

***DRAFT* Part 70 Permit
No. 47-065-5700**

This Permit Shall Remain in Full Force and Effect
From December 30, 2025, through June 20, 2030

Issued to:

**CHATTEM CHEMICALS, INC.
P.O. BOX 180901
3708 ST. ELMO AVENUE
CHATTANOOGA, TENNESSEE 37409-7901**

Designated Representative:
Michael Thompson
Senior Environmental, Health & Safety Engineer
Telephone: 423.822.5029

Responsible Official:

Jason Paul Allen
Vice President/General Manager

*An Application for Renewal Must Be Submitted to the Executive Director
of the Chattanooga-Hamilton County Air Pollution Control Bureau
No Later Than December 20, 2029*

**CHATTANOOGA-HAMILTON COUNTY
AIR POLLUTION CONTROL BUREAU**
CBL Center II
2034 Hamilton Place Blvd., Suite 300
Chattanooga, Tennessee 37421-6127
Telephone: 423.643.5970

Ronald Drumeller
Executive Director

Prepared by Alan Frazier

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EMISSION UNIT SUMMARY

The emission units regulated by this permit are the following:

Emission Unit No.	Description
003	Aluminum Isopropoxide and Aluminum sec-Butoxide Production
004	Aluminum Isopropoxide Drumming Operation
005	Aluminum Derivatives Production
006	Aluminum Monoacetate Spray Dryer
008	Glycine Production
009	Hamposyl [®] Production
010	8-Bromotheophylline Production
011	Specialty Pharmaceuticals Production
012	Raw-Material and Solvent Storage Tanks
013	Johnston and York-Shipley Boilers and Power Flame Thermal-Fluid Heater

CONDITIONS OF GENERAL APPLICABILITY

This permittee, Chattem Chemicals, Inc., 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, Chattem Chemicals 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 BOTH THE CHATTANOOGA AIR POLLUTION CONTROL ORDINANCE AND THE CODE OF FEDERAL REGULATIONS 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 disregarded. §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 or 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 **June 20** of each year throughout the term of this permit. Separate compliance certifications shall be submitted to:

Chattanooga-Hamilton County Air Pollution Control Bureau
CBL Center II
2034 Hamilton Place Blvd., Suite 300
Chattanooga, TN 37421-6127

and to the U.S. Environmental Protection Agency (EPA) Region 4:

via email to EPA_R4_CAA_Reports@epa.gov
or via the U.S. EPA Compliance and Emissions Data Reporting Interface
(CEDRI) system

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; §4-57(c)(5)(iii)(A)
- 3.4.2 Compliance status; §4-57(c)(5)(iii)(C)
- 3.4.3 Whether compliance was continuous or intermittent; §4-57(c)(5)(iii)(B)
- 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); §4-57(c)(5)(iii)(B)
- 3.4.5 Where any specific emission 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 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 emission 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)(D)

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. §4-57(c)(5)(v)

The annual compliance period that is covered by each compliance certification shall be from **April 1** of the previous year **through March 31** of the current year. §4-57(c)(5)

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. §4-3

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. 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 pursuant to the applicable citizen suit provisions under Section 304 of the Clean Air Act (Title 42 U.S.C. §7604) 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, and logs and copies of all reports required by the permit. §4-57(a)(3)(ii)(B)

- 12.2 **Reporting of Emission Limitation Exceedances.** The permittee shall promptly notify the Bureau Director **within twenty-four (24) hours** of any **emission limitation exceedance**. A written report shall be submitted to the Bureau Director **within seven (7) days** of the onset of the exceedance. The report shall include the probable cause of the exceedance and any corrective actions or preventive measures that were taken. §4-57(a)(3)(iii)(B); §4-57(c)(1)

Any excess emissions that create 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(e)(2)

- 13.0 **Emergency Provision.** 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. §4-58(d)
- 15.2 Minor permit modifications to this permit shall be requested and may be granted in accordance with §4-58(e)(1) and (2). §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). §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)”;
- 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 (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 no 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. §4-53
- 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). §4-57(a)(3)
- 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. §4-57(a)(1)
- 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. §4-56

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 **June 20** and **December 20** of each year throughout the term of this permit. The compliance monitoring report shall be submitted to:

Chattanooga-Hamilton County Air Pollution Control Bureau
CBL Center II
2034 Hamilton Place Blvd., Suite 300
Chattanooga, TN 37421-6127

Each such compliance monitoring report shall include the following information:

- 1.1 The annual **quantity of aluminum isopropoxide (AIP)** that was manufactured in the aluminum isopropoxide and aluminum sec-butoxide production process (**Emission Unit 003**) during the preceding **twelve (12) calendar months** (ending on the last day of the reporting period);
- 1.2 The annual **quantity of aluminum sec-butoxide (ASB)** that was manufactured in the AIP and ASB production process (**Emission Unit 003**) during the preceding **twelve (12) calendar months** (ending on the last day of the reporting period);
- 1.3 The annual **number of batches of each specific product**, other than aluminum monoacetate, that were manufactured in the aluminum derivatives production process (**Emission Unit 005**) during the preceding **twelve (12) calendar months** (ending on the last day of the reporting period);
- 1.4 The annual **quantity of dried aluminum monoacetate** that was produced in the aluminum monoacetate spray dryer (**Emission Unit 006**) during the preceding **twelve (12) calendar months** (ending on the last day of the reporting period);
- 1.5 The annual **number of batches of glycine** that were manufactured in the glycine production process (**Emission Unit 008**) during the preceding **twelve (12) calendar months** (ending on the last day of the reporting period);
- 1.6 A summary of monitoring that was performed of applicable valves, pumps, agitators, and connectors of the glycine production process (**Emission Unit 008**) in accordance with the leak detection and repair (LDAR) program. The summary shall include the following:
 - 1.6.1 The **number of valves** that were monitored, the number of valves for which leaks were detected, the percentage of valves with detected leaks,

and the number of any valves for which detected leaks were not repaired during the reporting period;

