.
   <40 CFR 63.4311(a)(6)(i)> [Rule 3D .1111]
   ii. The calculations used to determine the organic HAP emission rate for the compliance period in which the deviation occurred. The permittee shall submit the calculations for **Equations 3.7-1, 3.7-1A, 3.7-1B, 3.7-2, and 3.7-3** in permit condition **3.7(D)(5)** for web coating/printing operations; and if applicable, the calculations used to determine mass of organic HAP in waste materials, $R_w$, according to permit condition **3.7(D)(5)(d)(iii)**. Background data supporting these calculations (e.g., information provided by material suppliers or manufacturers, or test reports) does not need to be submitted.
   <40 CFR 63.4311(a)(6)(ii)> [Rule 3D .1111]
   iii. A statement of the cause of each such deviation.
   <40 CFR 63.4311(a)(6)(iii)> [Rule 3D .1111]

e. **Deviations: Emission Rate <u>With</u> Add-On Controls Option** - If using the Emission Rate With Add-On Controls Option in permit condition **3.7(C)** and there was a deviation from an emission limitation (including any periods when emissions bypassed the add-on control device and were diverted to the atmosphere), the semiannual compliance report shall contain the information in **paragraphs (i) through (xiv)** below. This includes periods of startup, shutdown, and malfunction during which deviations occurred.
<40 CFR 63.4311(a)(7)> [Rule 3D .1111]
   i. The beginning and ending dates of each compliance period during which the organic HAP emission rate exceeded the applicable emission limit in permit condition **3.7(C)**.
   <40 CFR 63.4311(a)(7)(i)> [Rule 3D .1111]
   ii. If using the Emission Rate With Add-On Controls Option, the calculations used to determine the organic HAP emission rate for each compliance period in which a deviation occurred. The applicable calculations must be submitted, including **Equations 3.7-1, 3.7-1A, 3.7-1B, and 3.7-2** in permit condition **3.7(D)(5)** and **Equations 3.7-4, 3.7-4A, 3.7-4B, 3.7-4C, 3.7-5, 3.7-6, 3.7-6A, 3.7-6B, and 3.7-7** in permit condition **3.7(E)(9)** for web coating/printing operations. Background data supporting these calculations (e.g., information provided by materials suppliers or manufacturers, or test reports) does not need to be submitted.
   <40 CFR 63.4311(a)(7)(ii)> [Rule 3D .1111]

iii. The date and time that each malfunction started and stopped.
<40 CFR 63.4311(a)(7)(iv)> [Rule 3D .1111]

iv. A brief description of the continuous parameter monitoring system (CPMS).
<40 CFR 63.4311(a)(7)(v)> [Rule 3D .1111]

v. The date of the latest CPMS certification or audit.
<40 CFR 63.4311(a)(7)(vi)> [Rule 3D .1111]

vi. The date and time that each CPMS was inoperative, except for zero (low-level) and high-level checks.
<40 CFR 63.4311(a)(7)(vii)> [Rule 3D .1111]

vii. The date, time, and duration that each CPMS was out-of-control, including the information in 40 CFR 63.8(c)(8).
<40 CFR 63.4311(a)(7)(viii)> [Rule 3D .1111]

viii. The date and time period of each deviation from an operating limit in permit conditions **3.7(C)(1) and (2)**, date and time period of any bypass of the add-on control device, and whether each deviation occurred during a period of startup, shutdown, or malfunction or during another period.
<40 CFR 63.4311(a)(7)(ix)> [Rule 3D .1111]

ix. A summary of the total duration of each deviation from an operating limit in permit conditions **3.7(C)(1) and (2)** and each bypass of the add-on control device during the semiannual reporting period and the total duration as a percent of the total source operating time during that semiannual reporting period.
<40 CFR 63.4311(a)(7)(x)> [Rule 3D .1111]

x. A breakdown of the total duration of the deviations from the operating limits in permit conditions **3.7(C)(1) and (2)** and bypasses of the add-on control device during the semiannual reporting period into those that were due to startup, shutdown, control equipment problems, process problems, other known causes, and other unknown causes.
<40 CFR 63.4311(a)(7)(xi)> [Rule 3D .1111]

xi. A summary of the total duration of CPMS downtime during the semiannual reporting period and the total duration of CPMS downtime as a percent of the total source operating time during that semiannual reporting period.
<40 CFR 63.4311(a)(7)(xii)> [Rule 3D .1111]

xii. A description of any changes in the CPMS, web coating/printing operation, emission capture system, or add-on control device since the last semiannual reporting period.
<40 CFR 63.4311(a)(7)(xiii)> [Rule 3D .1111]

xiii. For each deviation from the work practice standards in permit condition **3.7(C)(3)**, a description of the deviation, the date and time period duration of the deviation, and the actions taken to correct the deviation.
<40 CFR 63.4311(a)(7)(xiv)> [Rule 3D .1111]

xiv. A statement of the cause of each deviation.
<40 CFR 63.4311(a)(7)(xv)> [Rule 3D .1111]

2. **Performance test reports** - If using the Emission Rate With Add-On Controls Option in permit condition **3.7(C)**, reports of performance test results for emission capture systems and add-on control devices must be submitted no later than 60 days after completing the tests as specified in 40 CFR 63.10(d)(2).
<40 CFR 63.4311(b)> [Rule 3D .1111]

3. **Startup, shutdown, malfunction reports** - If using the Emission Rate With Add-On Controls Option in permit condition **3.7(C)** and there is a startup, shutdown, or malfunction during the semiannual reporting period, the reports specified in **paragraphs (a) and (b)** below must be submitted.
   <40 CFR 63.4311(c)> [Rule 3D .1111]
   a. If actions taken were consistent with the startup, shutdown, and malfunction plan, the information specified in 40 CFR 63.10(d) must be included in the semiannual compliance report.
      <40 CFR 63.4311(c)(1)> [Rule 3D .1111]
   b. If actions taken were not consistent with the startup, shutdown, and malfunction plan required by permit condition **3.7(C)(4)** the permittee shall submit an immediate startup, shutdown, and malfunction report described in **paragraphs (i) and (ii)** below:
      <40 CFR 63.4311(c)(2)> [Rule 3D .1111]
      i. The permittee shall describe the actions taken during the event in a report delivered by facsimile, telephone, or other means to this Office within 2 working days after starting actions that are inconsistent with the plan.
         <40 CFR 63.4311(c)(2)(i)> [Rule 3D .1111]
      ii. The permittee shall submit a letter to this Office within 7 working days after the end of the event, unless alternative arrangements have been made with this Office as specified in 40 CFR 63.10(d)(5)(ii). The letter must contain the information specified in 40 CFR 63.10(d)(5)(ii).
         <40 CFR 63.4311(c)(2)(ii)> [Rule 3D .1111]

G. **Recordkeeping Requirements** - The permittee shall collect and keep a record of the data and information specified in **paragraphs (1) through (9)** below. The permittee shall retain these records in accordance with the specifications described in **paragraph (10)** below. Failure to collect and keep these records is a deviation from the applicable standard.
   <40 CFR 63.4312> [Rule 3D .1111]

   1. A copy of each notification and report that was submitted to comply with Subpart OOOO, and the documentation supporting each notification and report.
      <40 CFR 63.4312(a)> [Rule 3D .1111]
   2. A current copy of information provided by material suppliers or manufacturers, such as manufacturer's formulation data or test data used to determine the mass fraction of organic HAP for coating, printing, dyeing, finishing, thinning, and cleaning materials; and the mass fraction of solids for coating and printing materials. If testing was conducted to determine the mass fraction of organic HAP of coating materials or the mass fraction of solids of coating materials, the permittee shall keep a copy of the complete test report. If information is used that was provided by the manufacturer or supplier of the material that was based on testing, the permittee shall keep the summary sheet of results provided by the manufacturer or supplier. The permittee is not required to obtain the test report or other supporting documentation from the manufacturer or supplier.
      <40 CFR 63.4312(b)> [Rule 3D .1111]
   3. For each compliance period, a record of the web coating/printing operations on which each compliance option was used and the time periods (beginning and ending dates) each option was used. For each month, a record of all required

calculations for the compliance options used, as specified in **paragraphs (a) and (b)** below.
<40 CFR 63.4312(c)(1)> [Rule 3D .1111]

a. ***For the Emission Rate <u>Without</u> Add-On Controls Option***, a record of the calculation of the total mass of organic HAP emissions for the coating, printing, thinning and cleaning materials applied each compliance period using **Equations 3.7-1, 3.7-1A, 3.7-1B** in permit condition **3.7(D)(5)(d)** for web coating/printing operations; and if applicable, the calculation used to determine mass of organic HAP in waste materials, $R_w$, according to permit condition **3.7(D)(5)(d)(iii)**; the calculation of the total mass of the solids contained in all coating and printing materials applied each compliance period, $H_t$, using **Equation 3.7-2** in permit condition **3.7(D)(5)(e)**; and the calculation of the organic HAP emission rate for each compliance period, $H_{yr}$, using **Equation 3.7-3** in permit condition **3.7(D)(5)(f)**.
<40 CFR 63.4312(c)(1)(ii)> [Rule 3D .1111]

b. ***For the Emission Rate <u>With</u> Add-On Controls Option***, a record of the calculation of the total mass of organic HAP emissions before add-on controls for the coating, printing, thinning and cleaning materials applied each compliance period using **Equations 3.7-1, 3.7-1A, 3.7-1B** in permit condition **3.7(D)(5)(d)** and, if applicable, the calculation used to determine mass of organic HAP in waste materials, $R_w$, according to permit condition **3.7(D)(5)(d)(iii)**; the calculation of the total mass of the solids contained in all coating and printing materials applied each compliance period, $H_t$, using **Equation 3.7-2** in permit condition **3.7(D)(5)(e)**; the calculation of the mass of organic HAP emission reduction by emission capture systems and add-on control devices using **Equations 3.7-4, 3.7-4A, 3.7-4B, 3.7-4C, 3.7-5, 3.7-6, 3.7-6A, 3.7-6B** in permit condition **3.7(E)(9)**, as applicable; and the calculation of the organic HAP emission rate for each compliance period, $H_{HAP}$, using **Equation 3.7-7** in permit condition **3.7(E)(9)(g)**. <40 CFR 63.4312(c)(1)(iii)> [Rule 3D .1111]

4. A record of the name and mass of each regulated material applied in the web coating and printing subcategory during each compliance period.
<40 CFR 63.4312(d)> [Rule 3D .1111]
5. A record of the mass fraction of organic HAP for each regulated material applied during each compliance period.
<40 CFR 63.4312(e)> [Rule 3D .1111]
6. A record of the mass fraction of coating and printing solids for each coating and printing material applied during each compliance period.
<40 CFR 63.4312(f)> [Rule 3D .1111]
7. If using an allowance in **Equation 3.7-1** in permit condition **3.7(D)(5)(d)** for organic HAP contained in waste materials, $R_w$, sent to, or designated for shipment to, a treatment, storage, and disposal facility (TSDF) according to permit condition **3.7(D)(5)(d)(iii)**, the permittee shall keep records of the information specified in **paragraphs (a) through (c)** below.
<40 CFR 63.4312(g)> [Rule 3D .1111]

a. The name and address of each TSDF to which waste materials were sent for which an allowance is used in **Equation 3.7-1** in permit condition **3.7(D)(5)(d)**, a statement of which subparts under 40 CFR Parts 262, 264, 265, and 266 apply to the facility, and the date of each shipment.
<40 CFR 63.4312(g)(1)> [Rule 3D .1111]

b. Identification of the web coating/printing operations producing waste materials included in each shipment and the compliance periods in which the allowance was used for these materials in **Equation 3.7-1** in permit condition **3.7(D)(5)(d)**.
<40 CFR 63.4312(g)(2)> [Rule 3D .1111]

c. The methodology used in accordance with permit condition **3.7(D)(5)(d)(iii)** to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each compliance period; and the methodology to determine the mass of organic HAP contained in these waste materials. This must include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment.
<40 CFR 63.4312(g)(3)> [Rule 3D .1111]

8. The permittee shall keep records of the date, time, and duration of each deviation.
<40 CFR 63.4312(i)> [Rule 3D .1111]

9. If using the Emission Rate With Add-On Controls Option, the permittee shall keep the records specified in **paragraphs (a) through (g)** below:
<40 CFR 63.4312(j)> [Rule 3D .1111]

a. For each deviation, a record of whether the deviation occurred during a period of startup, shutdown, or malfunction.
<40 CFR 63.4312(j)(1)> [Rule 3D .1111]

b. The records in 40 CFR 63.6(e)(3)(iii) through (v) related to startup, shutdown, and malfunction.
<40 CFR 63.4312(j)(2)> [Rule 3D .1111]

c. The records required to show continuous compliance with each operating limit specified in permit conditions **3.7(C)(1) and (2)**.
<40 CFR 63.4312(j)(3)> [Rule 3D .1111]

d. For each capture system that is a permanent total enclosure (PTE), the data and documentation used to support a determination that the capture system meets the criteria in Method 204 of Appendix M to 40 CFR Part 51 for a PTE and has a capture efficiency of 100 percent, as specified in 40 CFR 63.4361(a).
<40 CFR 63.4312(j)(4)> [Rule 3D .1111]

e. The records specified in **paragraphs (i) and (ii)** below for each add-on control device organic HAP destruction or removal efficiency determination as specified in 40 CFR 63.4362:
<40 CFR 63.4312(j)(6)> [Rule 3D .1111]

i. Records of each add-on control device performance test conducted according to 40 CFR 63.4360 and 63.4362.
<40 CFR 63.4312(j)(6)(i)> [Rule 3D .1111]

ii. Records of the web coating/printing operation conditions during the add-on control device performance test showing that the performance test was conducted under representative operating conditions.
<40 CFR 63.4312(j)(6)(ii)> [Rule 3D .1111]

f. Records of the data and calculations used to establish the emission capture and add-on control device operating limits as specified in 40 CFR 63.4363 and to document compliance with the operating limits as specified in permit conditions **3.7(C)(1) and (2)**.
<40 CFR 63.4312(j)(7)> [Rule 3D .1111]

g. A record of the work practice plan required by permit condition **3.7(C)(3)** and documentation that the plan is being implemented on a continuous basis. <40 CFR 63.4312(j)(8)> [Rule 3D .1111]

10. The permittee shall maintain all records, described in **paragraphs (1) through (9)** above, in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1). Where appropriate, the records may be maintained as electronic spreadsheets or as a database. As specified in 40 CFR 63.10(b)(1), each record must be kept for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. Each record must be kept on site for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The records may be kept off site for the remaining 3 years. <40 CFR 63. 4313> [Rule 3D .1111]

# PART II
# AIR QUALITY CONSTRUCTION AND OPERATION PERMIT

The permittee is hereby authorized to construct air emission source(s) and associated air pollution control device(s) listed in Section 1, Part II of this permit, in accordance with the associated air quality permit application(s) received, including all plans, specifications, previous applications, and other supporting data, all of which are filed with the Forsyth County Office of Environmental Assistance and Protection (Office) and are incorporated in Part II of this Air Quality Permit.

