

**Part 70 Permit  
No. 47-065-2730**

This Permit Shall Remain in Full Force and Effect  
From February 12, 2009, through February 11, 2014

Issued to:

**INVISTA S.À R.L., LLC  
4501 NORTH ACCESS ROAD  
CHATTANOOGA, TENNESSEE 37415-3899**

Designated Representative:  
George L. Sivils  
Environmental Associate  
Telephone: (423) 875-7688

Responsible Official:

Agreed to by: \_\_\_\_\_  
Stephen P. French  
Plant Manager

*An Application for Renewal Must Be Submitted to the Director of  
the Chattanooga-Hamilton County Air Pollution Control Bureau  
No Later Than August 11, 2013*

**CHATTANOOGA-HAMILTON COUNTY  
AIR POLLUTION CONTROL BUREAU**  
6125 Preservation Drive  
Chattanooga, Tennessee 37416-3638  
Telephone: (423) 643-5970

\_\_\_\_\_  
Robert H. Colby  
Director

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**EMISSION UNIT SUMMARY**

The emission units regulated by this permit are the following:

Emission Unit No.	Description
001	Combustion Engineering Boilers #1 and #2
002	Combustion Engineering Boiler #3, Riley Boiler #4, and Babcock & Wilcox Boiler #5
003	Riley Dowtherm <sup>®</sup> Vaporizers #1, #2, #3, #4, #5, and #6
004	Coal/Coal Ash Storage and Handling
005	Dowtherm <sup>®</sup> Transport System
006	Two Hexamethylenediamine Receiving Tanks
007	Continuous Polymerization Line II
008	Batch Polymer Evaporators #1, #2, #3, #4, and #5 and Autoclaves #1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, #16, #17, and #18
009	Batch Polymer Flake Handling System
010	Type 32 Spinning Machines 201, 202, 203, 211, 221, 231, 241, and 251
011	Type 71 Spinning Machine 110
012	Texturing Machines 104 and 105

## CONDITIONS OF GENERAL APPLICABILITY

This permittee, INVISTA S.à r.l., LLC, is subject to each of the conditions expressed below and is required to comply with them throughout the term of this Part 70 permit. By accepting this permit and operating under it, INVISTA agrees to comply with all terms, provisions, limitations, and requirements herein.

Where the term “Chattanooga Air Pollution Control Ordinance” is used in this permit, it means Part II, Chapter 4, of the Chattanooga City Code and any provisions of amendatory ordinances enacted subsequent to the date of the most recent codification of the Chattanooga City Code. **ALL SECTIONS OF THE CHATTANOOGA AIR POLLUTION CONTROL ORDINANCE CITED IN THIS PERMIT ARE INCORPORATED HEREIN BY REFERENCE.** Section numbers referred to in this permit which are not otherwise identified refer to sections in the Chattanooga Air Pollution Control Ordinance.

- 1.0 Definitions. Unless specifically defined within a provision of the Chattanooga Air Pollution Control Ordinance referenced elsewhere in this permit, the definitions in §4-2 and §4-53 shall apply. §4-2; §4-53
  
- 2.0 Severability. If any provision, part of a provision, sentence, clause, or phrase in this permit is for any reason declared to be unconstitutional or otherwise invalid by any court of competent jurisdiction, such decision shall not affect the validity of any other portion of this permit, and only such invalid portion shall be elided. §4-57(a)(5)
  
- 3.0 Compliance.
  - 3.1 The permittee must comply with all conditions of this Part 70 permit. Noncompliance with any permit provision constitutes a violation of either the Chattanooga Air Pollution Control Ordinance; the Tennessee Air Quality Act, T.C.A. 68-201-101 *et seq.*; and/or the federal Clean Air Act, as amended, Title 42 United States Code (U.S.C.) §7401 *et seq.* and is grounds for joint and several enforcement action; for permit termination, revocation, or modification; or for denial of a permit renewal application. Enforcement by the Chattanooga-Hamilton County Air Pollution Control Board (the Board) or the Director of the Chattanooga-Hamilton County Air Pollution Control Bureau (the Bureau) shall be conducted in accordance with the provisions of §4-4, §4-7, §4-14, §4-15, §4-17, §4-18, §4-20, §4-61, §4-62, §4-63, §4-64, and §4-65, as appropriate to the circumstances. §4-57(a)(6)(i)
  
  - 3.2 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. §4-57(a)(6)(ii)
  
  - 3.3 This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification,

revocation and reissuance, or termination; or the filing of a notification of planned changes or anticipated noncompliance does not stay any condition in this permit. §4-57(a)(6)(iii)

- 3.4 Annual compliance certifications shall be submitted by **February 11** of each year throughout the term of this permit. Separate compliance certifications shall be submitted to:

Chattanooga-Hamilton County Air Pollution Control Bureau  
6125 Preservation Drive  
Chattanooga, TN 37416-3638

and to:

U.S. EPA Region 4  
Air Enforcement Section  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street SW  
Atlanta, GA 30303-8960

Each such compliance certification shall include the following information (provided that the identification of applicable information may cross-reference the permit or previous reports as applicable):

- 3.4.1 Identification of each term or condition of the permit that is the basis of the certification;
- 3.4.2 Compliance status;
- 3.4.3 Whether compliance was continuous or intermittent;
- 3.4.4 The method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with §4-57(a)(3);
- 3.4.5 Where any specific test method requires quality assurance audit samples and the audit result does not validate the source's sample within the specified parameters, the source must retest the stack test until such time as the audit result does validate the sample within the specified parameters; except that the Bureau Director may waive retesting if the source's stack test sample is in compliance with this permit even if not validated within the specified quality assurance parameters; §4-3(d)
- 3.4.6 Such other facts as the Board or the Bureau Director may require to determine the compliance status of the Part 70 source; and §4-57(c)(5)(iii)(E)

3.4.7 Such additional requirements as may be required for enhanced monitoring compliance certification under Title 42 U.S.C. §7414(a)(3) and §7661c(b) of the Clean Air Act. §4-3(d); §4-57(c)(5)

The annual compliance period that is covered by each compliance certification shall be the previous calendar year from **January 1 through December 31**.

- 3.5 The methods set forth in §4-3 shall be applicable for determining compliance with all terms, provisions, limitations, and requirements contained in this permit, except where otherwise specifically provided in this permit.
- 4.0 Property Rights. This permit does not convey any property rights of any sort or any exclusive privilege. This permit is not assignable except as provided in §4-58(d)(1)(iv). §4-57(a)(6)(iv)
- 5.0 Information to be Furnished. The permittee shall furnish to the Bureau Director, within a reasonable period of time, any information that the Board or the Bureau Director may request in writing to determine whether cause exists for modifying, revoking, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board or the Bureau Director copies of records required to be kept by the permit. For information claimed to be confidential, the permittee may furnish such records directly to the Administrator of the U.S. Environmental Protection Agency (EPA) along with a claim of confidentiality. Eligibility for confidential treatment shall be determined by the Board pursuant to the provisions of §4-19 for information submitted directly to the Bureau Director. An independent determination regarding confidentiality would be made by the Administrator of the U.S. EPA for information submitted directly to the Administrator. §4-57(a)(6)(v)
- 6.0 Fees. The permittee shall pay fees to the Bureau Director consistent with the fee provisions set forth in §4-60. §4-57(a)(7)
- 7.0 Changes Provided for by Permit. No permit revision shall be required under any economic incentives, marketable permits, emissions trading, or similar program or process which is included in the Chattanooga City Code, Part II, Chapter 4, Article III for changes that are provided for in this permit pursuant to such program or process. §4-57(a)(8)
- 8.0 Reasonably Anticipated Operating Scenarios. Contemporaneously with making a change from one operating scenario to another, the permittee must record in a log at the Part 70 source premises a record of the scenarios under which it is operating. §4-57(a)(9)
- 9.0 Acid Precipitation Requirements. Where an applicable requirement of the Clean Air Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Clean Air Act and incorporated by reference at §4-52(d), both provisions are herein incorporated into this permit by reference and shall be legally enforceable. This

source does not lawfully hold any allowance under Title IV of the Clean Air Act. §4-57(a)(1)(ii)

10.0 Federal Enforceability. All terms and conditions in this Part 70 permit, including any provisions designed to limit the potential to emit of this Part 70 source, are enforceable by the Administrator of the U.S. EPA and by citizens under the Clean Air Act except for the following, which are locally enforceable only:

10.1 §4-41, Rule 12 (Regulation of Odors in the Ambient Air) and

10.2 §4-41, Rule 14 (Nuisances).

Any terms and conditions included in the permit that are not required under the Clean Air Act or under any of its applicable requirements are specifically designated in this permit as not being federally enforceable under the Clean Air Act. §4-57(b)

11.0 Inspection of Permitted Source(s). Upon presentation of identification and in the performance of their duties, the permittee shall allow the Bureau Director and other Bureau employees to perform the following:

11.1 Enter upon the permittee's premises or buildings where a Part 70 source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;

11.2 Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

11.3 Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

11.4 Sample or monitor substances or parameters, and collect and preserve evidence for the purpose of assuring compliance with the permit or applicable requirements thereunder at reasonable times and for taking such other actions as are appropriate under the law in accordance with Item 3.1 of these Conditions of General Applicability.

11.5 For the purposes of Items 11.2, 11.3, and 11.4 of these Conditions of General Applicability, "reasonable times" shall be considered to be customary business hours, unless reasonable cause exists to suspect noncompliance with the Chattanooga Air Pollution Control Ordinance or any "applicable requirement," as defined in §4-53, or with any permit issued thereunder, and the Bureau Director specifically authorizes a designee to inspect a facility at any other time.

11.6 In the alternative, the Bureau Director, other Bureau employees, or any other law enforcement officer may obtain a search warrant to obtain, collect, and preserve evidence.