- 1.6.2 The **number of pumps** that were monitored, the number of pumps for which leaks were detected, the percentage of pumps with detected leaks, and the number of any pumps for which detected leaks were not repaired during the reporting period;
- 1.6.3 The **number of agitators** that were monitored, the number of agitators for which leaks were detected, and the number of any agitators for which detected leaks were not repaired during the reporting period; and
- 1.6.4 The **number of connectors** that were monitored, the number of connectors for which leaks were detected, the percentage of connectors with detected leaks, and the number of any connectors for which detected leaks were not repaired during the reporting period.

For each component type, the **number of any components** that were required to be monitored during the reporting period but **that were not actually monitored** shall also be noted. In addition, for any component with a detected leak that was not repaired during the reporting period, it shall be noted if the component was determined to be non-repairable. Furthermore, **explanations of why any leak repair was delayed** beyond fifteen (15) calendar days and, where appropriate, **of why it was technically infeasible to shut down a process unit to accomplish a leak repair** during the reporting period shall be noted; §4-41, Rule 16.5(c) [40 CFR 63.182(d)(2)]; §4-57(c)(1)

- 1.7 The annual **number of batches of those varieties of Hamposyl® that were manufactured using isopropanol** in the Hamposyl® production process (**Emission Unit 009**) during the preceding **twelve (12) calendar months** (ending on the last day of the reporting period);
- 1.8 The annual **number of batches of 8-bromotheophylline (8-BT)** that were dried in the vacuum shelf dryer of the 8-bromotheophylline production process (**Emission Unit 010**) during the preceding **twelve (12) calendar months** (ending on the last day of the reporting period);
- 1.9 The annual **number of batches of each specific product, identified as resulting in emissions of volatile organic compounds (VOC), hydrogen chloride, or hydrogen bromide**, that were manufactured in the specialty pharmaceuticals production process (**Emission Unit 011**) during the preceding **twelve (12) calendar months** (ending on the last day of the reporting period);

1.10 A summary of pressure testing that was performed of applicable process equipment trains of the specialty pharmaceuticals production process (**Emission Unit 011**) to detect leaks. The summary shall include the following:

1.10.1 The **number of pressure tests** that were conducted for **each process equipment train** during the reporting period; and

1.10.2 The **number of incidents** in which a process equipment train failed either a pressure retest or two consecutive pressure tests during the reporting period.

The **number of any pressure tests** that were required to be conducted during the reporting period but **that were not actually conducted** shall also be noted. In addition, an **explanation of why any leak repair was delayed** beyond fifteen (15) calendar days during the reporting period shall be noted; §4-41, Rule 16.5(c) [40 CFR 63.1255(h)(3)(iii)]; §4-57(c)(1)

1.11 The annual **quantity of isopropanol** that was loaded into either Virgin Isopropanol Storage Tank VA-7000 or T-132 (**Emission Unit 012**) during the preceding **twelve (12) calendar months** (ending on the last day of the reporting period);

1.12 The annual **quantity of natural gas** that was burned in the Johnston and York-ShIPLEY boilers and Power Flame thermal-fluid heater combined (**Emission Unit 013**) during the preceding **twelve (12) calendar months** (ending on the last day of the reporting period); and

1.13 A detailed summary of **emission limitation exceedances** (including those attributable to malfunctions) **and all other deviations from permit requirements** during the reporting period, including every instance in which an emission unit 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 a required parameter (e.g., baghouse differential pressure). For each such incident, the nature and cause of the incident, affected equipment, calendar date, beginning time, elapsed time, and value of any operating parameter that was not met shall be included in the summary. Furthermore, for each incident of an emission limitation exceedance, the estimated resulting emissions shall be included in the summary. §4-57(a)(3)(iii)(A); §4-57(c)(1)

The six (6)-month reporting period that is covered by each compliance monitoring report that is due on June 20 shall be from **October 1** of the previous year **through March 31** of the current year. The six (6)-month reporting period that is covered by each compliance monitoring report that is due on December 20 shall be from **April 1 through September 30** of the current year. §4-57(a)(3)(iii)(A)

- 2.0 **Manufacture of New Products.** The permittee must make written notification to the Bureau Director of its intent to manufacture any product or to use any input material in any emission unit that is new to that emission unit. The notification shall be submitted at least fourteen (14) days prior to any such new production or use and shall include appropriate process and material descriptions and air pollutant emission rates.