## SECTION 1
## PERMITTED EMISSION SOURCE(S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S)

This permit modification is for the ***Finishing Range #4 Resin Coating Modification Project*** and the ***Finishing Range #18 Silicone Coating Modification Project*** as described in Sections 3.1 and 3.2 below.

## SECTION 2
## GENERAL CONDITIONS

This section describes terms and conditions applicable to the construction of the air emission source(s) and associated air pollution control device(s) listed in Section 1. Unless otherwise specified herein all references to the "permit" in this section apply only to Part II of the permit.

2.1 **General Provisions**

a. This permit is nontransferable by the permittee. Future owners and operators must obtain a new air quality permit from this Office.
b. This issuance of this permit in no way absolves the permittee of liability for any potential civil penalties which may be assessed for violations of State law which have occurred prior to the issuance date of this permit.
c. A violation of any term or condition of Part II of this permit shall subject the permittee to enforcement pursuant to Forsyth County Air Quality Control Ordinance and Technical Code, including assessment of civil and/or criminal penalties.

2.2 **Submissions (REPORTS, TEST DATA, MONITORING DATA, NOTIFICATIONS, AND REQUESTS FOR RENEWAL)**

Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to this Office.

2.3 **Part II Renewal Request**

The permittee shall request renewal of the emission source(s) and associated air pollution control device(s) listed in Section 1 at the same time as specified in **Part I, permit condition 2.26** of this [Title V] permit.

## 2.4 **Annual Fee Payment**

The permittee shall pay all fees in accordance with Forsyth County Air Quality Control Ordinance and Technical Code Subchapter 3Q .0200 and in conjunction with **Part I, permit condition 2.12** of this [Title V] permit.

## 2.5 **Reporting Requirements**

Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Director:

a. changes in the information submitted in the application;
b. changes that modify equipment or processes; or
c. changes in the quantity or quality of materials processed.

If appropriate, modifications to the permit may then be made by this Office to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

## 2.6 **Termination, Modification, and Revocation of the Permit**

The Director may terminate, modify, or revoke and reissue this permit if:

a. the information contained in the application or presented in support thereof is determined to be incorrect;
b. the conditions under which the permit or permit renewal was granted have changed;
c. violations of conditions contained in the permit have occurred; or
d. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of Forsyth County Air Quality Control Ordinance and Technical Code (FCAQTC).

## 2.7 **Inspection and Entry**

Upon presentation of credentials and other documents as may be required by law, the permittee shall allow this Office, or an authorized representative to perform the following:

a. enter the permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

# SECTION 3
# SPECIFIC LIMITATIONS AND CONDITIONS

The air emission source(s) and associated air pollution control device(s) listed in Section 1 are subject to the following specific terms, conditions, and limitations, including the monitoring, record keeping, and reporting requirements as specified herein:

3.1 **#4 Finishing Range Resin Coating Modification Project:** The facility is initiating the application of phenolic resin and melamine resin coatings on the #4 Finishing Range (ES-34) via a "dip coating" process.

a. Emissions from the resin coating process will be controlled by the Cor-Pak Thermal Oxidizer (CD-42).

b. Prior to the application of the resin coatings, emission release points EP-3.5-1 and EP-3.3-1 will be modified such that they both exhaust vertically and unobstructed.

c. **Construction and operation authorization** - This permit authorizes the above listed modification in accordance with the permit application and attendant information. The permittee shall operate the air emission sources and control devices listed in Section 1 in accordance with provisions contained in Part I of this permit.
[Rules 3Q .0304(i) and 3Q .0308(a)]

d. **30-day notification from start-up** - The permittee shall notify this Office of the actual start-up date of the completed project within 30 days after such date. This notification is to enable this Office to plan an inspection to verify compliance with any applicable standards.
[Rule 3A. 0103(a)]

e. **Commencement of construction -** If construction/modification is not commenced by **December 22, 2016**, or construction activities lapse for a period of 18 months after construction has commenced, the permittee shall reapply to this Office and obtain a permit to construct before commencing or resuming construction. **[Rule 3Q .0308(a)]**

3.2 **#18 Finishing Range Resin Coating Modification Project:** The facility is installing on Finishing Range #18 (EP-31) the same aqueous-based silicone coating process as is currently permitted to run on #4 and #5 Finishing Ranges (ES-34 and ES-35). Emissions from the silicone coating process will be uncontrolled.

a. **Construction and operation authorization** - This permit authorizes the above listed modification in accordance with the permit application and attendant information.

b. The permittee shall operate the air emission sources listed in Section 1 in accordance with provisions contained in Part I of this permit.
[Rules 3Q .0304(i) and 3Q .0308(a)]

c. **30-day notification from start-up** - The permittee shall notify this Office of the actual start-up date of the completed project within 30 days after such date. This notification is to enable this Office to plan an inspection to verify compliance with any applicable standards.
[Rule 3A. 0103(a)]

d. **Commencement of construction -** If construction/modification is not commenced by, or construction activities lapse for a period of 18 months from the effective date of this permit after construction has commenced, the permittee shall reapply to this Office and obtain a permit to construct before commencing or resuming construction.
[Rule 3Q .0308(a)]

**FORSYTH COUNTY**
**Office of Environmental Assistance and Protection**
Title V Permit Renewal Statement of Basis

| **Applicant:** | **Site Location:** | **New Permit No.:** |
|---|---|---|
| Highland Industries, Inc., Kernersville Finishing Plant | 215 Drummond St. Kernersville, NC 27284 | 00460-TV-16 |
| **Technical Contact:** | **Phone:** | **Responsible Official:** |
| Janae Wells QSM/EHS Manager | (336) 992-1484 | Charles Watson Plant Manager |
| **Agency Reviewer:** | **Agency Q/A Manager:** | **Date:** |
| Paul C. Martin | Peter B. Lloyd, Ph.D., P.E. | 24-MAR-2016 |

**Primary SIC Code:**
2269 - Textile & Fabric Finishing and Fabric Coating Mills

| **Date Application Dated:** | **Date Application Received:** | **Date Determined Complete:** |
|---|---|---|
| July 23, 2012 | July 26th, 2012 | March 4th, 2016 |

## EXECUTIVE SUMMARY

This statement of basis compliance review concerns the renewal of Title V operating permit 00460-TV-14. The new permit will retain the Part II construction permit issued as 00460-TV-14 in 2013 (due to a startup extension granted by the Office on May 22nd, 2015) and minor modification 00460-TV-15 in 2016. In addition, conditions concerning the applicability of the boiler to NESHAPS Subpart DDDDD have also been inserted as the rule comes into effect during this permit cycle. Other changes that will be incorporated into the 00460-TV-16 renewal are the removal of ES-39 and ES-40 extrusion coaters and various administrative changes.

## 1.0 PROCESS DESCRIPTION

Highland Industries produces fabric impregnated with specialized water and solvent based coatings and inks that impart desirable physical properties to the fabric substrate. The fabric rollstock produced is then used in the manufacture of a variety of items, including automotive air bags, sphygmomanometer cuffs, and automotive belts, among others. These coatings and inks are cured either directly from air heated by natural gas combustion or indirectly from heat transfer from steam piping. The facility manufactures its own coatings from raw materials shipped, stored, and mixed on-site.

## 2.0 STATEMENT OF COMPLIANCE

Based on a review of the application, and knowledge of this facility based on inspection activity, the facility appears to be in compliance with all applicable requirements. The applicant has certified that the facility will be in compliance, and will continue to comply, with all applicable requirements from the time of permit issuance. The applicant has also certified that the facility will be in compliance with all subsequent applicable requirements taking effect during the term of this permit and will meet such requirements as specified by rule.

## 3.0 EMISSION SOURCE AND CONTROL DEVICE SUMMARY

The following table identifies all emission sources and associated control devices and emission points for which the Renewal Title V Operating Permit is issued.

**Table 3.0 List of Permitted Emissions Sources**

| Emission Source ID No. | Emission Source Description | Control Device Description | Control Device ID No. | Emission Point ID No. |
|---|---|---|---|---|
| ES-21 | Kewanee H5-500-G natural gas-fired boiler (NSPS - Subpart Dc, NESHAP - Subpart DDDDD), with a maximum heat input rate of 20.923 mmBtu/hr. | None | N/A | EP-2.1-1 |
| ES-31 | Finishing Range #18* with natural gas fired (NG-fired) curing section consisting of 16 x 0.5 mmbtu/hr burners (8 mmbtu/hr total). | None | N/A | EP-3.1-1 |
| | | | | EP-3.1-2 |
| | | | | EP-3.1-3 |
| | | | | EP-3.1-4 |
| | | | | EP-3.1-5 |
| ES-33 | Finishing Range #3 with NG-fired oven (8 mmBtu/hr max heat input rate). ES-33 must be ducted to CD-51 while processing coatings that are not *waterborne coatings*** with VOC content not exceeding 9% by weight of the volatile fraction. | Solvent Recovery Unit | CD-51 | EP-5.1-1 |
| | | None | N/A | EP-3.3-1 |

* Formerly designated "#1 Finishing Range", with total burner heat input of 12mmbtu/hr. Burner replacement in 2013 resulted in a total heat input reduction of 4 mmbtu/hr.

** *Waterborne coating* means a coating which contains more than 5 weight percent water in its volatile fraction. <40 CFR Part 60, Subpart VVV, 60.741>

**Facility-Wide Permitted Equipment and Associated Control Devices (Continued)**

| Emission Source ID No. | Emission Source Description | | | Control Device Description | Control Device ID No. | Emission Source ID No. |
|---|---|---|---|---|---|---|
| ES-34 Finishing Range #4<br><br>Dryer Section: NG-fired, 4 mmBtu/hr max heat input rate<br><br>Curing Section: NG-fired, 3 mmBtu/hr max heat input rate<br><br>When applying Phenolic Resin Coatings or Melamine Resin Coatings, ES-34 emissions shall be ducted to the Cor-Pak Thermal Oxidizer (CD-42). | When applying coatings such that NSPS Subpart VVV does apply* to the finishing range. | Enclosure Section, Dyer Section, Curing Section, and Cooling Section | | Solvent Recovery Unit; **or** | CD-51 | EP-5.1-1 |
| | | | | Cor-Pak Thermal Oxidizer NG-fired with 8 mmBtu/hr max heat input rate | CD-42 | EP-4.2-2 |
| | When applying coatings such that NSPS Subpart VVV does <u>not</u> apply* to the finishing range. | Enclosure Section | | None | N/A | EP-3.4-1 |
| | | Dryer Section | **When $SiO_2$ is <u>not</u> formed | Donaldson-Torit dust collector (model DFO 4-64), **or** | CD-122 | EP-12.1-2 |
| | | | | None | N/A | EP-3.4-3 |
| | | | **When $SiO_2$ is formed | Donaldson-Torit dust collector (model DFO 4-64) | CD-122 | EP-12.1-2 |
| | | Curing Section | | None | N/A | EP-3.4-4 |
| | | Cooling Section | | None | N/A | EP-3.4-6 |
| ES-35 Finishing Range #5<br><br>Coater Section: NG-fired, 9 mmBtu/hr max heat input rate<br><br>Heatset Section: NG-fired, 13.5 mmBtu/hr max heat input rate | Only permitted to apply coatings such that NSPS Subpart VVV does <u>not</u> apply* to the finishing range. | Coater Section | **When $SiO_2$ is <u>not</u> formed | Donaldson-Torit dust collector (model DFO 4-64), **or** | CD-122 | EP-12.1-2 |
| | | | | None | N/A | EP-3.5-1 |
| | | | **When $SiO_2$ is formed | Donaldson-Torit dust collector (model DFO 4-64) | CD-122 | EP-12.1-2 |
| | | Heatset Section | | None | N/A | EP-3.5-2 |

* 40 CFR 60, Subpart VVV does <u>not</u> apply to the finishing range during times when it is used to apply waterborne coatings so long as the VOC content of the coating does not exceed 9 percent by weight of the volatile fraction <40 CFR 60.740(d)(2)>. *Waterborne coating* means a coating which contains more than 5 weight percent water in its volatile fraction. <40 CFR 60.741(a)>.