§4-16; §4-57(c)(2)

12.0 Recordkeeping and Reporting.

12.1 Record Retention Requirements. All required monitoring data and related support information shall be retained by the permittee for five (5) years after the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, copies of all reports, and logs required by the permit. §4-57(a)(3)(ii)(B)

12.2 Reporting of Deviations. The permittee shall promptly report all emission limitation exceedances and all other deviations from permit requirements (including those attributable to malfunctions), the probable cause of such exceedance or deviation, and any corrective actions or preventive measures taken. "Promptly report" shall mean an initial telephone report to the Bureau Director within twenty-four (24) hours after the onset of the exceedance or other deviation, followed up by a written report submitted to the Bureau Director within seven (7) days after the onset of the exceedance or other deviation. Any excess emissions or other deviation that creates an imminent hazard requiring immediate action to protect health or safety must be reported by telephone immediately to the Bureau Director, to the Hamilton County Local Emergency Planning Committee, to the Tennessee Emergency Management Agency, and to the National Response Center. §4-12; §4-57(a)(3)(iii)(B)

13.0 Emergency Provision.

13.1 Definition. An emergency is any situation arising from sudden and reasonably unforeseeable events beyond the control of the permittee, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the permittee 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 preventative maintenance, careless or improper operation, or operator error. §4-57(g)

13.2 An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Item 13 of these Conditions of General Applicability are met, unless an ambient air violation occurs as a result of the emergency. The affirmative defense

of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence which establishes that:

- 13.2.1 An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- 13.2.2 The permitted facility was at the time being properly operated;
- 13.2.3 During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- 13.2.4 The permittee submitted a telephone notice of the emergency to the Bureau Director within one (1) working day of the time when emission limitations were exceeded due to the emergency, and the permittee submitted a follow up written report to the Bureau within seven (7) days after the onset of the exceedance. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

*§4-57(g)*

- 13.3 In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. *§4-12; §4-57(g)*
- 13.4 The permittee must employ all reasonable measures to keep emissions to a minimum during start-ups, shutdowns, operation, and emergencies. These measures may include installation and use of alternate control systems, changes in operating methods or procedures, cessation of operation until the process equipment or air pollution control equipment is repaired, maintaining sufficient spare parts, use of overtime labor, use of outside consultants and contractors, and other appropriate means. Exceedances of limitations on emissions that are caused by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown shall not be considered emergencies, and shall be considered in violation of the emission standard exceeded. *§4-12*
- 13.5 A log of any operation or failure to operate, start-up, or shutdown resulting in air pollutant emissions in excess of any applicable requirement must be kept at the Part 70 source. This log must record at least the following:
  - 13.5.1 Stack, air pollution control equipment, or emission point involved;
  - 13.5.2 Time excess emissions, start-up, or shutdown began or when excess emissions were first discovered by the source;

- 13.5.3 Type of exceedance qualifying as a malfunction, or reason for shutdown;
- 13.5.4 Time start-up or shutdown was complete or time the air pollutant source returned to normal operation after an emissions exceedance;
- 13.5.5 Documentation that the source was or was not, at the time of the onset of the exceedance, being properly operated;
- 13.5.6 Documentation of any preventative maintenance of the air pollution control equipment or process equipment or processes that had been completed prior to the emissions exceedance, start-up, or shutdown;
- 13.5.7 The steps taken by the source during the period of the emissions exceedance, start-up, or shutdown to minimize levels of emissions that exceeded the applicable requirements; and
- 13.5.8 The magnitude and identity of the excess emissions, expressed in pounds per hour and the units of the applicable emission limitation, and the operating data and calculations used in determining the magnitude of the excess emissions.

*§4-12*

- 13.6 The information required by Items 13.5.1 and 13.5.2 of these Conditions of General Applicability must be entered into the log by the end of the shift during which the exceedance or other deviation began. All required information shall be entered in the log no later than twenty-four (24) hours after the exceedance or other deviation has ceased or has been corrected. Any later discovered corrections may be added in the log as footnotes with the reason given for the change. There shall be no erasures, obliterations, modifications, or revisions of the log entry except by single line-through and identification of corrections.  
*§4-12*

- 13.7 If the Bureau Director or the Administrator of the Chattanooga-Hamilton County Health Department finds that a condition of air pollution exists or is likely to exist, and that it creates any emergency requiring immediate action to protect human health or safety, the mayor with the concurrence of the Bureau Director or the Administrator of the Chattanooga-Hamilton County Health Department shall order persons causing or contributing to the air pollution to reduce or discontinue immediately the emission of air pollutants. Upon issuance of any such order, the Bureau Director shall fix a place and time, not later than twenty-four (24) hours thereafter, for a hearing to be held before the Board. Not more than twenty-four (24) hours after commencement of such hearing, and without adjournment thereafter, the Board shall affirm, modify, or recommend to the mayor that the order be affirmed, modified, or set aside. *§4-20*

- 14.0 Certification. Any application form, report, or compliance certification submitted pursuant to this permit shall contain a certification, as defined in §4-53, by a responsible official, as defined in §4-53, of truth, accuracy, and completeness. Any certification required by this permit shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. §4-56(d)
- 15.0 Modifications.
- 15.1 Administrative amendments to this permit shall be requested and may be granted in accordance with §4-58(d), and only for the reasons set forth therein. The permittee is required to submit an application for an administrative amendment within sixty (60) days after a change of the name of the permittee is registered with the Tennessee Secretary of State.
- 15.2 Minor permit modifications to this permit shall be requested and may be granted in accordance with §4-58(e)(1) and (2).
- 15.3 Significant permit modifications to this permit shall be requested and may be granted in accordance with §4-58(e)(3).
- 15.4 Operational flexibility allows changes within this permitted source without requiring a permit revision, if the changes are not modifications under Title I of the Clean Air Act and the changes do not exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions), provided that:
- 15.4.1 The permittee provides the U.S. EPA and the Bureau Director with written notification at least seven (7) days in advance of the proposed changes; and
- 15.4.2 For each such change, said written notification shall include a brief description of the change within the permitted source, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.
- The permit shield described in §4-57(f) shall not apply to any change made pursuant to operational flexibility. §4-58(i)
- 15.5 Installation permit application and issuance requirements in §4-8(a) will apply to this permittee and emission units located at this Part 70 source if modifications to or new construction of a Part 70 source are subject to the following:
- 15.5.1 §4-41, Rule 18 (Prevention of Significant Air Quality Deterioration);

- 15.5.2 §4-41, Rule 25.3 (General Provisions and Applicability for Volatile Organic Compounds – Standards for New Sources);
- 15.5.3 §4-41, Rule 23 (General Provisions and Applicability for Process Gaseous Emissions Standards);
- 15.5.4 Any standard or other requirement pursuant to regulations promulgated under Title 42 U.S.C. §7411 in Title 40 *Code of Federal Regulations* Part 60;
- 15.5.5 Case-by-case determinations made pursuant to Title 42 U.S.C. §7412(g) and (j) as set forth at §4-53 “Applicable requirements (4)”; or
- 15.5.6 Case-by-case determinations made pursuant to §4-41, Rule 27 (Particulate Matter Controls for New Sources and New Modifications After August 29, 1995).

§4-50

16.0 Off-Permit Changes.

- 16.1 An off-permit change is one that:
  - 16.1.1 Is not addressed or prohibited by the permit;
  - 16.1.2 Is not a modification under Title I of the Clean Air Act;
  - 16.1.3 Is not subject to any requirements under Title IV of the Clean Air Act;
  - 16.1.4 Meets all applicable requirements, as described in this permit; and
  - 16.1.5 Does not violate, or cause or contribute to a violation of, any existing permit term or condition.
- 16.2 A contemporaneous notification shall be submitted to the Bureau Director and to the U.S. EPA except for changes that qualify as insignificant under §4-56(c)(11) and (c)(12).
- 16.3 The permittee shall keep a record describing off-permit changes made at the Part 70 source that result in emissions of a regulated air pollutant subject to an applicable requirement, but not otherwise regulated under the permit, and the emissions resulting from those off-permit changes.
- 16.4 The permit shield described in §4-57(f) shall not apply to any change made pursuant to off-permit changes.

§4-58(j)

- 17.0 Permit Reopening. This permit shall be reopened and revised under any of the following circumstances, as set forth at §4-58(f)(1):
- 17.1 Additional applicable requirements become applicable by amendment of the Chattanooga Air Pollution Control Ordinance to this source and the remaining permit term is three (3) or more years. Such reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire;
- 17.2 Additional requirements (including excess emissions requirements) become applicable to an affected source as defined in §4-53. Upon approval by the Administrator of the U.S. EPA and amendment of the Chattanooga Air Pollution Control Ordinance, excess emissions offset plans shall be incorporated into the permit;
- 17.3 The Board, the Bureau Director, or the Administrator of the U.S. EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
- 17.4 The Board, the Bureau Director, or the Administrator of the U.S. EPA determines that this permit must be revised or revoked to assure compliance with the applicable requirements.

Proceedings to reopen and issue a revised permit shall follow the same procedures as apply to initial permit issuance, described in §4-58, and shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable, but only after notice of such intent is provided to this permittee by the Bureau Director at least thirty (30) days in advance of the date that permit is to be reopened. A shorter time period may be provided in the case of an emergency. §4-58(f)

This permit is also subject to reopening for cause by the U.S. EPA, as described in §4-58(g). §4-58(g)

- 18.0 Rules Applicable to All Permittee Activities. The following conditions apply to all activities of this permittee, including insignificant activities:
- 18.1 Nitrogen Oxides. The permittee shall comply with §4-41, Rules 2.4, 2.5, and 2.7, regarding emissions of nitrogen oxides.