In addition, the permittee must file a request with the Bureau Director for a modification of this Part 70 permit if any proposed new product or input material for an emission unit will result in the emission of an air pollutant that is new to that emission unit and that meets any of the following criteria:

- 2.1 A threshold limit value - time-weighted average (TLV-TWA) of less than or equal to 50 parts per million (ppm), as determined by the American Conference of Governmental Industrial Hygienists (ACGIH);
- 2.2 An Occupational Safety and Health Administration (OSHA) limit for air contaminants of less than or equal to 50 ppm, as listed in “Toxic and Hazardous Substances,” Title 29 *Code of Federal Regulations* Part 1910, Subpart Z, §1910.1000, Table Z-1;
- 2.3 Classification by the U.S. EPA as “Human Carcinogen,” “Carcinogenic to Humans,” “Known/Likely Human Carcinogen,” “Probable Human Carcinogen,” or “Likely to Be Carcinogenic to Humans,” as listed in the Integrated Risk Information System (IRIS); or
- 2.4 Inclusion in “The List of Extremely Hazardous Substances and Their Threshold Planning Quantities,” Title 40 *Code of Federal Regulations* Part 355, Appendices A and B.

§4-57(a)(1)

- 3.0 **Startup, Shutdown, and Malfunction Plan.** A written startup, shutdown, and malfunction plan for the glycine production process (**Emission Unit 008**) shall be maintained, on the premises, and complied with in accordance with “General Provisions,” Title 40 *Code of Federal Regulations* Part 63, Subpart A, as required by “National Emission Standards for Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry,” Title 40 *Code of Federal Regulations* Part 63, Subpart F. §4-41, Rule 16.5(c) [40 CFR 63.6(e)(3) and 63.103(a)]
- 4.0 **Compliance Assurance Monitoring.** Air pollution control equipment that is used to control emissions from emission sources of Emission Units 003, 005, and 008 is subject to “Compliance Assurance Monitoring,” Title 40 *Code of Federal Regulations* Part 64. §4-68(d) (40 CFR 64.1–64.10)

- 5.0. **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 (HAP), 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)
- 6.0 **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 consists of fifteen condensers (Emission Units 003, 005, 008, 009, and 010); two baghouses (Emission Units 004 and 006); three scrubbers (Emission Units 005, 010, and 012); and a variable number of condensers and pot scrubbers for the specialty pharmaceuticals production process (Emission Unit 011). §4-57(a)(1)

EMISSION UNIT SPECIAL CONDITIONS

Emission Unit 003 – Aluminum Isopropoxide and Aluminum sec-Butoxide Production

- 1.0 The emission sources of the aluminum isopropoxide (AIP) and aluminum sec-butoxide (ASB) production process are Reactors R-104 and R-107. Emissions of volatile organic compounds (VOC) from each reactor shall be vented to and controlled by a shell-and-tube condenser followed by an Alfa Laval spiral condenser. The four condensers shall be operated in accordance with the permittee's standard operating procedures. For each of the two reactors, the reactor shall not be operated if either of its two condensers is not in operation. These requirements are best available control technology (BACT), as determined by the Bureau Director. *§4-41, Rule 25.3*
- 2.0 For each of Reactors R-104 and R-107, the temperature of the coolant entering the final condenser that is used to control VOC emissions from the reactor shall be maintained at **no greater than 45 °F** whenever the reactor is being operated, and it shall be read at least once prior to or during the production of each AIP or ASB batch in the reactor. A log shall be maintained, on the premises, in which the relevant reactor, **coolant temperature** reading, and calendar date are recorded for **each AIP or ASB batch**. These requirements are BACT, as determined by the Bureau Director, and are in accordance with "Compliance Assurance Monitoring," Title 40 *Code of Federal Regulations* Part 64. *§4-41, Rule 25.3; §4-57(c)(1); §4-68(d) (40 CFR 64.1–64.10)*
- 3.0 Emissions of VOC from the AIP and ASB production process shall not exceed 13.0 tons during any period of twelve (12) consecutive calendar months. This emission limitation is BACT, as determined by the Bureau Director. *§4-41, Rule 25.3*
- 4.0 No more than **1,130.0 tons of AIP** shall be manufactured in the AIP and ASB production process **during any period of twelve (12) consecutive calendar months**. This limitation is BACT, as determined by the Bureau Director. *§4-41, Rule 25.3*
- 5.0 No more than **80.0 tons of ASB** shall be manufactured in the AIP and ASB production process **during any period of twelve (12) consecutive calendar months**. This limitation is BACT, as determined by the Bureau Director. *§4-41, Rule 25.3*
- 6.0 A log shall be maintained, on the premises, in which the **quantities of AIP and ASB** that are manufactured in the AIP and ASB production process during **each calendar month** are recorded. In addition, the annual quantities of AIP and ASB that are manufactured shall each be totaled in this log for **each rolling twelve (12)-calendar month period**. *§4-57(c)(1)*
- 7.0 Testing of the either Reactor R-104 or R-107, as controlled by two condensers in series, to determine the emissions of VOC may be required by the Bureau Director. If required, this

test shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

Emission Unit 004 – Aluminum Isopropoxide Drumming Operation

- 1.0 The emission sources of the aluminum isopropoxide (AIP) drumming operation are a granulator and a solids drumming station. Emissions of particulate matter (PM) from the granulator and drumming station shall be vented to and controlled by an Ultra Industries BB-49-84-III baghouse. The baghouse shall be operated in accordance with the permittee's standard operating procedures. Neither the granulator nor the drumming station shall be operated if the baghouse is not in operation. These requirements are reasonable and proper, as determined by the Bureau Director. §4-41, Rule 27.3
- 2.0 The differential pressure across the baghouse shall be maintained within a range of **1.0 to 9.0 inches of water column** whenever the AIP drumming operation is being performed, and it shall be read at least each day during the performance of the drumming operation. In addition, the presence, or lack thereof, of any visible emissions from the baghouse exhaust stack shall be determined by **visual observation** at least once each day during the performance of the drumming operation. Corrective action shall be taken if the differential pressure is not within the required range or if any emissions are visible. A log shall be maintained, on the premises, in which the **differential pressure** reading, the **result of the visual observation**, a description of any corrective action, and the calendar date are recorded for **each day** during which the drumming operation is performed. These requirements are reasonable and proper, as determined by the Bureau Director. §4-41, Rule 27.3; §4-57(c)(1)
- 3.0 The maximum allowable emissions of PM from the AIP drumming operation are 0.05 pound/hour. This emission limitation is reasonable and proper, as determined by the Bureau Director. §4-41, Rule 27.3
- 4.0 Volatile organic compound (VOC) emissions of isopropanol that result from AIP decomposition in the AIP drumming operation shall not exceed 1.90 tons during any period of twelve (12) consecutive calendar months. This emission limitation is best available control technology (BACT), as determined by the Bureau Director. §4-41, Rule 25.3
- 5.0 Visible emissions from the AIP drumming operation 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
- 6.0 Testing of the AIP drumming operation, as controlled by the baghouse, to determine the emissions of PM and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

Emission Unit 005 – Aluminum Derivatives Production

- 1.0 The emission sources of the aluminum derivatives production process are Reactors R-101, R-102, R-103, R-106, and two product drumming stations.
- 1.1 For each of Reactors R-101, R-102, and R-103, emissions of volatile organic compounds (VOC) resulting from the reactor, while being used to manufacture any product involving a reaction, shall be vented to and controlled by a shell-and-tube condenser followed by an Alfa Laval spiral condenser. The six condensers shall be operated in accordance with the permittee's standard operating procedures. For each of the three reactors, the reactor shall not be used to manufacture any product involving a reaction if either of its two condensers is not in operation.
- 1.2 Emissions of VOC resulting from Reactor R-106, while being used to manufacture any product involving a reaction, shall be vented to and controlled by two Alfa Laval spiral condensers in series. The two condensers shall be operated in accordance with the permittee's standard operating procedures. Reactor R-106 shall not be used to manufacture any product involving a reaction if either of its two condensers is not in operation.
- 1.3 Any emissions of VOC resulting from the operation of the two product drumming stations shall be vented to and controlled by a packed-tower scrubber that uses water as the scrubbing medium. The scrubber shall be operated in accordance with the permittee's standard operating procedures. Neither of the two drumming stations shall be operated in a manner that results in VOC emissions if the scrubber is not in operation.

These requirements are best available control technology (BACT), as determined by the Bureau Director. *§4-41, Rule 25.3*

- 2.0 For each of Reactors R-101, R-102, R-103, and R-106, the temperature of the coolant entering the final condenser that is used to control VOC emissions from the reactor shall be maintained at **no greater than 45 °F** whenever the reactor is being used to manufacture any product batch involving a reaction, and it shall be read at least once prior to or during the production of each such batch in the reactor. A log shall be maintained, on the premises, in which the relevant reactor, **coolant temperature** reading, and calendar date are recorded for **each applicable product batch**. These requirements are BACT, as determined by the Bureau Director, and are in accordance with "Compliance Assurance Monitoring," Title 40 *Code of Federal Regulations* Part 64. *§4-41, Rule 25.3; §4-57(c)(1); §4-68(d) (40 CFR 64.1-10)*
- 3.0 **Water flow to the scrubber shall be verified** by observation through a sight glass in the water recirculation line at least once prior to or during the drumming in either of the two product drumming stations of any product batch that is drummed in a manner that results

in emissions of VOC. A log shall be maintained, on the premises, in which the **result of the water flow observation** and the calendar date are recorded for **each such product batch that is drummed**. §4-41, Rule 25.3; §4-57(c)(1)

- 4.0 Emissions of VOC from the aluminum derivatives production process [excluding any VOC emissions that result from the manufacture of aluminum monoacetate, which are accounted for in the VOC emission limitation for the aluminum monoacetate spray dryer (Emission Unit 006)] shall not exceed 8.40 tons during any period of twelve (12) consecutive calendar months. This emission limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 5.0 VOC emissions of xylenes from the aluminum derivatives production process shall not exceed 0.06 ton during any period of twelve (12) consecutive calendar months. This emission limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 6.0 A log shall be maintained, on the premises, in which the **number of batches** of each product that are manufactured in the aluminum derivatives production process during **each calendar month** is recorded. §4-57(c)(1)
- 7.0 Testing of any of Reactors R-101, R-102, R-103, and R-106 as controlled by two condensers in series, to determine the emissions of VOC may be required by the Bureau Director. If required, this test shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