** Some silicone-based coatings form silicone dioxide ($SiO_2$) particulate as the coating dries or cures.

**Facility-Wide Permitted Equipment and Associated Control Devices (Continued)**

| Emission Source ID No. | Emission Source Description | | Control Device Description | Control Device ID No. | Emission Point ID No. |
|---|---|---|---|---|---|
| ES-36 | Finishing Range #6 (NSPS Subpart VVV) | | Solvent Recovery Unit; or | CD-51 | EP-5.1-1 |
| | | | Cor-Pak Thermal Oxidizer NG-fired with 8 mmBtu/hr max heat input rate | CD-42 | EP-4.2-2 |
| ES-38 | #9 Laminator and associated tote storage | | None | N/A | EP-3.8-1 |
| ES-61 | Solvated Rubber Mixing and Storage (NSPS, Subpart VVV) (ES-61 must be ducted to CD-51 as required in permit conditions 3.3(A)(1)(f)(i) and (iii)). | | Solvent Recovery Unit ; or | CD-51 | EP-5.1-1 |
| | | | None | N/A | EP-6.1-1 |
| ES-62 | Aqueous Coating Mixing and Storage | | None | N/A | EP-6.2-1 |
| | | | | | EP-6.2-2 |
| | | | | | EP-6.2-3 |
| ES-81 | Two Toluene Storage Tanks: | One 8,000 gallon Virgin Toluene Storage Tank | Solvent Recovery Unit | CD-51 | EP-5.1-1 |
| | | One 10,000 gallon Reclaim Toluene Storage Tank | | | |
| ES-82 | Two Latex Storage Tanks: each 20,000 gallons | UST A: Vinyl Pyridine Latex | None | N/A | EP-8.2-1 |
| | | UST B: Styrene Butadiene Rubber Latex | None | N/A | EP-8.2-2 |
| ES-83 | Tote Storage | | None | N/A | EP-8.3-1 |
| ES-90 | Groundwater Stripper, subject to 40 CFR 63, Subpart GGGGG | | Solvent Recovery Unit | CD-51 | EP-5.1-1 |
| ES-91 | Groundwater/Soil Air Sparger , subject to 40 CFR 63, Subpart GGGGG | | None | N/A | EP-9.1-1 EP-9.1-2 |

* *Waterborne coating* means a coating which contains more than 5 weight percent water in its volatile fraction. <40 CFR Part 60, Subpart VVV, 60.741>.

## 4.0 GENERAL CONDITIONS [Rule 3Q .0508]

The General Conditions specified in Section 2 of this Title V Operating Permit, 00460-TV-16, list applicable rule requirements that the permittee must adhere to, as with any other permit condition. These requirements are, in general, common to all Title V facilities, as specified in Rule 3Q .0508 "Permit Content". The general conditions found in Section 2 of the permit include provisions such as annual fee payment, permit renewal and expiration, transfer of ownership or operation, submission of documents, inspections and entry procedures, reopen for cause, severability, etc.

In addition, this section of the permit includes the general conditions specific to New Source Performance Standards (NSPS, 40 CFR Part 60), National Emissions Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Part 63) rules, and Continuous Air Monitoring (CAM, 40 CFR Part 64) rules. These conditions are not necessarily common to all Title V facilities, only those facilities with sources subject to these regulations. There were no additions or deletions of specific conditions in Section 2 of this TV-16 permit renewal. However, several administrative changes to the permit's General Conditions were made during this review to reflect certain revisions in the language and organization of the FCAQTC.

## 5.0 APPLICABLE REGULATORY REQUIREMENTS FOR THE BOILER

### 5.1 Source Subject:

**ES-21: Natural Gas Fired Kewanee Boiler**

The sole boiler at the Highland facility is a **20.923 mmBtu/hr** industrial fire tube boiler burning only natural gas, used for process and space heat. The boiler was manufactured and began operation at the facility in April of 1997, after the NSPS Subpart Dc applicability date of June 9, 1989.

| Regulated Pollutant | Applicable Standard | Applicable Regulation |
|---|---|---|
| Particulate Matter | 0.495 lb PM/mmBTU | 3D.0503 – Particulates from Fuel Burning Indirect Heat Exchangers |
| Sulfur Dioxide | 2.3 lb $SO_2$/mmBTU | 3D.0516 – Sulfur Dioxide Emissions from Combustion Sources |
| Visible Emissions | 20% Opacity | Rule 3D.0521(d) |
| None | Maintain fuel combustion records | Rule 3D.0524 (40 CFR 60 NSPS, Subpart Dc (unit combusts only natural gas) |
| None | Annual tune up and one-time energy efficiency analysis | Rule 3D.1111 (40 CFR 63) NESHAP Subpart DDDDDD |

### 5.2 Particulates from Fuel Burning Indirect Heat Exchangers [Rule 3D .0503]

#### 5.2.1 Background & Applicability

This rule regulates the emissions of particulate matter from the combustion of fuel that are discharged to any stack or chimney into the atmosphere. The allowable emission rate of PM is determined by the following equation: $\mathbf{E = 1.090(Q)^{-0.2594}}$

Where:
E = allowable rate in lb/mmBtu, and
Q = maximum heat input rate of all fuel burning indirect heat exchangers in mmBtu/hr.

Boiler ES-21 has a maximum heat input rate of 20.923 mmBtu/hr. Therefore, the allowable emission rate for Highland Industries is calculated to be 0.495 lb PM/mmBtu under 3D .0503.

The total particulate matter emission factor for natural gas combustion from Table 1.4-2 of AP-42 ($5^{th}$ edition) is 7.6 lb/$10^6$ $ft^3$ which converts to 0.00745 lb/mmBtu based on the AP-42 recommended 1020 Btu/$ft^3$ heat content of natural gas. The potential PM emission rate of 0.00745 lb/mmBtu is much less than the 0.495 lb/mmBtu standard for PM in Rule 3D .0503.

The boiler's maximum PM emission rate from the combustion of natural gas is calculated as follows:

*(20.923 mmBtu/hr) x (0.00745 lb/mmBtu) =* ***0.159 lb/hr***

**5.2.2 Monitoring and Recordkeeping Required for Compliance With 3D .0503**

Physical characteristics of this boiler, including piping and layout, limit the combustion of fuel to natural gas only. Therefore no monitoring, recordkeeping, or reporting requirements are needed. Boiler conditions are found in Section **3.1** of the TV-16 permit.

**5.3 <u>Sulfur Dioxide Emissions from Combustion Sources [Rule 3D .0516]</u>**

This rule regulates the emission of sulfur dioxide from any source of combustion that is discharged from any stack at the facility. The rule limits the amount of sulfur dioxide emitted from this source to no more than 2.3 pounds of sulfur dioxide per million Btu heat input.

Natural gas is an inherently low sulfur emitting fuel. The $SO_2$ emission factor from Table 1.4-2 of AP-42 ($5^{th}$ edition) is 0.6 lb/$10^6$ $ft^3$. This converts to 0.000588 lb/mmBtu, based on the AP-42 recommended 1020 Btu/$ft^3$ heat content of natural gas. As a result, emissions of sulfur dioxide from the combustion of natural gas will always be less than the 2.3 lb/mmBtu emission limit in Rule 3D .0516(a). Therefore, compliance is demonstrated with this regulation since estimated potential emissions are less than the allowable. This Office expects that this boiler will continue to operate in compliance with this standard as it is currently permitted. The boiler's maximum emission rate of sulfur dioxide from the combustion of natural gas is calculated as follows:

*(20.923 mmBtu/hr) x (0.000588 lb/mmBtu) =* ***0.0123 lb/hr***

**5.3.1 Monitoring and Recordkeeping Required for Compliance with 3D .0516**

Physical characteristics of this boiler, including piping and layout, limit the combustion of fuel to natural gas. There are no testing, monitoring, recordkeeping, or reporting requirements for these combustion sources because the emissions of sulfur dioxide from the combustion of natural gas will always be less than the emission limit.

**5.5 <u>NSPS Subpart Dc Requirements [Rule 3D.0524]</u>**

NSPS, Subpart Dc requires that daily usage of fuel be tracked for this affected facility. However, an EPA memo from John Rasnic (February 20, 1992) allows for monthly fuel recording, and, the regulations allow for this agency to request an alternative fuel monitoring plan. This agency has requested that annual reports of fuel usage for units combusting only natural gas be sufficient since there are no limits or applicable standards. Monthly natural gas usage is reported by January $31^{st}$ of each year on report #R100.

**5.6 <u>NESHAPS Subpart DDDDD (5D) Requirements [Rule 3D.1110, 3D.1111]</u>**

**5.6.1 Background & Applicable Regulations**

In May 2002, Highland Industries submitted the original Part 1 MACT Application pursuant to the requirements of 40 CFR 63.53(a). In a letter dated June 12, 2009, this Office requested Highland Industries to submit a revised Part 1 MACT Application (if necessary)

and a Part 2 MACT Application meeting the requirements of 40 CFR 63.53(b). On July 22, 2009, the Office received a Part 1 MACT Application from Highland Industries. The application was reviewed and accepted as satisfying the requirements of 40 CFR 63.53(a).

On January 31st, 2013, the EPA promulgated 40 CFR 63, Subpart DDDDD – *National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters*, commonly referred to as the "Major Source Boiler MACT". This MACT superseded the original 112(j) case-by-case ("MACT Hammer") determination previously approved by this Office as of the effective date of the rule. As a result, the existing Kewanee boiler at Highland became subject to this MACT, with an effective date of January 31st, 2016 (during the permit cycle). Initial notification from the facility was received by this Office on May 20th, 2013.

According to the rule, a boiler with a heat input greater than 10 MMBtu/hr located at a major source fired exclusively with natural gas is subject to only two (2) work practice standards:

- The source must complete a tune-up per provisions of §63.2540(a)(10) annually, unless utilizing an oxygen trim system that maintains an optimum air-to-fuel ratio.
- The source must complete a one-time energy assessment performed per provisions of §63.2530(e).

The provisions of the one-time energy assessment are determined by the cumulative annual heat input of all affected boilers. The Kewanee boiler is the only affected boiler at the Highlands facility, and rates out at approximately 0.183 trillion Btu per annum (TBtu/yr):

*20.923MMBtu/hr × (8760 hr/yr) × (1TBtu/10e6MMBtu) =* ***0.183TBtu/yr***

As this is less than 0.3TBtu/yr, by rule the duration of the energy assessment *should not exceed **8** on-site technical labor-hours*, and shall include evaluation of the energy use systems accounting for at least 50% of its energy output. Highland has confirmed there is no oxygen trimming system installed on the boiler. Therefore, the Kewanee boiler is subject to the more stringent provision requiring annual tune-ups. These annual tune-ups must be repeated no more than 13 months following the previous tune-up.

### 5.6.2 Compliance & Reporting

Each of these work practice provisions must be completed by the effective date of the rule, with the first compliance certification report submitted to the Office by January 31st, 2017. Continued compliance is assured by reporting annually thereafter. There are no additional requirements or numeric emissions limits imposed for HAPs from the Kewanee boiler.

These and all other requirements under Subpart 5D have been added to the permit under Section **3.1(C)**.

## 6.0 GENERAL / FACILITY-WIDE REQUIREMENTS

The following requirements apply throughout the facility, although they do not apply to all sources in every case. Sources with common requirements have been grouped here in an effort to simplify the permit content and to consolidate both emissions and reporting requirements.

### 6.1. Control of Visible Emissions [Rule 3D .0521]

This rule was promulgated for the prevention, abatement, and control of visible emissions generated from fuel burning operations and other industrial processes where an emissions can be reasonably expected to occur, except during startups, shutdowns or malfunctions made in accordance with other conditions in the Title V permit. Applicable regulatory

requirements are addressed in permit condition **3.2(A)**.

**6.1.1 Sources Subject:**

**ES-21 Kewanee Boiler**
**ES-31 Finishing Range #18**
**ES-33 Finishing Range #3**
**ES-34 Finishing Range #4**
**ES-35 Finishing Range #5**

**6.1.2 Visual Emissions Standards**

3D .0521(c) states – "For sources existing as of July 1, 1971, visible emissions shall not be more than 40 percent opacity when averaged over a six-minute period except that six-minute periods averaging no more than 90 percent opacity may occur not more than once in any hour nor more than four times in any 24 hour period."

3D .0521(d) states – "For sources established after July 1, 1971, visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period except that six-minute periods averaging no more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24 hour period."

The permitted emission sources at the facility that involve fuel burning operations or other industrial processes where visible emissions are reasonably expected to occur are the boiler and ranges with natural gas direct fired dryers or ovens. The applicable standards are listed below based on the dates on which the sources were established:

**Table 6.1.2, Applicable Visual Emissions Standards**

| Source ID | Source Description | Visible Emission Standard |
|---|---|---|
| * ES-21 | Kewanee Boiler | **20% Opacity** [3D .0521(d)] Sources Established after July 1, 1971 |
| ES-31, 33,34,35 | Finishing Ranges #18, #3, #4, & #5 | |

* *The monitoring/recordkeeping and reporting requirements below do not apply to this source based on the combustion of only natural gas in a boiler.*

The emissions sources listed in Table 6.1.2 have demonstrated compliance with these standards in the past and confirmed during the most recent inspection in June 2015. Thus, the Office expected Highland to continue to comply with these requirements. It bears noting that Finishing Range #18 (ES-31) underwent a burner replacement in 2013. The Office determined that this activity was a "replacement-in-kind" that did not result in a process modification. However, as a result of the minor modification of the #18 Finishing Range, issued as 00460-TV-15 on April 3rd, 2016, it is no longer considered "grandfathered" as an existing source under 3D.0521. Thus ES-31 will now be subject to the 20% opacity standard under 00460-TV-16 permit condition **3.1(A)**.