- 18.2 Visible Emissions. The permittee shall comply with §4-41, Rule 3, which stipulates that the opacity of visible emissions shall not exceed twenty (20) percent for an aggregate of more than five (5) minutes in any one-hour period or more than twenty (20) minutes in any twenty-four-hour period. The permittee shall also comply with §4-41, Rule 9, regarding visible emissions from internal combustion engines. In addition, the permittee shall comply with §4-41, Rule 11, which stipulates that the opacity of visible emissions from the handling, processing, or storage of any material in the open air shall not exceed twenty (20) percent for more than three (3) minutes in any consecutive sixty-minute period or more than twenty (20) minutes in any twenty-four-hour period. §4-3(c)(9)
- 18.3 Certain Fuels. The permittee shall comply with §4-41, Rule 4, regarding importation, sale, transportation, use, or consumption of fuels containing in excess of four (4) percent sulfur by weight.
- 18.4 Prohibition of Hand-Fired Fuel-Burning Equipment. The permittee shall comply with §4-41, Rule 5, regarding the prohibition of the use of hand-fired fuel-burning equipment with solid fuels.
- 18.5 Open Burning. The permittee is prohibited from conducting open burning except in accordance with §4-41, Rule 6.
- 18.6 Fuel-Burning Equipment. The permittee shall comply with §4-41, Rule 8, regarding particulate matter emissions from fuel-burning equipment.
- 18.7 Process Emissions. The permittee shall comply with §4-41, Rule 10, regarding process particulate matter emissions.
- 18.8 Odors in Ambient Air. The permittee shall comply with §4-41, Rule 12, regarding emissions of objectionable odors. (local rule only)
- 18.9 Sulfur Oxides. The permittee shall comply with §4-41, Rule 13, regarding emissions of sulfur oxides.
- 18.10 Nuisances. The permittee shall comply with §4-41, Rule 14, regarding discharges from any source of air contaminants or other material which shall cause a nuisance. (local rule only)
- 18.11 Hazardous Air Pollutants. The permittee shall comply with §4-41, Rules 16.1 through 16.4, regarding emission standards for hazardous air pollutants other than asbestos.
- 18.12 Asbestos – Demolition or Renovation. The permittee shall comply with §4-41, Rules 17.5, 17.10, 17.12, and 17.13, when conducting any demolition or renovation activities at the permitted source.

- 18.13 Stack Heights. The permittee shall comply with §4-41, Rule 22, regarding good engineering practice stack heights.
- 18.14 Particulate Matter Controls for New Sources and New Modifications. The permittee shall comply with §4-41, Rule 27, regarding particulate matter controls for any new source or modification for which installation commences after August 29, 1995.
- 19.0 Stratospheric Ozone and Climate Protection. The permittee is subject to the standards for recycling and emissions reduction promulgated at Title 40 *Code of Federal Regulations* Part 82, Subpart F, including the use of certified technicians only.
- 20.0 Dismantled Equipment. The permittee shall report the permanent discontinuance or dismantlement of any equipment or activity covered by this permit to the Bureau Director within thirty (30) days. §4-11(a)
- 21.0 Monitoring. All monitoring and related reporting shall be conducted in compliance with §4-57(a)(3)(ii)(A) and (B).
- 22.0 Applicable Requirements. In addition to the Conditions of General Applicability, Conditions Applicable to the Entire Facility, and Emission Unit Special Conditions in this permit, “applicable requirements” as defined in §4-53 shall apply.
- 23.0 Basis of Permit. This permit is being issued based on the statements made and the information provided in the Part 70 permit application submitted under oath by this source.

## CONDITIONS APPLICABLE TO THE ENTIRE FACILITY

- 1.0 Semiannual Compliance Monitoring Reports. In addition to reports that are required by the Conditions of General Applicability, a semiannual compliance monitoring report shall be submitted by **February 11** and **August 11** of each year throughout the term of this permit. The compliance monitoring report shall be submitted to:

Chattanooga-Hamilton County Air Pollution Control Bureau  
6125 Preservation Drive  
Chattanooga, TN 37416-3638

Each such compliance monitoring report shall include the following information:

- 1.1 The single highest sulfur content, in units of percentage by weight, of any shipment of No. 2 fuel oil that was received at the facility for combustion in Boiler #1 or #2 (**Emission Unit 001**) or Dowtherm<sup>®</sup> Vaporizer #1, #2, #3, #4, #5, or #6 (**Emission Unit 003**) during the reporting period; §4-57(c)(1)
- 1.2 The annual volume, in units of gallons, of No. 2 fuel oil that was burned in Boilers #1 and #2 (**Emission Unit 001**) combined and the annual volume, in units of gallons, of No. 2 fuel oil that was burned in Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, #5, and #6 (**Emission Unit 003**) combined during the preceding twelve (12) months (ending on the last day of the reporting period); §4-57(c)(1)
- 1.3 The sulfur content of coal and calculated emissions of sulfur dioxide (SO<sub>2</sub>) from coal that was sent to the facility from each supplier for combustion in any of Boilers #3, #4, and #5 (**Emission Unit 002**) during each week of the reporting period, as documented by the certifications and log that are required by Special Condition 5.0 for Emission Unit 002; §4-57(c)(1)
- 1.4 The sulfur content of coal and calculated emissions of SO<sub>2</sub> from coal that was received at the facility from each supplier for combustion in any of Boilers #3, #4, and #5 (**Emission Unit 002**) during each week of the reporting period and both the annual amount and annual average sulfur content of coal that was received at the facility for combustion in any of these boilers during each of the previous twenty-six (26) rolling fifty-two (52)-week periods (ending on the last day of each week of the reporting period), as documented by the log that is required by Special Condition 6.0 for Emission Unit 002; §4-57(c)(1)
- 1.5 The annual emissions of SO<sub>2</sub> from Boilers #3, #4, and #5 (**Emission Unit 002**) combined during each of the previous six (6) rolling twelve (12)-month periods (ending on the last day of each calendar month of the reporting period), as documented by the log that is required by Special Condition 9.0 for Emission Unit 002; §4-57(c)(1)

- 1.6 The annual emissions of nitrogen oxides (NO<sub>x</sub>) from Boilers #3, #4, and #5 (**Emission Unit 002**) combined during each of the previous six (6) rolling twelve (12)-month periods (ending on the last day of each calendar month of the reporting period), as documented by the log that is required by Special Condition 12.0 for Emission Unit 002; §4-57(c)(1)
- 1.7 The percentage of the total heat input provided by No. 2 fuel oil production to Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, #5, and #6 (**Emission Unit 003**) combined during each of the previous six (6) rolling twelve (12)-month periods (ending on the last day of each calendar month of the reporting period), as documented by the log that is required by Special Condition 5.0 for Emission Unit 003; §4-57(c)(1)
- 1.8 A summary of the monitoring that was performed of applicable flanges, valves, and pumps of the Dowtherm<sup>®</sup> Transport System (**Emission Unit 005**) to detect leaks. For each type of applicable component (flange, valve, or pump), the summary shall include the following:
  - 1.8.1 The total number of components that were required to be monitored during the reporting period;
  - 1.8.2 The total number of components that were actually monitored during the reporting period;
  - 1.8.3 The total number of leaks that were detected during the reporting period; and
  - 1.8.4 The total number of leaks that were repaired during the reporting period.

In addition, for each leak that was repaired during the reporting period, the number of days that elapsed between initial detection and final repair shall be noted; §4-41, Rule 25.3
- 1.9 The annual quantity of hexamethylenediamine that was received into the two hexamethylenediamine receiving tanks (**Emission Unit 006**) combined during the preceding twelve (12) months (ending on the last day of the reporting period); and §4-57(c)(1)
- 1.10 A detailed summary of deviations from permit requirements during the reporting period indicating every instance in which an emission unit was operated outside of required parameters (e.g. visible emission limitations) or was operated while air pollution control equipment that was required to be used was not in operation, bypassed (by way of a pressure relief valve, blown rupture disk, blown gasket, etc.), or operated outside of required parameters. For each such incident, the nature and cause of the incident, affected equipment, calendar date, beginning time, elapsed time, value of any operating parameter that was not met, and

estimated resulting emissions shall be included in the summary.  
§4-57(a)(3)(iii)(B)

The six (6)-month reporting period that is covered by each compliance monitoring report that is due on February 11 shall be from **July 1 through December 31** of the previous year. The six (6)-month reporting period that is covered by each compliance monitoring report that is due on August 11 shall be from **January 1 through June 30** of the current year. §4-57(a)(3)(iii)

- 2.0 Semiannual Reports of No. 2 Fuel Oil Supplier Certifications. A semiannual report that consists of records of the required fuel supplier certifications for all of the No. 2 fuel oil that was received at the facility for combustion in any of Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, and #5 (**Emission Unit 003**) during the reporting period shall be submitted by **January 30** and **July 30** of each year throughout the term of this permit. The report of fuel supplier certifications shall be submitted to:

Chattanooga-Hamilton County Air Pollution Control Bureau  
6125 Preservation Drive  
Chattanooga, TN 37416-3638

The six (6)-month reporting period that is covered by each report of fuel supplier certifications that is due on January 30 shall be from **July 1 through December 31** of the previous year. The six (6)-month reporting period that is covered by each report of fuel supplier certifications that is due on July 30 shall be from **January 1 through June 30** of the current year. These requirements are in accordance with “Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units,” Title 40 *Code of Federal Regulations* Part 60, Subpart Dc. §4-41, Rule 15 [40 CFR 60.48c(d), (e), (f), and (j)]

- 3.0 Air Pollution Control Equipment Operation.

3.1 For each of the two baghouses that are used to control particulate matter emissions from Boilers #3, #4, and #5 (**Emission Unit 002**), the opacity of the emissions at the baghouse exhaust stack shall be continuously monitored and recorded whenever emissions from a boiler are being vented to that stack. The procedures given in Title 40 *Code of Federal Regulations* §60.13 and §60.47c(a) and (b) shall be followed for the installation, evaluation (including daily checks of zero and span calibration drifts), and operation of the continuous opacity monitoring system for each of the two stacks. In the event that the continuous opacity monitoring system for a stack is not operating normally, a visible emission observation of that stack shall be made and recorded by a qualified observer at least once each day while emissions from a boiler are being vented to the stack in order to determine the opacity of the emissions in accordance with EPA Test Method 9, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. A log shall be maintained, on the premises, in

which every instance is recorded that *the visible emission limitation that is given in Special Condition 14.0 for Emission Unit 002* is not met. For each such incident, the relevant boiler(s), relevant baghouse, calendar date, beginning time, elapsed time, average opacity, maximum opacity, and cause of the incident shall be recorded in the log. §4-3; §4-8(c)(8); §4-57(c)(1); §4-68(d) (40 CFR 64.1-10)