Emission Unit 006 – Aluminum Monoacetate Spray Dryer

- 1.0 Emissions of particulate matter (PM) from the aluminum monoacetate spray dryer shall be vented to and controlled by a Mikro-Pulsaire 47-8-70 baghouse. The baghouse shall be operated in accordance with the permittee's standard operating procedures. The spray dryer shall not be operated if the baghouse is not in operation. §4-57(a)(1)
- 2.0 The differential pressure across the baghouse shall be maintained within a range of **2.5 to 15.0 inches of water column** whenever the aluminum monoacetate spray dryer is being operated, and it shall be read at least once during the drying of each aluminum monoacetate batch. A log shall be maintained, on the premises, in which the **differential pressure** reading and calendar date are recorded for **each aluminum monoacetate batch** that is dried. §4-57(a)(1); §4-57(c)(1)
- 3.0 Only natural gas may be burned as a fuel in the aluminum monoacetate spray dryer. (The heat input capacity of the spray dryer is 1.7×10^6 Btu/hour.) §4-57(a)(1)
- 4.0 Emissions of volatile organic compounds (VOC) from the aluminum monoacetate spray dryer [including any VOC emissions that result from the manufacture of aluminum monoacetate in the aluminum derivatives production process (Emission Unit 005)] shall not exceed 29.0 tons during any period of twelve (12) consecutive calendar months. This emission limitation is best available control technology (BACT), as determined by the Bureau Director. §4-41, Rule 25.3
- 5.0 No more than **191.0 tons of dried aluminum monoacetate** shall be produced in the spray dryer **during any period of twelve (12) consecutive calendar months**. This limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 6.0 A log shall be maintained, on the premises, in which the **quantity of dried aluminum monoacetate** that is produced in the spray dryer during **each calendar month** is recorded. In addition, the annual quantity of dried aluminum monoacetate that is produced shall be totaled in this log for **each rolling twelve (12)-calendar month period**. §4-57(c)(1)
- 7.0 The maximum allowable emissions of PM from the aluminum monoacetate spray dryer are 0.020 grain per dry standard cubic foot (gr/dscf). This emission limitation is equivalent to 0.34 pound/hour for the reported exhaust flow rate of 1,970 dry standard cubic feet per minute (dscfm). §4-41, Rule 26.13
- 8.0 Visible emissions from the aluminum monoacetate spray dryer 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 26.13

- 9.0 Testing of the aluminum monoacetate spray dryer, as controlled by the baghouse, to determine the VOC emissions of acetic acid and isopropanol; to determine the emissions of PM, nitrogen oxides (NO_x), and carbon monoxide (CO); and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

Emission Unit 008 – Glycine Production

- 1.0 The emission sources of the glycine production process are an initial crystallization tank, centrifuge, recrystallization melt tank, two final crystallization tanks, mother liquor supply tank, Virgin Methanol Storage Tank T-312, Methanol Column Feed Tank T-310, Distilled Methanol Receiving Tank T-315, Chilled Methanol Feed Tank T-311, and Methanol Byproduct Storage Tank T-317. Volatile organic compound (VOC) emissions of methanol from the three crystallization tanks, centrifuge, recrystallization melt tank, mother liquor supply tank, methanol storage tank, two methanol feed tanks, methanol receiving tank, and methanol byproduct storage tank shall be vented to and controlled by an Alfa Laval spiral condenser. The condenser shall be operated in accordance with the permittee's standard operating procedures. The three crystallization tanks, recrystallization melt tank, mother liquor supply tank, methanol storage tank, two methanol feed tanks, methanol receiving tank, and methanol byproduct storage tank shall not be used and the centrifuge shall not be operated if the condenser is not in operation. These requirements are best available control technology (BACT), as determined by the Bureau Director. §4-41, Rules 25.3 and 25.27
- 2.0 The glycine production process is subject to and the permittee shall comply with "National Emission Standards for Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry," Title 40 *Code of Federal Regulations* Part 63, Subpart F. §4-41, Rule 16.5(c) (40 CFR 63.100–63.107)
- 3.0 The glycine production process is subject to and the permittee shall comply with "National Emission Standards for Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater," Title 40 *Code of Federal Regulations* Part 63, Subpart G. §4-41, Rule 16.5(c) (40 CFR 63.110–63.153)
- 4.0 The glycine production process is subject to and the permittee shall comply with "National Emission Standards for Hazardous Air Pollutants for Equipment Leaks and Fenceline Monitoring for All Emission Sources," Title 40 *Code of Federal Regulations* Part 63, Subpart H. In accordance with this subpart, a **leak detection and repair (LDAR) program** shall be complied with by the permittee for all applicable valves, pumps, agitators, and connectors of the glycine process. §4-41, Rule 16.5(c) (40 CFR 63.160–63.183); §4-57(c)(1)
- 5.0 The outlet gas temperature of the condenser shall be maintained at **no greater than 32 °F** whenever a batch of glycine is being manufactured in the glycine production process while the outlet gas flow of the condenser is positive. The outlet gas temperature shall be read at least once every fifteen (15) minutes throughout the production of each glycine batch. A log shall be maintained, on the premises, in which the **outlet gas temperature** readings, reading times, and calendar date are recorded for **each glycine batch**. Furthermore, if a concurrent reading of the outlet gas flow indicates that it is either zero or negative, then this flow reading may be noted in the log in lieu of recording the corresponding outlet gas

temperature reading. These requirements are BACT, as determined by the Bureau Director, and are in accordance with “Compliance Assurance Monitoring,” Title 40 *Code of Federal Regulations* Part 64. §4-41, Rules 16.5(c) [40 CFR 63.114(b)(2)], 25.3, and 25.27(2)a.1.(iii); §4-57(c)(1); §4-68(d) (40 CFR 64.1–64.10)