**6.1.3 Monitoring and Recordkeeping Required for Compliance with 3D .0521**

Monitoring, recordkeeping, and reporting requirements apply to all sources listed in Table 6.1.2, with the exception of the boiler (ES-21), as it is fired exclusively with natural gas. However, as stated in permit condition **3.2(A)(4)**, the permittee is required to make *daily observations* of ***all*** stacks/vents venting emissions from these sources. The permittee should attempt to make this observation during a period when the plant is operating at an average or greater than average capacity. The permittee is required to keep a daily record of these daily visible emission stack observations. The record shall contain the following:

a) the date and time of visual observation,
b) the person(s) who performed visual observation,
c) identification of stack(s) where visible emissions were occurring (otherwise, input a general overall statement or check that there were no problems noted on a plant-wide

basis),
d) the operating conditions under which the visual observation was conducted, and
e) any actions taken to reduce the visible emissions.

Because visible emissions are almost never observed from these sources, the monitoring provisions do not require a full Method 9 visible emissions evaluation each time that visible emissions are detected during the daily observations. Any visible emissions that are detected, however, are considered to be an indication of a problem requiring corrective action which, in turn, must be recorded.

The visible emissions observation data must be available for at least 90 percent of the operating days at the facility during the six-month reporting period to ensure compliance with this requirement. If the emission source is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily check. These records must be retained for at least 5 years from the event recorded and must be made readily available upon request by an authorized representative of the Office or the U.S. EPA.

**6.1.4 Reporting Required for Compliance with 3D .0521**

On a semi-annual basis, the permittee will also be required to report all instances of deviations from the requirements for visible emission sources, and the duration of these deviations must be clearly identified. The report will be submitted in writing to the Office by July 30th for the previous months of January through June, and by January 30th for the previous months of July through December. If no deviations have occurred, the permittee will be required to make this statement in the report. This reporting requirement is addressed in permit condition **3.2(A)(5)**.

**6.2 Sulfur Dioxide Emissions from Combustion Sources [Rule 3D .0516]**

The natural gas direct fired ovens and dryers are sources of combustion that discharge through stacks and therefore are subject to 3D .0516(a) along with the natural gas boiler. Allowable emissions of sulfur dioxide from these sources while firing natural gas shall not exceed 2.3 pounds per million Btu heat input. The Applicable Regulatory Requirements are addressed in permit condition **3.2(B)**.

**6.2.1 Sources Subject:**

**ES-21 Kewanee Boiler**
**ES-31 Finishing Range #18**
**ES-33 Finishing Range #3**
**ES-34 Finishing Range #4**
**ES-35 Finishing Range #5**

Natural gas is an inherently low sulfur emitting fuel. The $SO_2$ emission factor from Table 1.4-2 of AP-42 (5th edition) is 0.6 lb/$10^6$ $ft^3$ which converts to 0.000588 lb/mmBtu based on the AP-42 recommended 1020 Btu/$ft^3$ heat content of natural gas. Consequently, emissions of sulfur dioxide from the combustion of natural gas will always be less than the 2.3 lb/mmBtu emission limit in Rule 3D .0516(a). Therefore, compliance is demonstrated with this regulation since estimated potential emissions are less than the allowable.

**6.2.2 Monitoring, Recordkeeping & Reporting Required for Compliance with 3D .0516**

There are no testing, monitoring, recordkeeping, or reporting requirements for these combustion sources because the emissions of sulfur dioxide from the combustion of natural gas will always be less than the emission limit.

**6.3 Work Practices for Sources of Volatile Organic Compounds [Rule 3D .0958]**

**6.3.1 Sources Subject:**

**ES-31 Finishing Range #18**
**ES-33 Finishing Range #3**

**ES-34 Finishing Range #4**
**ES-35 Finishing Range #5**
**ES-36 Finishing Range #6**
**ES-38 #9 Laminator**
**ES-62 Aqueous Coating Mixing & Storage**
**ES-61 Solvated Rubber Mixing and Storage**
**ES-81 Toluene Storage**
**ES-82 Latex Storage**
**ES-83 Tote Storage**

With the repeal of Rule 3D .0518 in July 2000, work practice standards were adopted for VOC sources. These standards apply to all facilities that use volatile organic compounds as solvents, carriers, material processing media, or industrial chemical reactants, or in other similar uses or that mix, blend, or manufacture volatile organic compounds, or emit volatile organic compounds as a product of chemical reactions.

Rule 3D .0958(e) also requires that any source which previously complied with Rule 3D .0518(d) by operating a control device must continue to operate that device in addition to the requirements of Rule 3D .0958. This requirement is addressed in permit condition **3.2(C)(3)** for emission sources: ES-33, ES-34, ES-36 and ES-61.

### 6.3.2 Monitoring and Recordkeeping Required for Compliance with 3D .0958

To show compliance with the work practice standards, the permittee shall be required to perform weekly inspections at each affected emissions unit to verify compliance with the work practices and identify any deviations. The results of the inspections and any deviations shall be recorded in a log (written or electronic form) on site and be readily available upon request by an authorized representative of the Office or U.S. EPA. The log shall contain the following records:

a) the date and time of each inspection
b) the results of each inspection
c) all deviations from required work practice standards and the corrective actions taken

These requirements are addressed in permit condition **3.2(C)(4)**. These requirements are also consistent with NCDENR *"Guidance for Implementing New VOC Rule Changes"* which indicates that monitoring, recordkeeping, and reporting are required to show compliance with the VOC work practice standards when operation of a control device had previously been used to show compliance with 3D .0518. The permittee is still required to use the control devices to comply with PSD avoidance limits.

### 6.3.3 Reporting Required for Compliance with 3D .0958

The permittee will be required to submit a summary deviation report of the requirements specified in the permit to the Office by July 30$^{th}$ for the previous months of January through June, and by January 30$^{th}$ for the previous months of July through December. This report shall also contain the total number of weeks in which the work practice standards weekly check were not made during the reporting period. If no deviations have occurred, the permittee shall make this statement in the report. This reporting requirement is addressed in permit condition **3.2(C)(5)**.

### 6.3.4 Miscellaneous Administrative Revisions

The #10 coater (ES-39) and extrusion coater (ES-40) have been shut down, dismantled, and removed from service pending a complete removal from the production floor. Highland has requested these sources be removed from the permit and all other requirements. This group will be removed from recordkeeping and reporting requirements from the effective date of permit 00460-TV-16.

## 6.4 Particulates from Miscellaneous Industrial Processes [Rule 3D .0515]

**6.4.1 Sources Subject:**
**ES-31 Finishing Range #18**
**ES-33 Finishing Range #3**
**ES-34 Finishing Range #4**
**ES-35 Finishing Range #5**

The allowable particulate emission limit for process rates up through 60,000 lb/hr (30 ton/hr) is calculated by the following equation: $\mathbf{E = 4.10(P)^{0.67}}$

where E = allowable emission rate for particulate matter in pounds per hour, and
P = process weight in tons per hour

The process weight per hour means the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. Applicable regulatory requirements are addressed in permit condition **3.2(D)**.

**6.4.2 ES-34 (Finishing Range #4) Compliance Demonstration**
Finishing Range #4 is used for the application of non-solvent based or solvent-based coatings on a fabric substrate using a knife over roll applicator. This range has a 4 mmBtu/hr natural gas direct-fired burner in the Dryer Section and a 3 mmBtu/hr natural gas direct-fired burner in the Curing Section. The range also has the added capacity of running a silicone coating that helps prevent adhesion between coated layers in rollstocking. Use of this coating produces small amounts of silica ($SiO_2$) that entrains in the effluent stream as particulate matter, adding to the PM emissions derived from natural gas combustion in the dryers.

The silica is derived from silioxane monomers suspended in the volatilized portion of the silicone coating as the finished product is cured in the drying oven. As the coated web travels through the oven, a portion of the monomers in this vapor are re-circulated through the open-flame zone and combusted. This combustion produces a fine silica ash that collects as fibrous deposits in the walls of the exhaust stack, necessitating its periodic removal. It is this removal process that produces the potential for this material ("fluff") to be released in large amounts into the offsite neighborhood surrounding the facility.

Originally installed to control talc dusting, the previously permitted method for web anti-blocking that was replaced by the silicone formulation, the old pulse-jet baghouse (CD-121) was left in place to mitigate this silica dust from reaching the ambient air during the stack cleaning process. As part of permit modification TV-13 in 2010, the facility replaced CD-121 with a Donaldson-Torit Dust Collector, the current control device CD-122. The #4 Finishing Range (ES-34) is one of only two (2) emission sources at the facility (the other being ES-35) that produces these $SiO_2$ particulates. There are no other applicable requirements to the use of CD-122 in the permit 00460-TV-16.

From the original TV-1 application and data from the CY2014 inventory, the maximum hourly production rate for the range is:

$$(120\ ft/min)(6.5\ ft)(yd^2/9\ ft^2)(60\ min/hr) = \mathbf{5200\ yd^2/hr}$$

The fabric weight from the original TV application is 2.7 lb/$yd^2$, and is assumed not to have changed. Therefore, on a ton/hr basis the max production rate for the range is:

$$(5200\ yd^2/hr)(2.7\ lb/yd^2)(1\ ton/2000\ lb) = \mathbf{7.02\ ton/hr}$$

Therefore, the allowable emission rate according to Rule 3D .0515 is:

$E = 4.10 \times (7.02)^{0.67}$ = ***15.13 lb/hr***

The PM emission factor for ES-34 used in all previous Title V permitting was derived from a performance test performed in October 1992. However, during this permit review it was found that this factor was derived from testing particulates from a process where the application of talc was applied to the finished web to control anti-blocking. This process, by their own admission, has long since been discontinued at Highland, replaced by the current silicone coating method. As a result of this oversight, Highland was unable to provide a more appropriate factor based on the current process to assist in the calculation of particulates.

In the absence of an appropriate factor, Dow Corning, the supplier of their silicone coating components LCF-4300 parts A & B, was contacted by Highland for assistance. The supplier was unable to provide an explicit factor as well. However they were able to provide a maximum percentage by weight of silioxane monomer D4 & D5 available for volatilization due to curing the finished product: 0.2%. Unfortunately, Dow was unable to provide an estimate of the volatilization percentage of the total silicone mixture at the oven temperatures at Highland, nor was the fraction of volatilized monomers actually combusted in the oven known due to lack of concrete data about the production conditions of the product. As a result, all known volatile components of the mixture were summed, yielding a total estimated percent available for vaporization in the oven at 1.6%.

To fill in the blanks and compute an emission rate for ES-34, EAP used data from a Title V modification of Finishing Line #1 (now #18) concurrently in process with this TV renewal. In this modification application, Highland is proposing to add the same silicone coating process run on Finishing Line #4 (and #5) to a larger throughput machine. Now given the maximum throughput rate of a machine and amount of coating per unit area (from the permit application), the data from Dow was able to be used to estimate PTE of PM assuming a 100% conversion rate of D4 & D5 monomer to $SiO_2$ dust.

Applied to ES-31, the uncontrolled $SiO_2$ emissions were determined to be 0.0218 lb/hr at a production rate of 16866.67 $yd^2$/hr (refer to this spreadsheet for more details). The $SiO_2$ emission factor on a lb/$yd^2$ basis from the EAP calculations is therefore:

$(0.1627\ lb/hr)(1\ hr/16866.67\ yd^2)$ = ***9.65e -06 lb/$yd^2$***

Based on the maximum production rate for ES-34 of 5200 $yd^2$/hr, the maximum uncontrolled $SiO_2$ emission rate is therefore estimated to be:

$(9.65e\text{-}06\ lb/yd^2)(5200\ yd^2/hr)$ = ***0.05 lb/hr***

This uncontrolled $SiO_2$ emission rate of is well below 1% the 3D .0515 standard of 15.13 lb/hr based on current max production.

The Donaldson-Torit Dust Collector (CD-122) is rated at >99% efficiency, so with control, the max PM emission rate is:

$(0.01)(0.1627\ lb/hr)$ = ***1.63e-03 lb/hr***

The total particulate matter emission factor for natural gas combustion from Table 1.4-2 of AP-42 ($5^{th}$ edition) is 7.6 lb/$10^6$ $ft^3$ which converts to 0.00745 lb/mmBtu based on the AP-42 recommended 1020 Btu/$ft^3$ heat content of natural gas. Potential PM emissions from ES-34's two (2) natural gas burners (totaling 7 mmBtu/hr) can be calculated as:

*(0.00745 lb PM/mmBtu) x (7 mmBtu/hr) =* ***0.0521 lb/hr***

Adding the 0.0521 lb/hr max natural gas combustion PM emissions to the 0.05 lb/hr uncontrolled $SiO_2$ emissions results in a total PM emission rate of slightly more than **0.1 lb/hr,** which is still **less than 1%** of the the 3D .0515 standard of 15.13 lb/hr based on the current (CY2014) maximum production rate. Therefore, the use of the Donaldson-Torit Dust Collector (CD-122) is not required in order for ES-34 to comply with Rule 3D .0515. It will remain on the permit as being required to be in use when running silicone-based coatings solely for the purpose of eliminating silica "fluff" emissions from the stack.