- 3.2 For each of the three demisters that are used to control volatile organic compound (VOC) emissions from the three condensers of the Dowtherm<sup>®</sup> transport system (**Emission Unit 005**), the liquid level and temperature shall be monitored and recorded at least once every one hour when the demister is required to be in use. For each of these demisters, the liquid level shall be maintained at *no less than 5 percent of its capacity* and the temperature shall be maintained at *between 54°F and 200°F* when the demister is required to be in use. A log shall be maintained, on the premises, in which every instance is recorded that the required liquid level is not met or the temperature is not within the required range. For each such incident, the relevant demister, calendar date, beginning time, elapsed time, applicable liquid level or temperature, cause of the incident, and estimated resulting emissions of VOCs shall be recorded in the log. §4-41, Rule 25.3; §4-68(d) (40 CFR 64.1-10)
- 3.3 The water flow rate of the scrubber that is used to control particulate matter emissions from the evaporator and two finishers of Continuous Polymerization (CP) Line II (**Emission Unit 007**) and from Batch Polymer (BP) Evaporators #1, #2, #3, #4, and #5 (**Emission Unit 008**) and to control emissions of particulate matter, VOCs, and ammonia from the reactor of CP Line II and from BP Autoclaves #1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, #16, #17, and #18 (**Emission Unit 008**) shall be monitored and recorded at least once every one hour when the scrubber is required to be in use. The water flow rate shall be maintained at *no less than 30,000 gallons/hour* when the scrubber is required to be in use. A log shall be maintained, on the premises, in which every instance is recorded that the required water flow rate is not met. For each such incident, the calendar date; beginning time; elapsed time; water flow rate; cause of the incident; and estimated resulting emissions of particulate matter, VOCs, and ammonia shall be recorded in the log. §4-8(e)(2); §4-41, Rule 23, Rule 25.3, and Rule 27.1; §4-57(c)(1); §4-68(d) (40 CFR 64.1-10)
- 3.4 For each of the two backup scrubbers that can be used to control particulate matter emissions from the two finishers of Continuous Polymerization Line II (**Emission Unit 007**), the water flow rate shall be monitored and recorded at least once every one hour when the scrubber is required to be in use. For each of these scrubbers, the water flow rate shall be maintained at *no less than 45 gallons/minute* when the scrubber is required to be in use. A log shall be maintained, on the premises, in which every instance is recorded that the required water flow rate is not met. For each such incident, the relevant scrubber, calendar

date, beginning time, elapsed time, water flow rate, cause of the incident, and estimated resulting emissions of particulate matter shall be recorded in the log. §4-8(e)(2)

- 3.5 For each of the eleven baghouses that are currently used to control particulate matter emissions from the polyester flake handling and conditioning system that precedes Spinning Machines 202 and 221 (**Emission Unit 010**) and for each of two future baghouses that may also be used to control particulate matter emissions from this system, the presence, or lack thereof, of any visible emissions from the baghouse exhaust stack shall be determined by visual observation and recorded at least once each day when the baghouse is required to be in use. ***Corrective action shall be taken if any emissions are visible.*** A log shall be maintained, on the premises, in which every instance is recorded that any visible emissions are observed. For each such incident, the relevant baghouse, calendar date, beginning time, elapsed time, cause of the incident, corrective action that was taken, and estimated resulting emissions of particulate matter shall be recorded in the log. §4-41, Rule 27.1; §4-68(d) (40 CFR 64.1-10)
- 3.6 For each of the six electrostatic precipitators that are used to control particulate matter emissions from the hot chest exhausts of Spinning Machines 201, 202, 203, 211, 221, 231, 241, and 251 (**Emission Unit 010**), the status (on or off) of the power indicator light of the electrostatic precipitator shall be checked and recorded at least once each day when the electrostatic precipitator is required to be in use to ***verify that the electrostatic precipitator is operating.*** In addition, for each of these six electrostatic precipitators, the presence, or lack thereof, of any visible emissions, other than of steam, from the electrostatic precipitator exhaust stack shall be determined by visual observation and recorded at least once each day when the electrostatic precipitator is required to be in use. ***Corrective action shall be taken if any emissions, other than of steam, are visible.*** A log shall be maintained, on the premises, in which every instance is recorded that the electrostatic precipitator is not operating when it is required to be in use or any visible emissions, other than of steam, are observed. For each such incident, the relevant electrostatic precipitator, calendar date, beginning time, elapsed time, cause of the incident, corrective action that was taken, and estimated resulting emissions of particulate matter shall be recorded in the log. §4-41, Rule 27.1; §4-57(c)(1); §4-68(d) (40 CFR 64.1-10)
- 3.7 For each of the eight demisters that are used to control particulate matter emissions from the draw jet exhausts of Spinning Machines 201, 202, 203, 211, 221, 231, 241, and 251 (**Emission Unit 010**), the presence, or lack thereof, of any visible emissions, other than of steam, from the demister exhaust stack shall be determined by visual observation and recorded at least once each day when the demister is required to be in use. ***Corrective action shall be taken if any emissions, other than of steam, are visible.*** A log shall be maintained, on the premises, in which every instance is recorded that any visible emissions, other

than of steam, are observed. For each such incident, the relevant demister, calendar date, beginning time, elapsed time, cause of the incident, corrective action that was taken, and estimated resulting emissions of particulate matter shall be recorded in the log. §4-41, Rule 27.1; §4-57(c)(1); §4-68(d) (40 CFR 64.1-10)

- 3.8 The water flow differential-pressure and water level of the scrubber that is used to control particulate matter emissions from the hot chest exhaust of Spinning Machine 110 (**Emission Unit 011**) shall be monitored and recorded at least once every one hour when the scrubber is required to be in use. The water flow differential-pressure shall be maintained at *no less than 20 inches of water* and the water level shall be maintained at *no more than 40 inches* when the scrubber is required to be in use. A log shall be maintained, on the premises, in which every instance is recorded that the required water flow differential-pressure is not met or the allowable water level is exceeded. For each such incident, the calendar date, beginning time, elapsed time, applicable water flow differential-pressure or water level, cause of the incident, and estimated resulting emissions of particulate matter shall be recorded in the log. §4-41, Rule 27.3
- 3.9 The water flow rate and level of the scrubber that is used to control particulate matter emissions from the bulking exhaust of Spinning Machine 110 (**Emission Unit 011**) shall be monitored and recorded at least once every one hour when the scrubber is required to be in use. The water flow rate shall be maintained at *no less than 30 gallons/minute* and the water level shall be maintained at *no more than 60 inches* when the scrubber is required to be in use. A log shall be maintained, on the premises, in which every instance is recorded that the required water flow rate is not met or the allowable water level is exceeded. For each such incident, the calendar date, beginning time, elapsed time, applicable water flow rate or level, cause of the incident, and estimated resulting emissions of particulate matter shall be recorded in the log. §4-41, Rule 27.3

Air pollution control equipment that is used to control emissions from the emission sources of Emission Units 002, 005, 008, and 010 is subject to “Compliance Assurance Monitoring,” Title 40 *Code of Federal Regulations* Part 64. The preceding requirements that are applicable for these emission units are in accordance with Part 64. §4-68(d) (40 CFR 64.1-10)

- 4.0. Air Pollution Control Equipment Replacement. The addition of air pollution control equipment to achieve additional emissions reductions and/or the replacement of air pollution control equipment with equipment of equal or greater control efficiency for each pollutant controlled by the original equipment are changes that qualify as operational flexibility with the exception that air pollution control technology required by any regulation promulgated pursuant to Section 112 of the Clean Air Act codified at Title 40 *Code of Federal Regulations* Part 63, including control measures employed to demonstrate early reductions of hazardous air pollutants, is not eligible for replacement

under operational flexibility. Operational flexibility changes are subject to the notification requirements of Item 15.4 of the Conditions of General Applicability. §4-58(i)

- 5.0 Air Pollution Control Equipment Maintenance. Preventative maintenance on each piece of air pollution control equipment at the facility shall be performed at regular intervals in accordance with the permittee's maintenance procedures. This air pollution control equipment currently consists of fifty-eight baghouses (Emission Units 002, 009, 010, and 011), twelve demisters (Emission Units 005, 010, and 011), one cyclone (Emission Unit 007), five scrubbers (Emission Units 007, 008, and 011), six electrostatic precipitators (Emission Unit 010), and four filters (Emission Unit 012). Air pollution control equipment that could be added in the future includes two baghouses (Emission Unit 010). §4-57(a)(1)

## EMISSION UNIT SPECIAL CONDITIONS

### Emission Unit 001 – Combustion Engineering Boilers #1 and #2

- 1.0 Only natural gas and No. 2 fuel oil may be burned in Combustion Engineering Boilers #1 and #2. The sulfur content of the No. 2 fuel oil that is burned in the two boilers ***shall not exceed 0.3 percent by weight***. (Each of these boilers has a heat input capacity of  $58.5 \times 10^6$  Btu/hour. The two boilers are vented to a single exhaust stack.) §4-57(a)(1)
- 2.0 Preventative maintenance on Boilers #1 and #2 shall be performed at regular intervals in accordance with the permittee's maintenance procedures. §4-57(a)(1)
- 3.0 The sulfur content, in units of percentage by weight, of each shipment of No. 2 fuel oil that is received at the facility for combustion in Boiler #1 or #2 shall be documented by a certification from the supplier, and each such certification shall be maintained on the premises. §4-57(c)(1)
- 4.0 ***No more than 1,830,000 gallons*** of No. 2 fuel oil shall be burned in Boilers #1 and #2 combined ***during any period of 365 consecutive days***. §4-57(a)(1)
- 5.0 A log shall be maintained, on the premises, in which the volume, in units of gallons, of No. 2 fuel oil that is burned in Boilers #1 and #2 combined during each calendar month is recorded. The annual volume, in units of gallons, of No. 2 fuel oil that is burned in the two boilers combined during each rolling twelve (12)-month period shall also be recorded in this log. §4-57(c)(1)
- 6.0 The maximum allowable emissions of particulate matter from each of Boilers #1 and #2 are 0.10 pound per  $10^6$  Btu. This emission limitation is equivalent to 5.85 pounds/hour for the operation of each boiler at its heat input capacity. §4-41, Rule 26.6
- 7.0 Visible emissions from Boilers #1 and #2 shall not exceed ten (10) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. §4-57(a)(1)
- 8.0 Testing of either Boiler #1 or #2 to determine the emissions of particulate matter, sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and carbon monoxide (CO) and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, 6, 7, 9, and 10, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