- 6.0 VOC emissions of methanol from the glycine production process shall not exceed 30.0 tons during any period of twelve (12) consecutive calendar months. This emission limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 7.0 A log shall be maintained, on the premises, in which the **number of batches** of glycine that are manufactured in the glycine production process during **each calendar month** is recorded. §4-57(c)(1)
- 8.0 Testing of the glycine production process, as controlled by the condenser, to determine the VOC emissions of methanol may be required by the Bureau Director. If required, this test shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

Emission Unit 009 – Hamposyl® Production

- 1.0 The emission sources of the Hamposyl® production process are a phase separation vessel, purification vessel, intermediate product tank, and two wastewater tanks. A batch of Hamposyl® product from this continuous production process is defined as one tank load weighing up to 23,000 pounds. Volatile organic compound (VOC) emissions of isopropanol from the separation vessel, purification vessel, and intermediate tank shall be vented to and controlled by an Alfa Laval spiral condenser. The condenser shall be operated in accordance with the permittee's standard operating procedures. The separation vessel, purification vessel, and intermediate tank shall not be used to manufacture any variety of Hamposyl® that uses isopropanol in its production if the condenser is not in operation. These requirements are best available control technology (BACT), as determined by the Bureau Director. §4-41, Rule 25.3
- 2.0 **Coolant flow to the condenser shall be verified by observation** through a sight glass in the coolant supply line at least once prior to or during the manufacture, in the Hamposyl® production process, of each batch of any variety of Hamposyl® that uses isopropanol in its production. A log shall be maintained, on the premises, in which the **result of the coolant flow observation** and the calendar date are recorded **for each applicable Hamposyl® batch**. These requirements are BACT, as determined by the Bureau Director. §4-41, Rule 25.3; §4-57(c)(1)
- 3.0 The maximum allowable VOC emissions of isopropanol from the Hamposyl® production process are 15.0 pounds per batch of any variety of Hamposyl® that is produced using isopropanol. This emission limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 4.0 No more than **50 batches of Hamposyl®** shall be manufactured using isopropanol in the Hamposyl® production process **during any period of twelve (12) consecutive calendar months**. This limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 5.0 A log shall be maintained, on the premises, in which the **number of batches** of those varieties of Hamposyl® that are manufactured using isopropanol in the Hamposyl® production process during **each calendar month** is recorded. §4-57(c)(1)
- 6.0 Testing of the Hamposyl® production process, as controlled by the condenser, to determine the VOC emissions of isopropanol may be required by the Bureau Director. If required, this test shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

Emission Unit 010 – 8-Bromotheophylline Production

- 1.0 The emission sources of the 8-bromotheophylline (8-BT) production process are Reactor R-502, three crock filters, and a vacuum shelf dryer.
 - 1.1 Emissions of particulate matter (PM) and volatile organic compounds (VOC) from Reactor R-502 and any VOC emissions from the three crock filters shall be vented to and controlled by a Sly 12-60 packed-tower scrubber that uses an aqueous solution of sodium hydroxide as the scrubbing medium. The scrubber shall be operated in accordance with the permittee's standard operating procedures. The reactor shall not be operated if the scrubber is not in operation. In addition, none of the three filters shall be operated, unless in vacuum service, if the scrubber is not in operation. These requirements are both best available control technology (BACT) and "reasonable and proper," as determined by the Bureau Director. §4-41, Rules 25.3, 25.27, and 27.3
 - 1.2 VOC emissions of methanol from the vacuum shelf dryer shall be vented to and controlled by an Alfa Laval spiral condenser. The condenser shall be operated in accordance with the permittee's standard operating procedures. The dryer shall not be operated if the condenser is not in operation. These requirements are BACT, as determined by the Bureau Director. §4-41, Rules 25.3 and 25.27
- 2.0 The 8-BT production process is subject to and the permittee shall comply with "National Emission Standards for Pharmaceuticals Production," Title 40 *Code of Federal Regulations* Part 63, Subpart GGG. §4-41, Rule 16.5(c) (40 CFR 63.1250–63.1261)
- 3.0 The pH of the scrubbing solution of the scrubber shall be maintained at **no less than 9** whenever Reactor R-502 is being operated or whenever any of the three crock filters is being operated in other than vacuum service, and it shall be read at least once prior to or during the production of each 8-BT batch in the reactor. A log shall be maintained, on the premises, in which the **pH** reading and calendar date are recorded for **each 8-BT batch**. These requirements are BACT, as determined by the Bureau Director. §4-41, Rule 25.3; §4-57(c)(1)
- 4.0 The outlet gas temperature of the condenser shall be maintained at **no greater than 32 °F** whenever the vacuum shelf dryer is operated while the outlet gas flow of the condenser is positive. The outlet gas temperature shall be read at least once during the drying of each 8-BT batch. A log shall be maintained, on the premises, in which the **outlet gas temperature** reading and calendar date are recorded for **each 8-BT batch**. Furthermore, if a concurrent reading of the outlet gas flow indicates that it is either zero or negative, then this flow reading may be noted in the log in lieu of recording the corresponding outlet gas temperature reading. These requirements are BACT, as determined by the Bureau Director. §4-41, Rules 16.5(c) [40 CFR 63.1258(b)(1)], 25.3, and 25.27(2)a.1.(iii); §4-57(c)(1)