### 6.4.3 ES-35 (#5 Finishing Range) Compliance Demonstration

As they run the same silicone coating substrate, the emission rate of silica ($SiO_2$) from ES-35 is expected to mirror that of ES-34. The only difference between the two would be based on throughput capacity. The maximum capacity on Finishing Range #5 from the CY2014 NEI is 95 yd/min, and the maximum web width is approximately 2.56 yd. The fabric weight is 2.7 lb/yd$^2$. Therefore, the allowable emission rate **(E)** according to Rule 3D .0515 is:

*(95 yd/min)(2.56 yd)(60 min/hr) =14,592 yd$^2$/hr*
*(14,592 yd$^2$/hr )(2.7 lb/yd$^2$)(1 ton / 2000 lb) = 19.69 ton/hr*
*E = 4.10 x (19.69)$^{0.67}$ =* ***30.19 lb/hr***

The EAP calculated emissions factor applied to acquire PM PTE estimates for ES-34 is an appropriate surrogate due to the identical operating capacities of ES-34 and ES-35. Therefore, applying the factor to ES-35, the maximum uncontrolled emission rate of $SiO_2$ as a particulate from ES-35 yields 0.141 lb/hr, or approximately **0.06%** of the machine-specific 3D.0515 standard; well within the margin of compliance:

*(9.65e-06 lb/yd$^2$)(14,592 yd$^2$/hr) =****0.141 lb/hr***

With all emissions required to be directed to the Donadson-Torit dust collector (CD-122, with a removal efficiency of no less than 99%), the actual PM emissions from silica fall well below 1% of the standard:

*(9.65e-06 lb/yd$^2$)(14,592 yd$^2$/hr )(1-0.99%) =* ***1.41e-03 lb/hr***

The total particulate matter emission factor for natural gas combustion from Table 1.4-2 of AP-42 (5$^{th}$ edition) is 7.6 lb/10$^6$ ft$^3$ which converts to 0.00745 lb/mmBtu based on the AP-42 recommended 1020 Btu/ft$^3$ heat content of natural gas. Potential PM emissions from the two (2) natural gas burners in operation on ES-35 total 22.5 mmBtu/hr. Calculating potential PM emissions from combustion on ES-35 yields 0.168 lb/hr. When added to the potential uncontrolled $SiO_2$ emissions, the combined PM emission rate for ES-35 remains well less than the 3D.0515 standard:

*(0.00745 lb PM/mmBtu) x (22.5 mmBtu/hr) = 0.168 lb/hr*
*0.168 lb/hr + 0.141 lb/hr =* ***0.309 lb/hr total uncontrolled PM from ES-35***

Therefore, the use of the Donaldson-Torit Dust Collector (CD-122) is not required in order for ES-35 to comply with Rule 3D .0515. It will remain on the permit as being required to be in use when running silicone-based coatings solely for the purpose of eliminating silica "fluff" emissions from the stack.

### 6.4.4 Compliance Demonstration for Direct-fired Natural Gas Burners Associated with ES-31, ES-33, and ES-35

The combustion of natural gas in the direct-fired ovens or dryers associated with ES-31, ES-

33, and ES-35 is the only source of PM emissions from these sources. The use of natural gas as the sole fuel combusted assures compliance with the 3D .0515 particulate matter standard.

**6.4.5 Monitoring, Recordkeeping & Reporting Required for Compliance with 3D .0515**

Permit condition **3.2(D)(2)** requires that the Donaldson-Torit Dust Collector (CD-122) serving Finishing Range #4 (ES-34) be equipped with a differential pressure gauge which continuously indicates the pressure drop through the dust collector when in operation, and that the gauge be operated and maintained at all times in accordance with the manufacturer's recommendations. Compliance with this requirement is verified during annual inspections by Office personnel. Because the use of the dust collector is not required in order for ES-34 to comply with the PM standard of Rule 3D .0515, the permit does not require any recordkeeping or reporting with regard to Rule 3D .0515 or the dust collector other than the deviation reporting described below.

The use of only natural gas as fuel in the direct-fired ovens and dryers associated with ES-31, ES-33, and ES-35 assures compliance with the 3D .0515 particulate matter standard for these emissions sources. Therefore, the permit does not require any monitoring, recordkeeping or reporting with regard to Rule 3D .0515 other than the deviation reporting described below. However, excess visible emissions shall be grounds for the Office to require testing from these sources using appropriate U.S. EPA reference test methods for particulate matter as approved by the Office. The emissions from natural gas combustion shall be included in emission inventories.

A stated in permit condition **3.2(D)(3)**, on a semi-annual basis, the permittee is required to report all instances of deviations from the permit requirements for particulate emission sources regarding allowable emissions and differential pressure monitoring. The duration of these deviations must be clearly identified. The report will be submitted in writing to the Office by July 30th for the previous months of January through June, and by January 30th for the previous months of July through December. If no deviations have occurred, the permittee will be required to make this statement in the report.

## 7.0 PREVENTION OF SIGNIFICANT DETERIORATION – PSD AVOIDANCE [Rules 3Q.0315 and 3D.0530]

### 7.1 Sources Subject:

**ES-34 Finishing Range #4**
**ES-35 Finishing Range #5**
**ES-36 Finishing Range #6**
**ES-38 #9 Laminator**
**ES-61 Solvated Rubber Mixing and Storage**
**ES-62 Aqueous Coating Mixing and Storage**

### 7.2 Applicable Regulatory Requirements

The purpose of Rule 3D .0530 – Prevention of Significant Deterioration is to implement a program for the prevention of significant deterioration of air quality as required by 40 CFR 51.166. This facility is not presently a PSD permitted facility but qualifies as a major source for the purposes of tracking emission increases (from modifications or changes in the method of operation) to assure that the PSD significance levels are not compromised without a PSD application and review. The basis for this requirement is Rule 3Q .0315 – Avoidance Conditions. Rule 3D .0530 is also cited as the applicable regulation due to the fact that the facility would fall under the requirements of this rule and, possibly, be in violation of this rule should it exceed the limitations that were established in the permit for PSD avoidance purposes. PSD Avoidance provisions are addressed in Section **3.4** of the TV-16 permit.

For permitting and compliance demonstration purposes, sources have been grouped based on when they became subject to PSD avoidance requirements. Sources are grouped based on when they were installed as part of a facility modification and had a PSD less than significant increase avoidance limit applied of 79,000 lbs (39.5 tons) of VOC per year. Those source groups are as follows:

**Group 1: ES-34, ES-61, ES-62**
**Group 2: ES-35, ES-36, ES-61, ES-62**
**Group 3: ES-38**

A federally enforceable permit condition has been established in the permit limiting the emission of VOC from these emission unit groups to ***no more than 79,000 lbs per any consecutive 12-month period***. The permittee has shown continuous compliance with these limits through solvent use tracking (material balance), recordkeeping, and reporting (R013).

### 7.3 Monitoring & Recordkeeping Required for Compliance with 3Q.0315 & 3D.0530

To demonstrate compliance with the annual VOC emission limits to avoid PSD review, the permittee will be required to maintain records of all permitted VOC usage at the facility. The permittee will also be required to calculate and record VOC emissions for each month and the total VOC emissions for the previous 12 months.

For the sources controlled by the Cor-Pak thermal oxidizer, CD-42, emissions calculations incorporate the destruction efficiency of the control device based on the most recent performance testing. The Cor-Pak demonstrated 96.89% destruction efficiency via performance testing on November 9, 2006.

For sources controlled by the solvent recovery unit (SRU), CD-51, emissions calculations will be based upon the 95% minimum control efficiency required by NSPS, 40 CFR 60, Subpart VVV. The SRU demonstrated 98.17% destruction efficiency via performance testing completed on June 5, 1997. The VOC concentrations of the SRU and the Cor-Pak are both continuously monitored at their inlet and outlet, and the Cor-Pak's combustion temperature is continuously recorded as a parametric verification of its continued effectiveness. Monitoring and recordkeeping requirements of Compliance Assurance Monitoring (CAM) (to be discussed later in this review) and NSPS requirements also apply to the Cor-Pak and SRU and also the enclosures for ES-33, ES-34 and ES-36.

### 7.4 Reporting Required for Compliance with 3Q .0315 and 3D .0530

The permittee will be required to submit semi-annual reports of the monthly and 12-month VOC emissions from the facility for each of the previous months. VOC emissions and deviations from requirements will be reported semi-annually to the Office (report R013). The reports will include the total VOC emissions for each month and the 12-month rolling totals for each month as well as documentation of any deviations from applicable requirements.

### 7.5 Miscellaneous Administrative Revisions

The #10 coater (ES-39) and extrusion coater (ES-40) have been shut down, dismantled, and removed from service pending a complete removal from the production floor. Highland has requested these sources be removed from the permit and all other requirements. As ES-40 is the only source in Group #4, this group will be removed from recordkeeping and reporting requirements from the effective date of permit 00460-TV-16.

## 8.0 40 CFR 60, SUBPART VVV - STANDARDS OF PERFORMANCE FOR POYMERIC COATING OF SUPPORTING SUBSTRATES FACILITIES [Rule 3D .0524]

### 8.1 Sources Subject:

**ES-34 Finishing Range #4**
**ES-61 Solvated Rubber Mixing and Storage**
**ES-36 Finishing Range #6 (R&R only)**

## 8.2 Applicable Regulatory Requirements

Each coating operation or on-site coating mix preparation equipment used to prepare coatings for the polymeric coating of supporting structures at Highland is subject to Subpart VVV. From the rule (40 CFR 60.740(a)), "each coating operation" is defined as a separate affected "facility". Affected facilities are those that commenced construction, modification, or reconstruction after April 30, 1987, except during times when the coating mix preparation equipment or coating operations are used to prepare or apply "waterborne coatings" where the VOC content of the coating cannot exceed 9 percent by weight of the volatile fraction (40 CFR 60.740(d)(2)). As defined in 40 CFR 60.741, a "waterborne coating" must contain more than 5 weight percent water in its volatile fraction.

Subpart VVV (at 40 CFR 60.740(b)) states that "*any affected facility for which the amount of VOC used is less than 95 Mg per 12-month period is only subject to the requirements of 40 CFR 60.744(b), 60.747(b) and 60.747(c)*", which include only recordkeeping and reporting requirements. VOC usage of greater than 95 Mg (104.7 tons) each rolling 12-month period triggers additional conditions, including the addition of enclosures and controls. At Highland, Finishing Range #4 (ES-34), which began operation in 1989 and the Solvated Mixing Storage (ES-61), at the facility since 1971, have been permitted since the initial TV-1 permit (5/27/1998) as exceeding the 95 Mg VOC usage limit. As a result, these sources (facilities) are subject to all requirements of the Subpart.

Finishing Range #6 (ES-36) originally began operation at this facility in 1991. Prior to installation, it was manufactured and operated at a previous location prior to the NSPS, Subpart VVV applicability date, then moved to Highland in Kernersville. At that time, the facility demonstrated to the Office that no "reconstruction" (as defined in the NSPS general provisions) occurred upon transfer of this equipment. Therefore, NSPS was not applicable to ES-36, with a permit condition inserted at 3.3(B) to provide ES-36 a permit shield from NSPS Subpart VVV applicability. However, a minor modification to Finishing Line #6 in 2011 (issued as TV-12) resulting in an increase in emissions brought this equipment into Subpart VVV applicability.

Finishing Range #18 (ES-31) underwent a burner "replacement-in-kind" in 2013. The Office determined in 2015 that this activity did not result in a process modification. Therefore, ES-31 remains exempt from all requirements of NSPS Subpart VVV.

## 8.3 Finishing Range #4 (ES-34) Requirements

As stated in 8.2, going back to the initial TV-1 permit issued in 1998, ES-34 has historically been permitted based on Highland's original assumption that the facility uses greater than 104.7 tons of VOC per 12-month period. Reviewing the CY2014 NEI data for VOC emissions from ES-34, uncontrolled *air emissions* totaled approximately 93.2 tons during the calendar year. It can be reasonably assumed based on this number that the actual VOC *used* to produce these emissions would total well in excess of the 104.7 tons limit. Therefore, it is appropriate to continue the initial requirements for ES-34 that have propagated through each subsequent TV permit, with no revisions to the provisions included in TV-16 under Condition **3.3(A)**.

To comply with NSPS Subpart VVV for coating operations on ES-34 the permittee has chosen the alternative standard as described in 40 CFR 60.742(b)(2) requiring the installation, operation, and maintenance of a 100% enclosure around the coating operation, venting the captured VOC emissions from the total enclosure to a control device that is at least 95% efficient. There will be periods when ES-34 uses non-solvent formulations that fall below the 9% by wt. of the volatile fraction threshold. During these times, Range #4 is subject to Rule 3D .0958(e) which requires the use of a control device when one was used previously in order to comply with Rule 3D .0518, which has been repealed. In this case, they can route emissions to either the CorPak thermal oxidizer (CD-42), the SRU (solvent recovery unit system, CD-51), or both simultaneously.

For ES-34 (and ES-36, though not required), the permittee has installed and maintained a total enclosure meeting standards required under 40 CFR 60.743(b)(1). Both the Cor-Pak thermal oxidizer and the SRU system have demonstrated at least 95% efficiency in reducing emissions. The Cor-Pak demonstrated 96.89% destruction efficiency via performance testing on November 9, 2006. The SRU demonstrated 98.17% destruction efficiency via performance testing completed on June 5, 1997. The VOC concentrations of the SRU and the Cor-Pak are both continuously monitored at their inlet and outlet and the Cor-Pak's combustion temperature is continuously recorded as a parametric verification of its continued effectiveness.