**Emission Unit 002 – Combustion Engineering Boiler #3,  
Riley Boiler #4, and Babcock & Wilcox Boiler #5**

- 1.0 Only bituminous coal may be burned in Combustion Engineering Boiler #3, Riley Boiler #4, and Babcock & Wilcox Boiler #5. Particulate matter emissions from each of the three boilers shall be vented to and controlled by either Ecolaire ECC Series “84” Baghouse #1 or #2. The two baghouses shall be operated in accordance with the permittee’s standard operating procedures. For each of the three boilers, the boiler shall not be operated if its baghouse is not in operation. (Boiler #3 has a rated heat input capacity of  $65.0 \times 10^6$  Btu/hour, and each of Boilers #4 and #5 has a rated heat input capacity of  $150.0 \times 10^6$  Btu/hour. The operative heat input capacities are approximately  $55.0 \times 10^6$  Btu/hour for Boiler #3 and  $130.0 \times 10^6$  Btu/hour for each of Boilers #4 and #5.) §4-57(a)(1)
- 2.0 Preventative maintenance on Boilers #3, #4, and #5 shall be performed at regular intervals in accordance with the permittee’s maintenance procedures. §4-57(a)(1)
- 3.0 The **annual average** sulfur content of the coal that is burned in Boilers #3, #4, and #5 combined **shall not exceed 1.25 percent by weight during any period of 365 consecutive days.** §4-57(a)(1)
- 4.0 The maximum allowable emissions of sulfur dioxide (SO<sub>2</sub>) from each of Boilers #3, #4, and #5 are **4.0 pounds per 10<sup>6</sup> Btu.** This emission limitation is equivalent to 220.0 pounds/hour for the operation of Boiler #3 at its operative heat input capacity and 520.0 pounds/hour for the operation of each of Boilers #4 and #5 at their operative heat input capacities. §4-41, Rule 13
- 5.0 The sulfur content of a composite sample of the coal that is sent to the facility from each supplier shall be documented by a certification from the supplier on at least a weekly basis, and each such certification shall be maintained on the premises. The composite coal samples shall be collected and prepared in accordance with ASTM Standards D2234 and D2013, and the sulfur content analyses shall be performed in accordance with either ASTM Standard D3177 or D4239. SO<sub>2</sub> emissions (in units of pounds per 10<sup>6</sup> Btu) shall be calculated from the information in each weekly certification by multiplying the sulfur content (in units of percentage by weight) by an emission factor of 1.46154. A log shall be maintained, on the premises, in which these weekly calculated emissions of SO<sub>2</sub> from coal that is received from each supplier are recorded. §4-57(c)(1)
- 6.0 A log shall be maintained, on the premises, in which the sulfur content of a weekly random audit sample of the coal that is received at the facility from each supplier is recorded. The audit coal samples shall be prepared in accordance with ASTM Standard D2013, and the sulfur content analyses shall be performed in accordance with either ASTM Standard D3177 or D4239. SO<sub>2</sub> emissions (in units of pounds per 10<sup>6</sup> Btu) shall be calculated from the analysis results of each weekly audit sample by multiplying the sulfur content (in units of percentage by weight) by an emission factor of 1.46154. These

weekly calculated emissions of SO<sub>2</sub> from each audit coal sample and the weekly total weight of coal that is received from each supplier shall also be recorded in the log. In addition, for each rolling fifty-two (52)-week period, the annual average sulfur content of coal that is received from all suppliers combined shall be recorded in the log. This annual sulfur content shall be determined by the following procedure:

- 6.1 The total weight of coal that is received from a given supplier during a given week shall be multiplied by the corresponding sulfur content of the weekly random audit sample of the coal that is received from that supplier; and
- 6.2 The resulting products of coal weight times coal sulfur content for all suppliers for a given week and for each of the preceding fifty-one (51) weeks shall all be added together, and this sum shall be divided by the total weight of coal that was received from all suppliers during that fifty-two (52)-week period in order to arrive at the annual average sulfur content.

§4-57(c)(1)

- 7.0 Emissions of SO<sub>2</sub> from Boilers #3, #4, and #5 combined ***shall not exceed 870 tons during any period of twelve (12) consecutive months***, beginning with the period from August 2009 through July 2010. *July 28, 2009, Consent Decree*
- 8.0 As of June 30, 2010, for each of the two exhaust stacks that serve Boilers #3, #4, and #5, the emissions of SO<sub>2</sub> at the stack shall be continuously monitored and recorded whenever emissions from a boiler are being vented to that stack. The procedures given in Title 40 *Code of Federal Regulations* §60.13 and §60.47b(a), (c), (d), and (e) shall be followed for the installation, evaluation (including daily checks of zero and span calibration drifts), and operation of the continuous emission monitoring system for each of the two stacks. *July 28, 2009, Consent Decree*
- 9.0 A log shall be maintained, on the premises, in which the emissions of SO<sub>2</sub>, in units of tons, are recorded that result from Boilers #3, #4, and #5 combined during each calendar month, beginning with August 2009. Prior to the activation of the continuous emission monitoring systems that are required by the preceding Special Condition 8.0, these monthly SO<sub>2</sub> emissions shall be calculated by multiplying the monthly amount of coal burned in the three boilers combined by an emission factor of 0.019 ton/ton times the monthly average sulfur content of the coal (in units of percentage by weight). The monthly emissions of SO<sub>2</sub> shall be determined from data obtained from the continuous emission monitoring systems once these systems are placed into service. The annual emissions of SO<sub>2</sub>, in units of tons, from the three boilers combined during each rolling twelve (12)-month period, beginning with the period from August 2009 through July 2010, shall also be recorded in this log. §4-57(c)(1)

- 10.0 Emissions of nitrogen oxides (NO<sub>x</sub>) from Boilers #3, #4, and #5 combined ***shall not exceed 292 tons during any period of twelve (12) consecutive months***, beginning with the period from August 2009 through July 2010. *July 28, 2009, Consent Decree*
- 11.0 As of June 30, 2010, for each of the two exhaust stacks that serve Boilers #3, #4, and #5, the emissions of NO<sub>x</sub> at the stack shall be continuously monitored and recorded whenever emissions from a boiler are being vented to that stack. The procedures given in Title 40 *Code of Federal Regulations* §60.13 and §60.48b(b), (c), (d), (e), and (f) shall be followed for the installation, evaluation (including daily checks of zero and span calibration drifts), and operation of the continuous emission monitoring system for each of the two stacks. *July 28, 2009, Consent Decree*
- 12.0 A log shall be maintained, on the premises, in which the emissions of NO<sub>x</sub>, in units of tons, are recorded that result from Boilers #3, #4, and #5 combined during each calendar month, beginning with August 2009. Prior to the activation of the continuous emission monitoring systems that are required by the preceding Special Condition 11.0, these monthly NO<sub>x</sub> emissions shall be calculated by multiplying the monthly amount of coal burned in the three boilers combined by an emission factor of 0.005585 ton/ton. The monthly emissions of NO<sub>x</sub> shall be determined from data obtained from the continuous emission monitoring systems once these systems are placed into service. The annual emissions of NO<sub>x</sub>, in units of tons, from the three boilers combined during each rolling twelve (12)-month period, beginning with the period from August 2009 through July 2010, shall also be recorded in this log. §4-57(c)(1)
- 13.0 The maximum allowable emissions of particulate matter from each of Boilers #3, #4, and #5 are 0.10 pound per 10<sup>6</sup> Btu. This emission limitation is equivalent to 5.50 pounds/hour for the operation of Boiler #3 at its operative heat input capacity and 13.00 pounds/hour for the operation of each of Boilers #4 and #5 at their operative heat input capacities. §4-41, Rule 26.6
- 14.0 Visible emissions from Boilers #3, #4, and #5 ***shall not exceed twenty (20) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours***. §4-41, Rule 3
- 15.0 Testing of any of Boilers #3, #4, and #5, as controlled by a baghouse, to determine the emissions of particulate matter, SO<sub>2</sub>, NO<sub>x</sub>, and carbon monoxide (CO) and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, 6, 7, 9, and 10, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

**Emission Unit 003 – Riley Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, #5, and #6**

- 1.0 Only natural gas and No. 2 fuel oil may be burned in Riley Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, #5, and #6. The sulfur content of the No. 2 fuel oil that is burned in the six vaporizers **shall not exceed 0.3 percent by weight**. (Each of Vaporizers #1, #2, #3, #4, and #5 has a heat input capacity of  $22.0 \times 10^6$  Btu/hour, and Vaporizer #6 has a heat input capacity of  $18.0 \times 10^6$  Btu/hour.) §4-57(a)(1); July 28, 2009, Consent Decree
  - 2.0 Preventative maintenance on Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, #5, and #6 shall be performed at regular intervals in accordance with the permittee's maintenance procedures. §4-57(a)(1)
  - 3.0 Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, and #5 are subject to and the permittee shall comply with "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units," Title 40 *Code of Federal Regulations* Part 60, Subpart Dc, which includes the following requirements:
    - 3.1 For each shipment of No. 2 fuel oil that is received at the facility for combustion in any of Vaporizers #1, #2, #3, #4, #5, and #6, a certification from the supplier shall document its sulfur content and shall verify that it complied with the specifications for No. 2 fuel oil as defined by the American Society for Testing and Materials in ASTM Standard D396. Each such certification shall be maintained on the premises; and
    - 3.2 A log shall be maintained, on the premises, in which the quantities of natural gas and No. 2 fuel oil that are burned in Vaporizers #1, #2, #3, #4, #5, and #6 combined during each calendar month are recorded.
- §4-41, Rule 15 (40 CFR 60.40c-48c) (for Vaporizers #1-5); §4-57(c)(1) (for Vaporizer #6)
- 4.0 **No more than 5%** of the total heat input to Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, #5, and #6 combined **shall be provided by the burning of No. 2 fuel oil during any period of twelve (12) consecutive months**, beginning with the period from August 2009 through July 2010. July 28, 2009, Consent Decree
  - 5.0 A log shall be maintained, on the premises, in which the heat inputs, in units of  $10^6$  Btu, are recorded that are provided by the burning of No. 2 fuel oil and by the burning of natural gas to Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, #5, and #6 combined during each calendar month, beginning with August 2009. The annual heat inputs, in units of  $10^6$  Btu, that are provided by No. 2 fuel oil combustion and by natural gas combustion to the six vaporizers combined during each rolling twelve (12)-month period, beginning with the period from August 2009 through July 2010, shall also be recorded in this log. In addition, the percentage of the total heat input provided by No. 2 fuel oil combustion to

the six vaporizers combined during each such rolling twelve (12)-month period shall be recorded in the log. §4-57(c)(1)