- 5.0 Emissions of VOC from the 8-BT production process shall not exceed 0.50 ton during any period of twelve (12) consecutive calendar months. This emission limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 6.0 A log shall be maintained, on the premises, in which the **number of batches** of 8-BT that are dried in the vacuum shelf dryer during **each calendar month** is recorded. §4-57(c)(1)
- 7.0 The maximum allowable emissions of PM from Reactor R-502 are 0.020 grain per dry standard cubic foot (gr/dscf). This emission limitation is equivalent to 0.017 pound/hour for the reported exhaust flow rate of 100 dry standard cubic feet per minute (dscfm). This emission limitation is reasonable and proper, as determined by the Bureau Director. §4-41, Rule 27.3
- 8.0 Visible emissions from Reactor R-502 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
- 9.0 Testing of Reactor R-502, as controlled by the scrubber, to determine the emissions of PM and VOC and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)
- 10.0 Testing of any of the three crock filters, as controlled by the scrubber, or testing of the vacuum shelf dryer, as controlled by the condenser, to determine the emissions of VOC may be required by the Bureau Director. If required, this test shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

Emission Unit 011 – Specialty Pharmaceuticals Production

- 1.0 The emission sources of the specialty pharmaceuticals production process are a variable number of batch reactors and dryers.
 - 1.1 Emissions of volatile organic compounds (VOC) and acetone from each batch reactor and from each dryer shall be vented to and controlled by any of several available shell-and-tube or spiral condensers that are suitable for the application. Each condenser shall be operated in accordance with the permittee's standard operating procedures. For each reactor or dryer, the reactor or dryer shall not be used to manufacture any product that results in emissions of VOC or acetone if its condenser is not in operation. These requirements are both best available control technology (BACT) and "reasonable and proper," as determined by the Bureau Director. §4-41, Rules 23, 25.3, and 25.27
 - 1.2 Emissions of hydrogen chloride and hydrogen bromide from each batch reactor shall be vented to and controlled by any of several available pot scrubbers that are suitable for the application and that use an aqueous solution of either sodium hydroxide or sodium sulfite as the scrubbing medium. Each scrubber shall be operated in accordance with the permittee's standard operating procedures. For each reactor, the reactor shall not be used to manufacture any product that results in emissions of hydrogen chloride or hydrogen bromide if its scrubber is not in operation. These requirements are reasonable and proper, as determined by the Bureau Director. §4-41, Rule 23
- 2.0 The specialty pharmaceuticals production process is subject to and the permittee shall comply with "National Emission Standards for Pharmaceuticals Production," Title 40 *Code of Federal Regulations* Part 63, Subpart GGG. Furthermore, this subpart stipulates compliance with applicable provisions of "National Emission Standards for Hazardous Air Pollutants for Equipment Leaks and Fenceline Monitoring for All Emission Sources," Title 40 *Code of Federal Regulations* Part 63, Subpart H. In accordance with Subpart H, **pressure testing** shall be conducted of all applicable process equipment trains of the specialty pharmaceuticals process. §4-41, Rule 16.5(c) (40 CFR 63.160–63.183 and 63.1250–63.1261); §4-57(c)(1)
- 3.0 For each final condenser that is used to control VOC emissions from any batch reactor or dryer of the specialty pharmaceuticals production process, the outlet gas temperature of the condenser shall be maintained at **no greater than the temperature that is stipulated by §4-41, Rule 25.27(2)a.1.** whenever such a reactor or dryer that vents to the condenser is being used to manufacture any product batch that results in VOC emissions while the outlet gas flow of the condenser is positive.
 - 3.1 For such condensers that control vent streams that contain a total of at least 1.0 ton of hazardous air pollutants (HAP) emissions per calendar year, prior to being

controlled, the outlet gas temperature shall be read at least once every fifteen (15) minutes throughout the production of each applicable batch. A log shall be maintained, on the premises, in which the relevant condenser, **outlet gas temperature** readings, reading times, and calendar date are recorded for **each applicable product batch**. Furthermore, if a concurrent reading of the outlet gas flow indicates that it is either zero or negative, then this flow reading may be noted in the log in lieu of recording the corresponding outlet gas temperature reading.

- 3.2 For all other such condensers, the outlet gas temperature shall be read at least once during the production of each applicable batch. A log shall be maintained, on the premises, in which the relevant condenser, **outlet gas temperature** reading, and calendar date are recorded for **each applicable product batch**. Furthermore, if a concurrent reading of the outlet gas flow indicates that it is either zero or negative, then this flow reading may be noted in the log in lieu of recording the corresponding outlet gas temperature reading.