### 8.4 Solvated Mixing Storage (ES-61) Requirements

As originally permitted in TV-1 (1998), Highland identified ES-61 as an on-site VOC mixing facility with the potential to use greater than 130 Mg (143.3 tons) per 12-month period, subject to Subpart VVV under 40 CFR 60.742(c)(1). As a result, compliance with the rule requires ES-61 to operate and maintain a cover on each piece of affected coating mix preparation equipment and vent VOC emissions from the covered mix equipment to a 95% efficient control device while preparation of the coating is taking place within the vessel. The covers must meet the requirements of 40 CFR 60.743(c)(1)(i) through (v) and procedures detailing the use of the covers must be posted in the area at all times. Venting emissions to the CorPak and/or SRU satisfies the control efficiency requirements under the rule. These provisions will remain unchanged in TV-16, under Condition **3.3(A)(1)(f).**

### 8.5 Monitoring and Recordkeeping Required for Compliance with 3D .0524

For ES-34 and ES-61, Highland is required, in accordance with NSPS Subpart VVV, to monitor and maintain records of control device parameters (e.g. temperature, efficiency, calibration, etc.) and enclosure parameters (e.g. fan amperages, computer interlocks, access door closures, etc) to ensure adequate control efficiency and capture efficiency. This monitoring and recordkeeping is required at all times when coatings with VOC content exceeding 9% by weight of the volatile fraction (including water) are being used. The monitoring and recordkeeping requirements specific to NSPS Subpart VVV are included in the renewal permit in permit condition **3.3(A)(2)**. In addition, permit condition **3.5** includes Compliance Assurance Monitoring (CAM) requirements for the Cor-Pak thermal oxidizer, SRU, and the ES-34 total enclosure. For Finishing Line #6 (ES-36), only VOC usage recordkeeping is required, with the caveat that the permittee report the first semiannual estimate in which their projected *or* actual VOC usage rises above the 95 Mg threshold. This would then trigger full Subpart VVV requirements for ES-36 that would require compliance with all provisions of the rule similar to those affecting ES-34. Since ES-36 already operates inside a total enclosure, as well as has its emissions ducted to control devices, Highland is well positioned in the event the additional provisions of Subpart VVV affect this facility. All permit conditions inserted into TV-13 (2011) at **3.3(B)** will remain unchanged for this renewal 00460-TV-16.

### 8.6 Reporting Required for Compliance with 3D .0524

As stated in permit condition **3.3(A)(4)**, the permittee is required to semi-annually report deviations from prescribed requirements and will comply with applicable Compliance Assurance Monitoring (CAM) requirements. ES-36 only has to report when and if their potential and/or actual VOC usage exceeds 95 Mg per 12-month rolling period as stated in condition **3.3(B)(2)**.

## 9.0 NESHAP Subpart GGGGG FOR GROUNDWATER REMEDIATION [Rule 3D .1111]

### 9.1 Sources Subject:

**ES-90 Groundwater Stripper**
**ES-91 Groundwater/Soil Air Sparger**

### 9.1.1 Background

The Office received an application from Highland Industries on February 28, 2006 to add two

groundwater remediation activities to its permit: A groundwater stripper and a groundwater/soil air sparger. Groundwater remediation activities at the site had been performed for many years by a previous site owner, Burlington Industries. Burlington was originally required to perform the remediation because one of its toluene storage tanks had leaked, contaminating the soil and groundwater. Remediation activity continued under Burlington's responsibility even after Highland acquired the site. Remediation activity ceased when Burlington went bankrupt. As part of the legal bankruptcy settlement, the remediation activities have become the responsibility of Highland Industries. Highland resumed remediation of the groundwater in May 2007 when operation of the new the groundwater stripper and groundwater/soil air sparger commenced with emissions from both sources controlled by the existing solvent recovery unit (CD-51).

### 9.1.2 Air Toxics and Applicability

The addition of the stripper and sparger systems to permit TV-7 in 2006 resulted in four TAPs being added as *de minimis* pollutants: chloroform, p-dichlorobenzene, perchloroethylene, and trichloroethylene. Emissions from ES-90 and ES-91 are controlled by the SRU. These pollutants are only emitted from the facility from groundwater remediation activities (ES-90 & ES-91) and were not included in any of the previous modeling demonstrations. These four pollutants continued to be included in Section 4 of the permit through revision TV-13 as *de minimis* TAPs, with facility-wide emissions less than the *de minimis* emissions limits of Rule 3Q .0711. Because ES-90 and ES-91 are affected sources covered by the 5G MACT, the HB 952, Section 1(a)(5)(a) exemption applies:

> *"Except as provided in sub-subdivision b. of this subdivision rules adopted pursuant to this subdivision that control emissions of toxic air pollutants shall not apply to an air emission source that is any of the following:*
> *1. Subject to an applicable requirement under 40 C,F.R Part 61 as amended.*
> *2. An affected source under 40 C.F.R. Part 63. as amended…."*

As a result, these, as well as all other TAPs/HAPs from the groundwater remediation system are exempt from local air toxics considerations. Their provisions were removed when Section 4 was deleted from the TV-14 permit, and will remain absent from this renewal 00460-TV-16.

### 9.1.3 Subpart 5G Regulatory Requirements (Monitoring/Recordkeeping/Reporting)

The groundwater remediation activities (ES-90 and ES-91) at Highland Industries are subject to the Site Remediation MACT (40 CFR Part 63, Subpart GGGGG). However, the actual total quantity of HAP (listed in Table 1 of 40 CFR Part 63, Subpart GGGGG, which is contained in the remediation material that the permittee extracts as part of the site remediation activity) is less than 1 megagram per year (1 Mg/yr). Because of this (as stated in 40 CFR 63.2881(c)), ES-90 and ES-91 are not subject to Subpart GGGGG except for the following recordkeeping requirement:

> *"The permittee shall prepare and maintain at the facility written documentation to support the permittee's determination of the total HAP quantity used to demonstrate compliance with the 1 Mg/yr HAP threshold described above. This documentation must include a description of the permittee's methodology and data the permittee used for determining the total HAP content of the material. This exemption may be applied to more than one site remediation at the facility provided that the total quantity of the HAP listed in Table 1 of 40 CFR Part 63, Subpart GGGGG, for all of the permittee's site remediations exempted under this provision is less than 1 Mg/yr."*

This Office has reviewed Highland's documentation at inspection and found that the source has never exceeded the threshold of 1 megagram per calendar year (Mg/yr) HAP. Consequently, only recordkeeping is required for Subpart GGGGG compliance. If Highland were ever to exceed the 1 Mg/yr threshold, the groundwater remediation activities (ES-90 and ES-91) would be subject to the full requirements Subpart GGGGG as applicable. All Subpart

GGGGG requirements remain unchanged from TV-14, addressed in permit **Section 3.6**.

## 10.0 40 CFR 63, SUBPART OOOO, NESHAPS FOR PRINTING, COATING, & DYEING OF FABRICS AND OTHER TEXTILES [Rule 3D .1111]

### 10.1 Affected sources & applicable regulatory requirements

**ES-31 Finishing Range #18**
**ES-33 Finishing Range #3**
**ES-34 Finishing Range #4**
**ES-35 Finishing Range #5**
**ES-36 Finishing Range #6**
**ES-38 #9 Laminator**
**ES-61 Solvated Rubber Mixing and Storage**
**ES-62 Aqueous Coating Mixing and Storage**
**ES-81 Toluene Storage Tanks**
**ES-82 Latex Storage Tanks**
**ES-83 Tote Storage**

### 10.2 Background

The Highland Industries facility is subject to 40 CFR Part 63, Subpart OOOO, the NESHAP for Printing, Coating, and Dyeing of Fabrics and Other Textiles. Specifically, the affected source at the facility consists of emissions units belonging to the web coating and printing subcategory of Subpart OOOO, as described in 40 CFR 63.4282(b). The regulated materials listed under this subcategory consist of all coating, printing, thinning and cleaning materials used in the affected source's operations. As stated in permit condition 3.7(A)(1), the permittee may demonstrate compliance with Subpart OOOO using any of the applicable compliance options listed in the Subpart, so long as the permittee satisfies all of the requirements applicable to the compliance option(s) used. This permit renewal #00460-TV-15 specifically describes standards, provisions and requirements for two compliance options: The "*Emission Rate Without Add-On Controls"* option and the "*Emission Rate With Add-On Controls"* option.

From the emission limit options listed in Table 1 of Subpart OOOO, Highland Industries has historically chosen to demonstrate compliance with the following limit: *Limit organic HAP emissions to the atmosphere to no more than 0.12 kg of organic HAP per kg of solids applied*. Highland has historically chosen the "Emission Rate With Add-On Controls" option to demonstrate compliance with this limit. As allowed by 40 CFR 63.4341(a), the permittee may include both controlled and uncontrolled web coating/printing operations in a group for which this option is used. As described in Table 2 of Subpart OOOO, Highland has been using the thermal oxidizer option combined with emission capture systems (permanent total enclosures, PTEs).

The Cor-Pak thermal oxidizer (CD-42) underwent performance testing in November 2006 and demonstrated a destruction efficiency of 96.89%. The PTEs serving the Cor-Pak are associated with the #4 Finishing Range (ES-34) and the #6 Finishing Range (ES-36). Both of these enclosures have demonstrated that they meet the PTE criteria of Method 204 of Appendix M to 40 CFR Part 51. As required by Subpart OOOO, the" Emission Rate With Add-On Controls" option, Highland has been using liquid-liquid material balances to calculate organic HAP emissions for all sources controlled by the Solvent Recovery Unit (CD-51).

### 10.3 Monitoring/Recordkeeping/Reporting

All Subpart OOOO semi-annual compliance reports (report #R232) submitted by Highland have demonstrated compliance with the "*0.12 kg of organic HAP per kg of solids applied*" emission limit. In addition, each of these reports has indicated that no deviations and no startups, shutdowns or malfunctions occurred during the reporting period. Highland has submitted all of these reports on-time and all inspections of the facility by Office staff have verified compliance with the Subpart OOOO work practice standards, operating limits and monitoring requirements. Inspections have also verified that the permittee is in compliance with the Subpart OOOO recordkeeping requirements. Finally, Highland Industries has

developed a Startup, Shutdown and Malfunction Plan as required by Subpart OOOO.

### 10.4 Miscellaneous Administrative Revisions

The extrusion coater (ES-40) has been shut down, dismantled, and removed from service pending a complete removal from the production floor. Highland has requested this source be removed from the permit and all other requirements. Subpart OOOO requirements can be found in **Section 3.7** of the 00460-TV-16 permit.

### 10.5 Applicability of 40 CFR Part 63, Subpart JJJJ NESHAP for Paper and Other Web Coating

According to the wording in 40 CFR 63.3300(f) of Subpart JJJJ, coating lines which are subject to 40 CFR Part 63, Subpart OOOO (NESHAP for Printing, Coating, and Dyeing of Fabrics and Other Textiles) are *not* considered affected sources subject to Subpart JJJJ. Since all of the web coating lines at Highland's Kernersville facility are subject to Subpart OOOO, as described in 40 CFR 63.4281, none are subject to Subpart JJJJ.

## 11.0 CONTROL OF TOXIC AIR POLLUTANTS [Rule 3D .1100] (Local Enforcement Only)

### 11.1 Background & Applicable Regulatory Requirements

Through permit 00460-TV-13, all provisions of FCAQTC Section 3D.1100 applied facility-wide for each TAP that has been triggered and reviewed for comparison with the acceptable ambient level (AAL) guidelines set forth in this section of the code. However, House Bill 952 / Session Law 2012-91 (NC GS 143-215.107), dated June 28, 2012, removed the requirement for sources covered under any 40 CFR 63 Subparts from the requirements of rules governing TAPs. Since all emissions sources at the facility are covered by MACT, exemptions under HB952 may apply for all NC State TAPs. The provisions of HB952 / Session Law 2012-91 are implemented by exemption 3Q .0702(a)(27)(B) and the director's discretion under 3Q .0712.

00460-TV-13 included local air toxics conditions in Section 4. Because of Highland's request to be covered under the exemptions granted by HB952 / Session Law 2012-91 with the modification of Finishing Line #6, Section 4 was removed from the permit issued as TV-14 in 2013. However, due to requirements listed in Rule 3Q .0712 that the Office completes a determination that air toxics do not cause or contribute to any significant ambient air concentration that may adversely affect human health, these specific provisions (described below) were retained in permit modifications 00460-TV-14 in 2013, moving to Condition 3.7(E).

As part of the minor modification application submitted to EAP on November 6th, 2015, EAP received a letter from Highland dated November 23rd, 2015 formally requesting the removal of all TAPs limits for MACT/NESHAP affected sources at the facility, effective upon issue of the revised permit. Referring to the demonstration completed for the 00460-TV-15 permit (attached to 00460-TV-16 as Appendix B), this request was granted, with conditions 3.7(E)(2) and 3.7(E)(3)(b) removed, with the remaining general and recordkeeping air toxics conditions 3.7(E)(1) and 3.7(E)(3)(a) retained in the 00460-TV-15 minor modification permit.

### 11.2 Risk Assessment Dispersion Modeling for TAP Limits Removal

On November 23, 2015, this Office received a formal request from Highland requesting removal of all State and Local TAPs conditions and emissions limits in section **3.7(E)** of the 00460-TV-14 permit. The limits, for toluene, benzene, and methyl ethyl ketone (MEK) emitted exclusively from the CorPak stack (EP-42-1), were derived from a US EPA Industrial Source Complex – Short Term, Version 3 (ISCST3) air dispersion modeling study submitted by Highland and approved by this office on February 3, 1997. They were established in the 00460-TV-12 operating permit (Section 4.6) to ensure post-controlled emissions added to the CorPak effluent stream from the Finishing Range #6 (ES-36) minor modification in 2011.

Since this Office is tasked with reviewing air toxics that would present an unacceptable risk

to human health, it was decided that an updated facility-wide modeling review would be performed for these pollutants using the latest US EPA Aermod dispersion model prior to removing the provisions in question. Results of this modeling review, run with the most recent meteorology, terrain, and facility engineering data available, would be compared with the current NC ambient standards (AALs) to ensure that removing these limits was reasonable and proper, and that the "human health" exterior to the facility property boundaries would continue to be protected.