- 6.0 The maximum allowable emissions of particulate matter from each of Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, and #5 are 0.80 pound/hour. These emission limitations are best available control technology (BACT), as determined by the Bureau Director. §4-8(e)(2)
- 7.0 The maximum allowable emissions of particulate matter from Dowtherm<sup>®</sup> Vaporizer #6 are 0.10 pound per 10<sup>6</sup> Btu. This emission limitation is equivalent to 1.80 pounds/hour for the operation of the vaporizer at its heat input capacity. §4-41, Rule 26.6
- 8.0 The maximum allowable emissions of volatile organic compounds (VOCs) from each of Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, and #5 are 0.20 pound/hour. These emission limitations are BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 9.0 Visible emissions from Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, and #5 shall not exceed ten (10) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. This limitation is BACT, as determined by the Bureau Director. §4-8(e)(2)
- 10.0 Visible emissions from Dowtherm<sup>®</sup> Vaporizer #6 shall not exceed ten (10) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. §4-57(a)(1)
- 11.0 Testing of any of Dowtherm<sup>®</sup> Vaporizers #1, #2, #3, #4, #5, and #6 to determine the emissions of particulate matter, sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and carbon monoxide (CO) and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, 6, 7, 9, and 10, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

**Emission Unit 004 – Coal/Coal Ash Storage and Handling**

- 1.0 Visible emissions from the storage or handling of coal or coal ash shall not exceed ten (10) percent opacity for an aggregate of more than fifteen (15) minutes in any period of one hour or more than sixty (60) minutes in any period of twenty-four hours. §4-41, Rule 26.11
  
- 2.0 Visible emissions from the storage or handling of coal or coal ash shall not exceed twenty (20) percent opacity for an aggregate of more than three (3) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. §4-41, Rule 11

## Emission Unit 005 – Dowtherm<sup>®</sup> Transport System

- 1.0 The emission sources of the Dowtherm<sup>®</sup> transport system are three vent condensers. Volatile organic compound (VOC) emissions of biphenyl and diphenyl ether from each of the three condensers shall be vented to and controlled by any of three Nash-Kinema SC-6 demisters. The three demisters shall be operated in accordance with the permittee's standard operating procedures. For each of the three condensers, the condenser shall not be operated if its demister is not in operation. §4-41, Rule 25.3
- 2.0 Fugitive VOC emissions of biphenyl and diphenyl ether from the various valves, flanges, and pumps of the Dowtherm<sup>®</sup> transport system shall be minimized by adherence to the permittee's *Leak Detection and Repair Program for the Dowtherm<sup>®</sup> Transport System*. §4-41, Rule 25.3
- 3.0 The maximum allowable VOC emissions of biphenyl from the three vent condensers combined are 1.0 pound/hour. In addition, the maximum allowable emissions of total VOCs from the three condensers combined are 4.0 pounds/hour. These emission limitations are best available control technology (BACT), as determined by the Bureau Director. §4-41, Rule 25.3
- 4.0 Visible emissions from the Dowtherm<sup>®</sup> transport system shall not exceed twenty (20) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. §4-41, Rule 3
- 5.0 Testing of any of the three vent condensers, as controlled by a demister, to determine the emissions of VOCs and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 9 and 18 or 25, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

**Emission Unit 006 – Two Hexamethylenediamine Receiving Tanks**

- 1.0 A log shall be maintained, on the premises, in which the daily quantity of hexamethylenediamine is recorded that is loaded into either of the two hexamethylenediamine receiving tanks. §4-57(c)(1)
  
- 2.0 Visible emissions from the two hexamethylenediamine receiving tanks shall not exceed twenty (20) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. §4-41, Rule 3

## Emission Unit 007 – Continuous Polymerization Line II

- 1.0 The emission sources of Continuous Polymerization (CP) Line II are an evaporator, a reactor, two finishers, and a pelletizer classifier.
  - 1.1 Particulate matter emissions from the evaporator and two finishers and emissions of particulate matter, volatile organic compounds (VOCs), and ammonia from the reactor shall be vented to and controlled by an Alloy Fabricators/DuPont main scrubber (contact condenser) that uses water as the scrubbing medium. Except for periods of start-up and shutdown, only one of the two finishers may be used at any one time. Alternatively, particulate matter emissions from each of the two finishers can be vented to and controlled by a Keller Technology backup scrubber (contact condenser) rather than the main scrubber. All three scrubbers use water as the scrubbing medium. They shall be operated in accordance with the permittee's standard operating procedures. Neither the evaporator nor the reactor shall be operated if the main scrubber is not in operation. For each of the two finishers, the finisher shall not be operated if both the main scrubber and its backup scrubber are not in operation. [The main scrubber is also used to control particulate matter emissions from Batch Polymer (BP) Evaporators #1, #2, #3, #4, and #5 (Emission Unit 008) and emissions of particulate matter, VOCs, and ammonia from BP Autoclaves #1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, #16, #17, and #18 (Emission Unit 008)]. §4-8(e)(2); §4-41, Rule 23, and Rule 25.3
  - 1.2 Particulate matter emissions from the pelletizer classifier shall be vented to and controlled by a Fisher Klosterman XQ465-21 cyclone. The cyclone shall be operated in accordance with the permittee's standard operating procedures. The classifier shall not be operated if the cyclone is not in operation. §4-41, Rule 27.3
- 2.0 The maximum allowable emissions of particulate matter from the evaporator and reactor combined are 0.07 pound/hour. This emission limitation is best available control technology (BACT), as determined by the Bureau Director. §4-8(e)(2)
- 3.0 The maximum allowable emissions of particulate matter from the two finishers combined are 0.03 pound/hour. This emission limitation is BACT, as determined by the Bureau Director. §4-8(e)(2)
- 4.0 The maximum allowable emissions of particulate matter from the evaporator, reactor, and two finishers of CP Line II and from BP Evaporators #1, #2, #3, #4, and #5 and Autoclaves #1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, #16, #17, and #18 (Emission Unit 008) combined, as vented to the main scrubber, are 0.25 grain per standard cubic foot (gr/scf). §4-41, Rule 10.7

- 5.0 The maximum allowable emissions of particulate matter from the pelletizer classifier are 0.10 pound/hour. This emission limitation is reasonable and proper, as determined by the Bureau Director. *Rule 27.3*
- 6.0 The maximum allowable emissions of VOCs from the reactor are 0.15 pound/hour. This emission limitation is BACT, as determined by the Bureau Director. *§4-41, Rule 25.3*
- 7.0 The maximum allowable emissions of ammonia from the reactor are 0.04 pound/hour. This emission limitation is reasonable and proper, as determined by the Bureau Director. *§4-41, Rule 23*
- 8.0 Visible emissions from the evaporator, reactor, and two finishers shall not exceed twenty (20) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. *§4-41, Rule 3*
- 9.0 Visible emissions from the pelletizer classifier shall not exceed five (5) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. This emission is reasonable and proper, as determined by the Bureau Director. *§4-41, Rule 27.3*
- 10.0 Testing of the evaporator or either of the two finishers, as controlled by a scrubber, or testing of the pelletizer classifier, as controlled by the cyclone, to determine the emissions of particulate matter and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, and 9, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. *§4-3; §4-8(c)(8); §4-57(c)(1)*
- 11.0 Testing of the reactor, as controlled by a scrubber, to determine the emissions of particulate matter, VOCs, and ammonia and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, 9, and 18 or 25, Title 40 *Code of Federal Regulations* Part 60, Appendix A; in accordance with Bay Area Air Quality Management District (BAAQMD) Source Test Procedure ST-1B; and in accordance with §4-3. *§4-3; §4-8(c)(8); §4-57(c)(1)*

**Emission Unit 008 – Batch Polymer Evaporators #1, #2, #3, #4, and #5 and Autoclaves #1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, #16, #17, and #18**

- 1.0 Particulate matter emissions from Batch Polymer (BP) Evaporators #1, #2, #3, #4, and #5 and emissions of particulate matter, volatile organic compounds (VOCs), and ammonia from BP Autoclaves #1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, #16, #17, and #18 shall be vented to and controlled by an Alloy Fabricators/DuPont scrubber (contact condenser) that uses water as the scrubbing medium. The scrubber shall be operated in accordance with the permittee's standard operating procedures. None of the five evaporators or eighteen autoclaves shall be operated if the scrubber is not in operation. [This scrubber is also used to control particulate matter emissions from the evaporator and two finishers of Continuous Polymerization (CP) Line II (Emission Unit 007) and emissions of particulate matter, VOCs, and ammonia from the reactor of CP Line II. Autoclaves #1, #2, #3, #4, #5, #6, #7, #8, #9, and #10 are served by any of five casting machines that are vented to a single exhaust stack.] §4-41, Rule 23, Rule 25.3, and Rule 27.1; §4-57(a)(1)
- 2.0 The maximum allowable emissions of particulate matter from each of BP Evaporators #1, #2, #3, #4, and #5 are 1.2 pounds/hour. §4-41, Rule 26.17(1)b
- 3.0 The maximum allowable emissions of particulate matter from each of BP Autoclaves #1, #2, #3, #4, #17, and #18 are 0.05 pound/hour. These emission limitations are best available control technology (BACT), as determined by the Bureau Director. §4-41, Rule 27.1
- 4.0 The maximum allowable emissions of particulate matter from each of BP Autoclaves #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, and #16 are 1.0 pound/hour. §4-41, Rule 26.17(1)c
- 5.0 The maximum allowable emissions of particulate matter from BP Evaporators #1, #2, #3, #4, and #5 and Autoclaves #1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, #16, #17, and #18 and from the evaporator, reactor, and two finishers of CP Line II (Emission Unit 007) combined, as vented to the scrubber, are 0.25 grain per standard cubic foot (gr/scf). §4-41, Rule 10.7
- 6.0 The maximum allowable emissions of particulate matter from each of BP Autoclaves #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, and #16, as vented through their respective scrubber bypass stacks, are 0.25 grain per standard cubic foot (gr/scf). These emission limitations are equivalent to 0.43 pound/hour for the reported exhaust flow rate of 200 standard cubic feet per minute (scfm) from each of the twelve bypass stacks. §4-41, Rule 10.7
- 7.0 The maximum allowable emissions of VOCs from each of BP Autoclaves #1, #2, #3, #4, #17, and #18 are 0.03 pound/hour. These emission limitations are BACT, as determined by the Bureau Director. §4-41, Rule 25.3

- 8.0 The maximum allowable emissions of ammonia from each of BP Autoclaves #1, #2, #3, #4, #17, and #18 are 0.015 pound/hour. These emission limitations are reasonable and proper, as determined by the Bureau Director. §4-41, Rule 23
- 9.0 The maximum allowable volatile organic compound (VOC) emissions of caprolactam from the five casting machines combined are 0.10 pound/hour. This emission limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 10.0 Visible emissions from BP Autoclaves #1, #2, #3, #4, #17, and #18 shall not exceed twenty (20) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. This limitation is BACT, as determined by the Bureau Director. §4-41, Rule 27.1
- 11.0 Visible emissions from BP Evaporators #1, #2, #3, #4, and #5 and Autoclaves #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, and #16 shall not exceed twenty (20) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. §4-41, Rule 26.17(2)
- 12.0 Testing of any of BP Evaporators #1, #2, #3, #4, and #5, as controlled by the scrubber, to determine the emissions of particulate matter and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, and 9, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)
- 13.0 Testing of any of BP Autoclaves #1, #2, #3, #4, #5, #6, #7, #8, #9, #10, #11, #12, #13, #14, #15, #16, #17, and #18, as controlled by the scrubber, to determine the emissions of particulate matter, VOCs, and ammonia and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, 9, and 18 or 25, Title 40 *Code of Federal Regulations* Part 60, Appendix A; in accordance with Bay Area Air Quality Management District (BAAQMD) Source Test Procedure ST-1B; and in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)
- 14.0 Testing of any of the five casting machines to determine the VOC emissions of caprolactam may be required by the Bureau Director. If required, this test shall, at a minimum, consist of and be performed in accordance with EPA Test Method 18 or 25, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

**Emission Unit 009 – Batch Polymer Flake Handling System**

1.0 The batch polymer (BP) flake handling system is used to pneumatically convey nylon flake to various spinning machines, blenders, storage bins, packaging operations, and loading facilities. Flake in the blenders of this system is blended by pneumatic recirculation. Particulate matter emissions from all of the emission sources of this interconnected system are emitted from a total of thirty-seven exhaust stacks. For each of these stacks, as designated in the Part 70 permit application, particulate matter emissions from the emission source or sources that exhaust to it shall be vented to and controlled by the following baghouse or baghouses:

Stack Designation	Baghouse	Stack Designation	Baghouse
9B46	13 Young Industries HW42-6 (13 identical baghouses vent to 6 stacks)	BP121	Young Industries HW60-36
9B48		BP122	Young Industries HW36-25
9B55		BP123	Kice Industries VR21-10
9B59		BP124	Young Industries HW48-42
9B64		BP125	Young Industries HW72-64
9B65		CD22	Young Industries IF1766*
BP109	DuPont 12-foot tall cylindrical*	CD54	Young Industries HW42-6
BP110	Young Industries HW48-35	CD55	Young Industries HW42-6
BP111	Young Industries HW48-25	CD121	Young Industries HW48-42
BP112	Young Industries HW48-25	CD125	Kice Industries VR21-10
BP113	Young Industries HW42-6	EP22	Young Industries HW42-12
BP114	Young Industries HW48-21	EP69	Young Industries HW42-12
BP115	Young Industries HW36-25	TX14	Young Industries HW48-21
BP116	Young Industries HW48-42	TX17	Young Industries HW42-18
BP117	Young Industries HW48-35	TX18	Young Industries HW42-18
BP118	Young Industries HW48-42	TX19	Young Industries HW42-18
BP119	Young Industries HW48-25	TX20	Young Industries HW42-18
BP120	Young Industries HW48-16	TX21	Young Industries HW42-18
		TX22	Young Industries HW36-20

\*Cartridge-filter baghouse

The forty-four baghouses shall be operated in accordance with the permittee’s standard operating procedures. For each emission source of the flake handling system, the emission source shall not be operated if its baghouse is not in operation. §4-41, Rule 27.1

- 2.0 The maximum allowable emissions of particulate matter from each of the thirty-seven exhaust stacks of the BP flake handling system are 0.10 pound/hour. These emission limitations are best available control technology (BACT), as determined by the Bureau Director. §4-41, Rule 27.1
- 3.0 Visible emissions from the BP flake handling system shall not exceed five (5) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. This limitation is BACT, as determined by the Bureau Director. §4-41, Rule 27.1
- 4.0 Testing of any of the emission sources of the BP flake handling system, as controlled by a baghouse, to determine the emissions of particulate matter and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, and 9, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

## **Emission Unit 010 – Type 32 Spinning Machines 201, 202, 203, 211, 221, 231, 241, and 251**

- 1.0 Type 32 Spinning Machines 201, 202, 203, 211, 221, 231, 241, and 251 are each equipped with a monomer exhaust, a hot chest exhaust, and a draw jet exhaust. Spinning Machines 201, 202, and 203 are built together as a single unit. Volatile organic compound (VOC) emissions of acrolein and acetaldehyde result from the monomer exhausts of Spinning Machines 202 and 221 and would also result from the monomer exhaust of Spinning Machine 211 if this spinning machine is converted in the future from the production of nylon yarn to polyester yarn under an alternate operating scenario. (The monomer exhausts of Spinning Machines 201, 202, 203, 211, 221, and 231 are vented to two stacks, and the monomer exhausts of Spinning Machines 241 and 251 are vented to two stacks.)

Spinning Machines 202 and 221 are preceded by a polyester flake handling and conditioning system, and this system will be expanded if Spinning Machine 211 is converted to polyester yarn production. The particulate matter emission sources of the flake handling and conditioning system are currently four flake storage silos, two pneumatic conveyors, a set of flake conditioning equipment (for Spinning Machine 202 only), four additive flake dryers, and two nitrogen conveyors (for Spinning Machine 221 only). The additional particulate matter emission sources of an expanded flake handling and conditioning system would be two additive flake dryers and two nitrogen conveyors. The flake handling and conditioning system includes a set of flake conditioning equipment for each of Spinning Machines 202 and 221, and an expanded system would include an additional set of flake conditioning equipment for Spinning Machine 211. The two current sets of flake conditioning equipment are equipped with a single purge vent for VOC emissions of acrolein and a single purge vent for VOC emissions of acetaldehyde, and these two purge vents would also be utilized by the additional set of flake conditioning equipment.

- 1.1 Particulate matter emissions from each of the four flake storage silos shall be vented to and controlled by a Flex-Kleen 30/36-PVBL-16 II G baghouse. The four baghouses shall be operated in accordance with the permittee's standard operating procedures. For each of the four storage silos, the silo shall not be loaded or operated if its baghouse is not in operation. *§4-41, Rule 27.3*
- 1.2 Particulate matter emissions from each of the two pneumatic conveyors shall be vented to and controlled by a Flex-Kleen 28/36-PCBL-7 III baghouse. The two baghouses shall be operated in accordance with the permittee's standard operating procedures. For each of the two pneumatic conveyors, the conveyor shall not be used if its baghouse is not in operation. *§4-41, Rule 27.3*
- 1.3 Particulate matter emissions from the flake conditioning equipment for Spinning Machine 202 and the two additive flake dryers for Spinning Machine 202 shall be vented to and controlled by a Flex-Kleen 100-BVT-25 III baghouse. The baghouse shall be operated in accordance with the permittee's standard operating

procedures. Neither the flake conditioning equipment nor either of the two additive flake dryers shall be operated if the baghouse is not in operation. §4-41, Rule 27.3

- 1.4 Particulate matter emissions from each of the two additive flake dryers for Spinning Machine 221 shall be vented to and controlled by a Carolina P-30-1112 cartridge-filter baghouse. The two baghouses shall be operated in accordance with the permittee's standard operating procedures. For each of the two additive flake dryers, the dryer shall not be operated if its baghouse is not in operation. §4-41, Rule 27.3
- 1.5 If Spinning Machine 211 is converted to polyester yarn production, particulate matter emissions from each of the two additive flake dryers for this spinning machine shall be vented to and controlled by a baghouse. The two baghouses shall be operated in accordance with the permittee's standard operating procedures. For each of the two additive flake dryers, the dryer shall not be operated if its baghouse is not in operation. §4-41, Rule 27.3
- 1.6 Particulate matter emissions from each of the two nitrogen conveyors for Spinning Machine 221 shall be vented to and controlled by a Conair 229-336-01 cartridge-filter baghouse. If Spinning Machine 211 is converted to polyester yarn production, particulate matter emissions from each pair of nitrogen conveyors (one conveyor for each of Spinning Machines 211 and 221) shall be vented to and controlled by a Conair 229-336-01 cartridge-filter baghouse. The two baghouses shall be operated in accordance with the permittee's standard operating procedures. For each of the four nitrogen conveyors, the conveyor shall not be used if its baghouse is not in operation. §4-41, Rule 27.3
- 1.7 Particulate matter emissions from the hot chest exhausts of Spinning Machines 201, 202, 203, and 211 shall be vented to and controlled by either of two American Air Filter/GE 9763Y2114 electrostatic precipitators. Particulate matter emissions from the hot chest exhausts of For Spinning Machines 221 and 231 shall be vented to and controlled by either of two American Air Filter/GE 9763Y2114 electrostatic precipitators. For each of Spinning Machines 241 and 251, particulate matter emissions from the hot chest exhaust of the spinning machine shall be vented to and controlled by an American Air Filter/GE 9763Y2114 electrostatic precipitator. The six electrostatic precipitators shall be operated in accordance with the permittee's standard operating procedures. For each of the eight spinning machines, the hot chest exhaust shall not be used if its electrostatic precipitator is not in operation. §4-41, Rule 27.1; §4-57(a)(1)
- 1.8 For each of Spinning Machines 201 and 251, particulate matter emissions from the draw jet exhaust of the spinning machine shall be vented to and controlled by a DuPont demister. Particulate matter emissions from the draw jet exhausts of Spinning Machines 202, 203, 211, and 221 shall be vented to and controlled by

any of three DuPont demisters. Particulate matter emissions from the draw jet exhaust of Spinning Machine 231 shall be vented to and controlled by either of two DuPont demisters. Particulate matter emissions from the draw jet exhaust of Spinning Machine 241 shall be vented to and controlled by either a separate DuPont demister or by one of the two demisters that can be used for Spinning Machine 231. The eight demisters shall be operated in accordance with the permittee's standard operating procedures. For each of the eight spinning machines, the draw jet exhaust shall not be used if its demister is not in operation. (The demister for Spinning Machine 201 and the three demisters for Spinning Machines Spinning Machines 202, 203, 211, and 221 are vented to a single exhaust stack. The demister that can only be used for Spinning Machine 241 and the demister for Spinning Machine 251 are vented to a single exhaust stack.)  
*§4-41, Rule 27.1; §4-57(c)(1)*