The results of the Aermod modeling (summarized in table ***11.2*** below) show that the facility is well under the 3D.1111 AALs for all pollutants and their averaging periods. As a result, Highland's request to removal all previously established limits and conditions thereof will continue as removed from permit 00460-TV-15. This operating permit renewal 00460-TV-16 will retain the EAP's basic TAP recordkeeping requirements as specified in conditions 3.7(E)(1) and 3.7(E)(3)(a) of 00460-TV-15, moved to **Conditions 3.2(E)(1) and 3.2(E)(2)** respectively in the new permit. No reporting of emissions is required specifically for air toxics purposes. A summary of the Aermod modeling review performed for minor modification permit 00460-TV-15 is attached as **Appendix B** of this Statement of Basis.

**Table 11.2: Air Toxics AERMOD Analysis for Highland Industries, Inc.**

| POLLUTANT | CAS # | Model Used | Averaging Period | Max Modeled Concentration ($mg/m^3$) | Allowable Ambient Limit (AAL, $mg/m^3$) | % OF AAL |
|---|---|---|---|---|---|---|
| Toluene | 108-88-3 | AERMOD | 1 hour | **3.0** | **56** | 5.0 |
| | | | 24 hour | **0.8** | **4.7** | 17.7 |
| MEK | 78-93-3 | AERMOD | 1 hour | **0.04** | **88.5** | 0.0 |
| | | | 24 hour | **0.03** | **3.7** | 0.1 |
| Benzene | 71-43-2 | AERMOD | Annual | **$1.2e^{-05}$** | **$1.2e^{-04}$** | 9.8 |
| Comments: *Model run with 2014 meteorology only due to the maximum modeled concentrations for all pollutants peaking below 50% of their respective AALs.* | | | | | | |

## 12.0 OTHER APPLICABLE REQUIREMENTS

### 12.1 Compliance Assurance Monitoring (CAM) [Rule 3D .0614]

#### 12.1.1 Affected Sources & Applicable Regulatory Requirements

Compliance Assurance Monitoring (CAM) requirements for ES-33, ES-34, ES-36 and ES-61 are included in permit condition **3.5**. The monitoring requirements involve the Cor-Pak thermal oxidizer (CD-42), the Solvent Recovery Unit, SRU, (CD-51) and the enclosures for the #3 Finishing Range (ES-33), the #4 Finishing Range (ES-34), and the #6 Finishing Range (ES-36). The overall applicability of CAM is summarized in the table on the following page.

| Emission Source | Enclosure? | Control Device | Applicable Requirements with Respect to CAM |
|---|---|---|---|
| **ES-33**: #3 Finishing Range | Yes | SRU | **[3D .0958(e)] -** VOC Work Practices - 3D .0518(d) |
| **ES-34**: #4 Finishing Range | Yes | SRU or Cor-Pak | **[3D .0958(e)]** - VOC Work Practices - 3D .0518(d)<br>**[3D .0530, 3Q .0315]** - PSD Avoidance<br>**[3D .0524]** - NSPS Subpart VVV |
| **ES-36**: #6 Finishing Range | Yes | SRU or Cor-Pak | **[3D .0958(e)]** - VOC Work Practices - 3D .0518(d)<br>**[3D .0530, 3Q .0315]** - PSD Avoidance |
| **ES-61**: Solvated Rubber Mixing and Storage | No | SRU | **[3D .0958(e)]** - VOC Work Practices - 3D .0518(d)<br>**[3D .0530, 3Q .0315]** - PSD Avoidance<br>**[3D .0524]** - NSPS Subpart VVV |

**12.1.2 Compliance Provisions**

As described in 40 CFR Part 64, CAM applies to emission sources that use a control device to comply with an applicable requirement. As stated in 40 CFR 64.2(b)(1)(i), CAM requirements do not apply to emission limitations or standards proposed after November 15, 1990 pursuant to section 111 (NSPS) or section 112 (NESHAP) of the Clean Air Act. NSPS and NESHAP regulations proposed after that date are assumed to include monitoring equally as stringent as CAM. The NESHAP for Printing, Coating, and Dyeing of Fabrics and Other Textiles (the Fabric Coating MACT, 40 CFR 63 Subpart OOOO) was proposed on July 11, 2002. CAM requirements are therefore not triggered by the HAP limitations/standards in Subpart OOOO. The NSPS Standards of Performance for Polymeric Coating of Supporting Substrates Facilities (40 CFR 60 Subpart VVV) was proposed April 30, 1987, so Subpart VVV (which pertains to VOC) is subject to CAM.

The CAM requirements only apply to emission sources with uncontrolled potential emissions greater than the major source threshold for the pollutant or pollutants being controlled. Based on information provided in the Title V renewal application submitted by Highland Industries and reviewed by the Office, ES-33, ES-34, ES-36 and ES-61 are all Pollutant Specific Emission Units (PSEUs) subject to the CAM Rule (<40 CFR Part 64>, Rule 3D .0614) because their uncontrolled potential emissions of VOC are greater than the 100 ton/year major source threshold for VOC. Furthermore, based on information provided in the Title V renewal application, even the controlled potential VOC emissions of each of these PSEUs is greater than 100 tons/year, which means that each of the PSEUs qualifies as a "Large PSEU" subject to the increased monitoring requirements of 40 CFR 64.3(b)(4)(ii). For PSEUs subject to 40 CFR 64.3(b)(4)(ii), for each parameter monitored under CAM the permittee is required to collect four or more data values equally spaced over each hour. The control device and enclosure monitoring requirements in permit **Section 3.5** satisfy this requirement.

**12.1.3 Improved Monitoring Pursuant to 40 CFR 64.7(e)**

As a result of a violation (discovered on 10-25-2006) due to the failure of the Cor-Pak thermal oxidizer (CD-42), an application (dated April 2, 2007) revising the CAM requirements for this control device was submitted by Highland Industries in accordance with 40 CFR 64.7(e) "Documentation of Need for Improved Monitoring". The requirements of 40 CFR 64.7(e) were subsequently incorporated into permits TV-5 through TV-10 as General Condition **2.60**, and TV-11 through TV-14 as General Condition **2.57**. This condition states:

> *"After approval of the CAM plan, if the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while*

*providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the Office and, if necessary, submit a proposed modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conduction monitoring and collecting data, or the monitoring of additional parameters."*

To implement these requirements, Highland improved the CAM Plan for the Cor-Pak thermal oxidizer by increasing the required combustion chamber temperature from 1300 ºF to 1400 ºF and by adding continuous VOC monitors on the inlet and outlet to the oxidizer. The VOC monitors are Model 650 flame ionization detectors (FIDs) manufactured by Control Instruments, Inc. The inlet and outlet concentrations from the FIDs are used to continuously calculate the destruction efficiency of the Cor-Pak. If the combustion chamber temperature drops below 1400 ºF or the destruction efficiency drops below 95% (based on 3-hour rolling averages), the controlled equipment (ES-34 or ES-36) will automatically shut down. These changes to the CAM plan have been retained in this renewal permit 00460-TV-16. The CAM requirements related to the Cor-Pak thermal oxidizer are included in permit condition **3.5(B)(1)(a)**.

### 12.1.4 Recordkeeping Required for Compliance with CAM

As stated in permit condition **3.5(C)**, Highland is required to maintain records of:

- the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility;
- any malfunction of the air pollution control equipment; or
- any periods during which a continuous monitoring system or monitoring device is inoperative, and
- per 3Q.0508(j), the operating scenario under which these sources are operating (e.g. solvated or aqueous), as well as any changes between each scenario.

### 12.1.5 Reporting Required for Compliance with CAM

Highland is required to report all deviations from CAM requirements semi-annually. Condition **3.5(D)** has been added to the 00460-TV-16 permit to better match the general reporting requirements specified in 40 CFR 64.9.

## 12.2 Control and Prohibition of Odorous Emissions [Rule 3D .0522] (Local Enforcement Only)

This regulation applies to all facilities and prohibits the emissions of odors beyond the property lines that are harmful, irritating or which unreasonably interfere with the use and enjoyment of any persons properties or living conditions, or any public properties or facilities.

Violation of this regulation is determined by the Office upon investigation of a complaint. There is not currently a requirement for the permittee to perform any monitoring/recordkeeping/reporting activities for this rule. Any future requirements will only be in response to complaints received by this Office.

The Office has not received any verifiable odor complaints against Highland since March 1993 when a Notice of Violation was issued to Highland in response to an odor problem. The Office investigated two complaints about odor in the vicinity of Highland in 2001, but there was no evidence found attributing the perceived odors directly to the Highland facility. More recently, two (2) on-site visits by Office staff conducted in support of the scheduled biennial full compliance evaluation on May 19th, 2015 and June 22nd, 2015 detected no odors emanating from the facility.

Based on Highland's use of VOC control devices (Solvent Recovery Unit and Cor-Pak

thermal oxidizer) and their recent good track record regarding odor control, the Office fully expects Highland to remain in compliance with Rule 3D .0522. Requirements under the rule are addressed in permit condition **2.39**.

## 13.0 PART II: AIR QUALITY CONSTRUCTION AND OPERATION PERMIT

### 13.1 Background & General Information

Part II of the renewal permit includes authorization for two (2) modification projects that were initially incorporated in the previous permits 00460-TV-14 and 00460TV-15. The changes requested in the permit applications for TV-14 and TV-15 were processed as Minor Modifications in accordance with Rule 3Q .0515. This is because these changes did not violate any applicable requirement, did not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit, was not a modification under Title I of the Clean Air Act, and did not result in any exceedance of the emissions limits allowed under the existing permits.

These types of modifications do not require public notice or US EPA review. However, copies of the final TV-14 and TV-15 permits have been sent to EPA to update their files. Conditions for both projects have been unshielded pending the public / EPA review process for the draft

renewal permit 00460-TV-16. Once this permit becomes final, a permit shield will be extended to these, as well as all unshielded conditions previously listed in section 1.2 of 00460-TV-15 (see Section 15.0 below).

### 13.2 Phenolic & Melamine Coating Process Modification

**Section 3.1** brings forward the modification permitted in 00460-TV-14 adding a phenolic resin coating process and a melamine resin coating process to Finishing Range #4 (ES-34). The two resin coatings will be applied via a “dip coating” technique, which is new to ES-34. The frame will retain the ability to apply traditional coatings that use the “knife roll over” application technique. The modification involves no changes to the total enclosure around the frame. Emissions from the two resin coating processes will be controlled by the existing Cor-Pak thermal oxidizer (CD- 42). The resin coatings will be mixed at the frame with the pre-mixed ingredients stored in non-vented containers. Therefore, it is assumed that all air emissions will be emitted from the controlled finishing frame enclosure. Because the modification project has not yet been completed, (per the request of the permittee) the Office granted an 18-month extension through December 22$^{nd}$, 2016. No further changes from pervious permitting will be included in 00460-TV-16.

### 13.3 Silicone Knife-coating Process Modification

**Section 3.2** brings forward the minor modification permitted in 00460-TV-15 adding to Finishing Range #18 (ES-31) the ability to knife-coat textile substrates with silicone, the same process as is currently permitted to run on Finishing Ranges #4 and #5 (ES-34 & ES-35). Because this process will add only trivial amounts of PM, VOC, and HAP/TAP, the emissions from this unit will remain uncontrolled. Because finishing Range #18 is already subject to 40 CFR 63, Subpart OOOO (the “polymeric coatings” MACT), work practices, recordkeeping, and reporting requirements will not change for this source, and no further revisions to previous permitting will be required for renewal permit 00460-TV-16

## 14.0 INSIGNIFICANT ACTIVITIES [Rule 3Q .0503]

The insignificant activities listed in the application have been reviewed and verified. Although each activity is not listed in the Title V Operating Permit, a general condition (permit condition **2.30**) is placed in the permit stating that all insignificant activities shall comply with the applicable requirements. A list of the insignificant activities will be included as **Appendix A** to the permit renewal 00460-TV-16 (Insig_Activity_00460TV16.doc).

## 15.0 PERMIT SHIELD [Rule 3Q .0512]

In accordance with 3Q .0512, general Condition **2.7** of the Title V Operating Permit will contain a provision stating that compliance with the terms, conditions, and limitations of the Title V permit shall be deemed in compliance with applicable requirements specifically identified in the permit, as of the date of permit issuance. If the permit does not expressly state that a permit shield exists then it shall be presumed not to provide such a shield. Since 00460-TV-16 is a full renewal undergoing EPA review, all previous provisions listed in Table 1.2 will be deleted. The table will remain in the permit as a placeholder for subsequent potential permit shield tracking.

**16.0 PUBLIC NOTICE AND EPA REVIEW [Rule 3Q .0521]**

Pursuant to Rule 3Q .0521, a notice of the draft Title V Operating Permit shall be placed in a newspaper of general circulation in the area where the facility is located and posted on the Office website. The notice shall provide for a 30 day public notice period and a public hearing if requested by the public. Copies of the public notice shall be sent to persons on the current Title V mailing list and the US EPA. Concurrent with the 30 day public notice period, the draft permit shall be reviewed by EPA Region IV for a period of 45 days. Following closure of the public notice period and subsequent approval by the EPA, the permit will be available for final approval and issuance by this Office.

**17.0 COMMENTS/RECOMMENDATIONS**

The Case Manager and reviewer of this application hereby certifies that the facility is in compliance with the renewal permit as written, and recommends the Title V Operating Permit #00460-TV-16 be issued forthwith upon EPA approval.