- 2.0 The maximum allowable emissions of particulate matter from the four flake storage silos combined are 1.0 pound/hour. This emission limitation is reasonable and proper, as determined by the Bureau Director. *§4-41, Rule 27.3*
- 3.0 The maximum allowable emissions of particulate matter from the two pneumatic conveyors, the set of flake conditioning equipment for Spinning Machine 202, all of the additive flake dryers, and all of the nitrogen conveyors combined are 0.40 pound/hour. This emission limitation is reasonable and proper, as determined by the Bureau Director. *§4-41, Rule 27.3*
- 4.0 For each of Spinning Machines 201, 203, 231, 241, and 251, the maximum allowable emissions of particulate matter from the three combined exhausts of the spinning machine are 1.0 pound/hour. *§4-41, Rule 26.17(1)a*
- 5.0 The maximum allowable emissions of particulate matter from the three combined exhausts of Spinning Machine 202 are 0.50 pound/hour. This emission limitation is best available control technology (BACT), as determined by the Bureau Director. *§4-41, Rule 27.1*
- 6.0 For each of Spinning Machines 211 and 221, the maximum allowable emissions of particulate matter from the three combined exhausts of the spinning machine are 1.0 pound/hour. These emission limitations are BACT, as determined by the Bureau Director. *§4-41, Rule 27.1*
- 7.0 The maximum allowable VOC emissions of acrolein from all of the sets of flake conditioning equipment combined are 0.10 pound/hour. This emission limitation is BACT, as determined by the Bureau Director. *§4-41, Rule 25.3*
- 8.0 The maximum allowable VOC emissions of acrolein from the monomer exhaust of each of Spinning Machines 202, 211, and 221 are 0.01 pound/hour. These emission limitations are BACT, as determined by the Bureau Director. *§4-41, Rule 25.3*

- 9.0 The maximum allowable VOC emissions of acetaldehyde from all of the sets of flake conditioning equipment combined are 0.10 pound/hour. This emission limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 10.0 The maximum allowable VOC emissions of acetaldehyde from the monomer exhaust of each of Spinning Machines 202, 211, and 221 are 0.01 pound/hour. These emission limitations are BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 11.0 Visible emissions from the four flake storage silos and two pneumatic conveyors shall not exceed five (5) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. This limitation is reasonable and proper, as determined by the Bureau Director. §4-41, Rule 27.3
- 12.0 Visible emissions from the set of flake conditioning equipment for Spinning Machine 202, all of the additive flake dryers, and all of the nitrogen conveyors shall not exceed ten (10) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. This limitation is reasonable and proper, as determined by the Bureau Director. §4-41, Rule 27.3
- 13.0 Visible emissions from Spinning Machines 201, 203, 231, 241, and 251 shall not exceed twenty (20) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. §4-41, Rule 26.17(2)
- 14.0 Visible emissions from Spinning Machines 202, 211, and 221 shall not exceed twenty (20) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. This limitation is BACT, as determined by the Bureau Director. §4-41, Rule 27.1
- 15.0 Testing of any of the four flake storage silos, either of the two pneumatic conveyors, the set of flake conditioning equipment for Spinning Machine 202, any of the additive flake dryers, or any of the nitrogen conveyors, as controlled by a baghouse; testing of the hot chest exhaust or draw jet exhaust of any of Spinning Machines 202, 211, or 221, as controlled by an electrostatic precipitator for the hot chest exhaust and by a demister for the draw jet exhaust; or testing of any of Spinning Machines 201, 203, 231, 241, or 251, as controlled by an electrostatic precipitator for the hot chest exhaust and by a demister for the draw jet exhaust; to determine the emissions of particulate matter and to determine the opacity of the emissions may be required by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, and 9, Title 40 Code of Federal Regulations Part 60, Appendix A and in accordance with §4-3, the Chattanooga Air Pollution Control Ordinance. §4-3; §4-8(c)(8); §4-57(c)(1)

- 16.0 Testing of any of the sets of flake conditioning equipment to determine the VOC emissions of acrolein and acetaldehyde may be required by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Method 18 or 25, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3, the Chattanooga Air Pollution Control Ordinance. §4-3; §4-8(c)(8); §4-57(c)(1)
- 17.0 Testing of the monomer exhaust of any of Spinning Machines 202, 211, or 221 to determine the emissions of particulate matter, the VOC emissions of acrolein and acetaldehyde, and to determine the opacity of the emissions may be required by the Director, the Chattanooga-Hamilton County Air Pollution Control Bureau. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, 9, and 18 or 25, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3, the Chattanooga Air Pollution Control Ordinance. §4-3; §4-8(c)(8); §4-57(c)(1)

## Emission Unit 011 – Type 71 Spinning Machine 110

- 1.0 Type 71 Spinning Machine 110 is equipped with a monomer exhaust, a hot chest exhaust, and a bulking exhaust.
  - 1.1 Particulate matter emissions from the monomer exhaust shall be vented to and controlled by an American Air Filter 2RC32 baghouse. The baghouse shall be operated in accordance with the permittee's standard operating procedures. The monomer exhaust shall not be used if the baghouse is not in operation. §4-41, Rule 27.3
  - 1.2 Particulate matter emissions from the hot chest exhaust shall be vented to and controlled by an Anderson 2000 WAZ77 venturi scrubber that uses water as the scrubbing medium. The scrubber shall be operated in accordance with the permittee's standard operating procedures. The hot chest exhaust shall not be used if the scrubber is not in operation. §4-41, Rule 27.3
  - 1.3 Particulate matter emissions from the bulking exhaust shall be vented to and controlled by a Munters T120 demister (wave-plate separator) followed by a Newarc venturi scrubber that uses water as the scrubbing medium. The demister and scrubber shall be operated in accordance with the permittee's standard operating procedures. The bulking exhaust shall not be used if either the demister or scrubber is not in operation. (This scrubber is vented to either of two exhaust stacks.) §4-41, Rule 27.3
- 2.0 The maximum allowable emissions of particulate matter from the three combined exhausts of Spinning Machine 110 are 1.0 pound/hour. This emission limitation is reasonable and proper, as determined by the Bureau Director. §4-41, Rule 27.3
- 3.0 Visible emissions from Spinning Machine 110 shall not exceed twenty (20) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. This limitation is reasonable and proper, as determined by the Bureau Director. §4-41, Rule 27.3
- 4.0 Testing of Spinning Machine 110; as controlled by the baghouse for the monomer exhaust, by a scrubber for the hot chest exhaust, and by the demister followed by a scrubber for the bulking exhaust; to determine the emissions of particulate matter and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, and 9, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

## Emission Unit 012 – Texturing Machines 104 and 105

- 1.0 Texturing Machines 104 and 105 are each equipped with two identical exhausts. Particulate matter emissions from each exhaust of these two texturing machines shall be vented to and controlled by a CECO fibrous filter. All four filters shall be operated in accordance with the permittee's standard operating procedures. For each of the two exhausts of each of the two texturing machines, the exhaust shall not be used if its filter is not in operation. (The two filters of each texturing machine are vented to a single exhaust stack.) §4-8(e)(2)
- 2.0 For each of Texturing Machines 104 and 105, the maximum allowable emissions of particulate matter from the two combined exhausts of the texturing machine are 0.15 pound/hour. These emission limitations are best available control technology, as determined by the Bureau Director. §4-8(e)(2)
- 3.0 Visible emissions from Texturing Machines 104 and 105 shall not exceed twenty (20) percent opacity for an aggregate of more than five (5) minutes in any period of one hour or more than twenty (20) minutes in any period of twenty-four hours. §4-41, Rule 3
- 4.0 Testing of either Texturing Machine 104 or 105, as controlled by two filters, to determine the emissions of particulate matter and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall, at a minimum, consist of and be performed in accordance with EPA Test Methods 1, 2, 3, 4, 5, and 9, Title 40 *Code of Federal Regulations* Part 60, Appendix A and in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

## **PERMIT SHIELD**

At the request of the responsible official who signed and certified to the Part 70 permit application, compliance with the conditions of this permit shall be deemed compliance with any “applicable requirements,” as defined in §4-53, as of the date of permit issuance that (1) are included and specifically identified in this permit, or (2) have been determined in writing in this permit not to be applicable to this permittee as specifically identified. This permit shield does not alter or affect the following:

- (a) The provisions of Title 42 U.S.C. §7603 (emergency orders), including the authority of the Administrator of the U.S. EPA, the Board, or the Bureau Director thereunder;
- (b) The liability of a permittee of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- (c) The applicable requirements of the acid rain program promulgated under Title IV of the Clean Air Act consistent with Title 42 U.S.C. §7651g(a);
- (d) The ability of the U.S. EPA to obtain information from a source pursuant to Title 42 U.S.C. §7414, or of the Board or the Bureau Director to obtain information from a source pursuant to the Chattanooga Air Pollution Control Ordinance or any other provision of local, state, or federal law; and §4-57(f)
- (e) The right of any person to damages or other relief on account of injury to persons or property and to maintain any action or other appropriate proceeding therefor; nor does it abridge, limit, impair, create, enlarge, or otherwise affect substantively or procedurally this right. §4-5(1)