Reviewed By: _____ Date Completed: _____

Approved By: _____ Date Approved: _____

**APPENDIX A to 00460-TV-16**

# Insignificant Activities List
# Highland Industries, Inc., Premise #00460

**2016**

As provided in Rule 3Q .0503(7) and (8), certain air emission sources are considered insignificant activities and are not listed on the permit. However, insignificant activities because of size or production rate [3Q .0503(8)] are required to be listed in the initial permit application and with each request for renewal. The following list summarizes the insignificant activities because of size or production rate provided in the Title V permit application and the insignificant activities because of category . Insignificant activities are not exempted from any applicable requirement or from demonstrating compliance with any applicable requirement.

| **Emission Source ID No.** | **Emission Source Description** | **Insignificant Because of: Category or Size/Production Rate** |
|---|---|---|
| N/A | Hot Slitter Machines | Size/Production Rate |
| N/A | Hot Oil Burner for Lamination Machines, natural gas fired, 1.6 mmBtu/hr maximum heat input | Size/Production Rate |
| N/A | Five (5) Make-Up Air Heating Units used only for human comfort heat (each less than 10 mmBtu/hr maximum heat input, natural gas fired) | Category |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

# Forsyth County Office of Environmental Protection and Assistance
# AIR COMPLIANCE ANALYSIS SUMMARY SHEET

| | | | |
|---|---|---|---|
| **FACILITY:** | **HIGHLAND INDUSTRIES, INC.** | **DATE:** | **11/23/2015** |
| **PREMISE NUMBER:** | **00460-TV-15** | **CASE MGR:** | **PCM** |
| **LOCATION:** | **Kernersville** | **REVIEWED BY:** | **PCM** |

| **Permit Type (Check all that apply):** | | | **New** | **Renewal** | **Modification** |
|---|---|---|---|---|---|
| | | **SMALL "B" OPERATING PERMIT** | | | |
| | | **SYNTHETIC MINOR PERMIT** | | | |
| | **X** | **TITLE V PERMIT** | | | **X** |
| | | **PSD MAJOR PERMIT** | | | |
| | **X** | **AIR TOXIC DEMO / OTHER** | **N** | **COLOCATED (Y/N)** | |
| **Modeling Analysis:** | | **CRITERIA / AAQS** | | **PSD INCREMENT** | |
| | **X** | **TAPS** | | **TAPR (DE MINIMIS)** | |

**EXECUTIVE SUMMARY:**
Highland Industries Kernersville Finishing Plant is a specialty textile processing facility involved with coating and modifying textile substrates for use in the automotive, medical device, and other assorted manufacturing concerns. It is permitted in Forsyth County as a Title V major facility for VOCs.

**PROJECT DESCRIPTION:**
As part of a minor modification review for Finishing Range #18, Highland has officially requested the removal of all specific TAPs limits from the renewal permit, since all sources at the facility are currently covered by 40 CFR 63, Subpart OOOO. This modeling project has been undertaken under the auspices of 3Q .0712 to determine if removing these toluene, benzene, and methyl ethyl ketone (MEK) limits poses an "unreasonable risk to human health".

**SUMMARY OF ANALYSIS & RESULTS:**
The modeling analysis was performed using the latest US EPA Aermod dispersion modeling system, with the most current NCDAQ processed meteorology and USGS 1.9" digital terrain data. The stacks modeled were the actual sources of the 3 pollutants of concern, their parameters derived from latest information submitted by the facility. The input emission rates were obtained (with the exception of EP-81F, Virgin Toluene Tank) from the CY2014 NEI, which were within a few percent of the historical maximum throughput rates. Upon running the model, maximum concentrations for all pollutants were well below their respective 3Q.1111 AALs. With assurance that they would not be a risk to human health as modeled, permit conditions specific to these 3 TAPs may be removed from permitting considerations in 00460-TV-15.

| **TOXIC AIR POLLUTANTS MODELING ANALYSIS** | | | | | | |
|---|---|---|---|---|---|---|
| **POLLUTANT** | **CAS #** | **Model Used** | **Averaging Period** | **Max Modeled Concentration ($mg/m^3$)** | **Allowable Ambient Limit (AAL, $mg/m^3$)** | **% OF AAL** |
| Toluene | 108-88-3 | AERMOD | 1 hour | **3.0** | **56** | 5.0 |
| | | | 24 hour | **0.8** | **4.7** | 17.7 |
| MEK | 78-93-3 | AERMOD | 1 hour | **0.04** | **88.5** | 0.0 |
| | | | 24 hour | **0.03** | **3.7** | 0.1 |
| Benzene | 71-43-2 | AERMOD | Annual | **$1.2e^{-05}$** | **$1.2e^{-04}$** | 9.8 |
| Comments:<br>*Model run with 2014 meteorology only due to the maximum modeled concentrations for all pollutants peaking below 50% of their respective AALs.* | | | | | | |

| TOXIC AIR POLLUTANTS MODELED EMISSION RATES (LBS/HR) | | | | |
|---|---|---|---|---|
| **Emission Point ID** | **Modeled Stack ID** | **Toluene** | **Benzene** | **MEK** |
| | | **108-88-3** | **71-43-2** | **78-93-3** |
| EP-21-1, Boiler Stack | ES21 | 1.653E-06 | 1.021E-06 | - - - |
| EP-31-1, Finishing Range #18 / Stack A(1) | ES31 | 1.542E-06 | 9.523E-07 | - - - |
| EP-33-1, Finishing Range #3 Dryer Exhaust | ES33 | 5.013E-07 | 3.096E-07 | - - - |
| EP-34-3, Finishing Range #4 Dryer Exhaust | ES34DRY | 5.139E-07 | 3.174E-07 | - - - |
| EP-34-4, Finishing Range #4 Curing Section | ES34CURE | 3.854E-07 | 2.381E-07 | - - - |
| EP-35-1, Finishing Range #5 Coating Exhaust | ES35COAT | 1.472E-06 | 9.094E-07 | - - - |
| EP-35-2, Finishing Range #5 Heat-set Exhaust | ES35HEAT | 2.209E-06 | 1.364E-06 | - - - |
| EP-42-2, CorPak Oxidizer(2) | CORPAK | 1.028E-06 | 6.348E-07 | 0.2924 |
| EP-81.1, Virgin Toluene Tank(3) | ES81 | 1.110E-01 | 6.320E-06 | - - - |
| EP-91-1, Groundwater Sparger | ES91 | 1.149E-04 | - - - | - - - |
| EP-51-1, Solvent Recovery Unit (SRU) | SRU | 4.3680 | 5.616E-04 | 4.785E-03 |
| Facility-wide Totals: | | **4.4790** | **5.736E-04** | **0.2972** |

Comments:
*(1) 31-1 (Stack A) is the worst-case representative stack of the five ES-31 stacks for modeling purposes.*
*(2) CorPak emissions are from ES-34 and ES-36 only (no other source is routed to the oxidizer).*
*(3) Emission rates for toluene from ES-81F (Virgin Toluene Tank) were obtained by using working loss calculations originally submitted by the facility for their February 1997 modeling demonstration.*

**MODEL SETUP / PARAMETERS:**

| AERMOD MODEL SETTINGS | |
|---|---|
| AERMOD EPA Version: | 15181 |
| Processing: | Default |
| Scheme: | Rural |
| Projection & Datum: | UTM Zone 17N, NAD83 (GRS-80 ellipsoid) |
| Domain Extents: | 4000m x 4000m |
| Domain Origin (SW): | 581654.48E/ 3995703.58N |
| Receptor Grid Types: | Plant boundary, Fenceline, Uniform Polar, Uniform Cartesian |
| Plant Boundary (PB) Spacing: | 10m, primary & intermediate (127 receptors) |
| Fenceline Grid (FG) Spacing: | 10m, single tier (562 receptors) |
| Uniform Cartesian (UC) Grid: | 750x750m, 50m spacing, anchored at 583262E / 3997347N |
| Uniform Polar (UP) Grid: | 36 10° radials, 5 rings to 2km, anchored at 583655E / 3997704N |
| Total Receptors: | 1125 |
| AERMAP EPA Version: | 11103 |
| Elevation Input Type: | USGS 1/9” National Elevation Dataset (NED) |
| NED / DEM ID / QUAD: | Kernersville |
| Format: | GeoTIFF World File |
| Processing Default: | Elevated Terrain, Inverse Distance Interpolation |
| AERMET EPA Version: | 14134 |
| Met Year: | 2014 |
| Surface Station: | KGSO – Piedmont Triad International Airport, NC |
| WMO ID: | 72317 |
| Tower Base: | 270 m |
| Observational Period: | Hourly (augmented) |
| Upper-air (UA) Station: | KGSO – Greensboro, NC |
| WBAN ID: | 13723 |
| Levels Reported: | Mandatory & Significant |
| Aersurface: | Yes (NCDEQ) |
| Aerminute: | No |

| MODELED POINT SOURCE PARAMETERS | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STACK ID | DATE LAST MODELED | LOCATION (UTM)[2] | | BASE ELEVATION (M) | STACK HEIGHT (M) | STACK DIAMETER (M) | EXIT VELOCITY (M/S) | EXIT TEMP (K) | DISCHARGE ORIENTATION | RAIN CAP? (Y/N) | BUILDING DIMENSIONS & PROPERTY LINE DISTANCE (AERSCREEN ONLY) | | | |
| | | EAST (M) | NORTH (M) | | | | | | | | HT (FT) | LTH (FT) | WTH (FT) | PROP LINE (FT) |
| ES21 | 11/23/2015 | 583702.3 | 3997673.3 | 306.26 | 8.50 | 0.61 | 9.70 | 505 | Gooseneck[1] | N | -- | -- | -- | -- |
| ES31 | 11/23/2015 | 583675.1 | 3997729.2 | 307.32 | 13.14 | 0.85 | 9.69 | 367 | Vertical | N | -- | -- | -- | -- |
| ES33 | 11/23/2015 | 583637.0 | 3997722.4 | 307.29 | 13.08 | 1.10 | 0.001 | 380 | Vertical | Y | -- | -- | -- | -- |
| ES34DRY | 11/23/2015 | 583634.6 | 3997711.7 | 307.10 | 11.58 | 0.82 | 0.001 | 339 | Vertical | Y | -- | -- | -- | -- |
| ES34CURE | 11/23/2015 | 583629.6 | 3997727.5 | 307.42 | 11.28 | 0.46 | 11.49 | 394 | Vertical | N | -- | -- | -- | -- |
| ES35COAT | 11/23/2015 | 583635.7 | 3997699.8 | 306.79 | 12.00 | 0.67 | 0.001 | 339 | Vertical | Y | -- | -- | -- | -- |
| ES35HEAT | 11/23/2015 | 583625.4 | 3997715.6 | 307.28 | 11.28 | 0.66 | 8.90 | 422 | Vertical | N | -- | -- | -- | -- |
| CORPAK | 11/23/2015 | 583616.4 | 3997671.1 | 306.29 | 15.85 | 1.37 | 12.83 | 588 | Vertical | N | -- | -- | -- | -- |
| ES81 | 11/23/2015 | 583738.8 | 3997617.4 | 306.25 | 4.80 | 0.05 | 0.67 | 293 | Vertical | N | -- | -- | -- | -- |
| SRU | 11/23/2015 | 583732.5 | 3997632.5 | 306.62 | 11.28 | 0.46 | 11.49 | 394 | Vertical | N | -- | -- | -- | -- |
| ES91 | 11/23/2015 | 583706.8 | 3997636.2 | 304.88 | 2.13 | 0.10 | 0.001 | 293 | Gooseneck[2] | N | -- | -- | -- | -- |

Comments:
*(1) "Gooseneck" stack identified for tracking purposes only. Used actual flow rate to calculate velocity.*
*(2) Sparger stack calculated to a supersonic velocity; input data deemed unreliable. Used minimal velocity for conservatism.*

| AERMOD / AERMAP SPECIFICATIONS TABLE | | | | | | | |
|---|---|---|---|---|---|---|---|
| **MET DATA** | KGSO 2010-2014 [Surface Air = Piedmont Triad Int'l Airport; +270m MSL; Upper Air = Greensboro, NC] | | | | | | |
| **NED TERRAIN FILES** | East Central Forsyth County, NC (1/9 Arc Sec USGS DEM) | | | | | | |
| **PROJECTION DATUM** | NAD27 | | NAD83 | X | WGS-84 | | NWS-84 | |
| **RURAL or URBAN?** | Rural | X | Urban | | | | |
| **ELEVATIONS EXTRACTED** | Buildings | X | Sources | X | Tanks | X | Receptors | X |

| MODELING HISTORY | | | |
|---|---|---|---|
| **DATE** | **MODELER** | **REASON** | **DESCRIPTION** |
| 6/26/1991 | MBS | OP MOD | SCREEN3 analysis for toluene from Finishing Range #5 installation. |
| 6/16/1992 | (unk) | OP MOD | SCREEN3 & ISC Modeling for toluene from RFL mixing operations. |
| 7/1993 | (unk) | OP MOD | SCREEN3 Modeling (reason not found). |
| 9/04/1996 | PAR | TV | Full ISCST3 air toxics analysis for TV-1 (incorporated CorPak). |
| 2/12/1997 | PAR | TV | Revision of 1996 air toxics analysis adding perchloroethylene & vinyl chloride. |
| 6/04/2013 | VKS | TV MOD | Formaldehyde & Phenol air toxics analysis (superseded due to formulation change). |
| 11/23/2015 | PCM | TV MOD | Risk Analysis under 3Q.0712 for removal of toluene, benzene, & MEK limits from permit. |