These requirements are BACT, as determined by the Bureau Director. §4-41, Rules 16.5(c) [40 CFR 63.1258(b)(1)], 25.3, and 25.27(2)a.1.; §4-57(c)(1)

- 4.0 For each pot scrubber that is used to control emissions of either hydrogen chloride or hydrogen bromide from any batch reactor of the specialty pharmaceuticals production process, the pH of the scrubbing solution of the scrubber shall be maintained at **no less than 9** whenever such a reactor that vents to the scrubber is being used to manufacture any product batch that results in hydrogen chloride or hydrogen bromide emissions, and it shall be read at least once prior to or during the production of each applicable batch. A log shall be maintained, on the premises, in which the relevant scrubber, **pH** reading, and calendar date are recorded for **each applicable product batch**. These requirements are reasonable and proper, as determined by the Bureau Director. §4-41, Rules 16.5(c) [40 CFR 63.1258(b)(1)] and 23; §4-57(c)(1)
- 5.0 Emissions of VOC from the specialty pharmaceuticals production process shall not exceed 12.50 tons during any period of twelve (12) consecutive calendar months. This emission limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 6.0 Emissions of all VOC HAP (e.g., methanol and hexane) combined from the specialty pharmaceuticals production process shall not exceed 4.50 tons during any period of twelve (12) consecutive calendar months. This emission limitation is BACT, as determined by the Bureau Director. §4-41, Rule 25.3
- 7.0 Emissions of hydrogen chloride and hydrogen bromide combined from the specialty pharmaceuticals production process shall not exceed 1.50 tons during any period of twelve (12) consecutive calendar months. This emission limitation is reasonable and proper, as determined by the Bureau Director. §4-41, Rule 23

- 8.0 A log shall be maintained, on the premises, in which the **number of batches** of each specific product that results in emissions of VOC, acetone, hydrogen chloride, or hydrogen bromide that are manufactured in the specialty pharmaceuticals production process during **each calendar month** is recorded. §4-57(c)(1)
- 9.0 Testing of any batch reactor or dryer of the specialty pharmaceuticals production process, as controlled by a condenser, to determine the emissions of VOC may be required by the Bureau Director. If required, this test shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)
- 10.0 Testing of any batch reactor of the specialty pharmaceuticals production process, as controlled by a pot scrubber, to determine the emissions of hydrogen chloride or hydrogen bromide may be required by the Bureau Director. If required, this test shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed in accordance with §4-3. §4-3; §4-8(c)(8); §4-57(c)(1)

Emission Unit 012 – Raw-Material and Solvent Storage Tanks

- 1.0 Emissions of hydrogen chloride from the hydrochloric acid storage tank shall be vented to and controlled by a Sly 12-48 packed-tower scrubber that uses water as the scrubbing medium. The scrubber shall be operated in accordance with the permittee's standard operating procedures. The storage tank shall not be loaded if the scrubber is not in operation. These requirements are reasonable and proper, as determined by the Bureau Director. *§4-41, Rule 23*
- 2.0 Emissions of hydrogen chloride from the hydrochloric acid storage tank shall not exceed 0.20 ton during any period of twelve (12) consecutive calendar months. This emission limitation is reasonable and proper, as determined by the Bureau Director. *§4-41, Rule 23*
- 3.0 Volatile organic compound (VOC) emissions of isopropanol from Virgin Isopropanol Storage Tanks VA-7000 and T-132, Dilute Isopropanol Storage Tank T-508, and Isopropanol Distillate Storage Tanks T-135 and T-142 combined shall not exceed 1.0 ton during any period of twelve (12) consecutive calendar months. This emission limitation is best available control technology (BACT), as determined by the Bureau Director. *§4-41, Rule 25.3*
- 4.0 A log shall be maintained, on the premises, in which the **quantity of isopropanol** that is loaded into either Storage Tank VA-7000 or T-132 during **each calendar month** is recorded. *§4-57(c)(1)*
- 5.0 VOC emissions of sec-butyl alcohol from sec-Butyl Alcohol Storage Tank T-129 shall not exceed 0.30 ton during any period of twelve (12) consecutive calendar months. This emission limitation is BACT, as determined by the Bureau Director. *§4-41, Rule 25.3*
- 6.0 VOC emissions of ethyl acetoacetate from Ethyl Acetoacetate Storage Tank T-131 shall not exceed 0.10 ton during any period of twelve (12) consecutive calendar months. This emission limitation is BACT, as determined by the Bureau Director. *§4-41, Rule 25.3*

**Emission Unit 013 – Johnston and York-Shipley
Boilers and Power Flame Thermal-Fluid Heater**

- 1.0 Only natural gas may be burned in the Johnston and York-Shipley boilers and Power Flame Thermal-Fluid Heater. (Heat input capacities are 10.0×10^6 Btu/hour for the Johnston boiler, 25.15×10^6 Btu/hour for the York-Shipley boiler, and 2.0×10^6 Btu/hour for the heater.) §4-57(a)(1)
- 2.0 Preventative maintenance on the two boilers and thermal-fluid heater shall be performed at regular intervals in accordance with the permittee's maintenance procedures. §4-57(a)(1)
- 3.0 The two boilers and thermal-fluid heater are subject to and the permittee shall comply with "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters," Title 40 *Code of Federal Regulations* Part 63, Subpart DDDDD. In accordance with this subpart, a **performance tune-up** of each of the two boilers shall be conducted **each year [no more than thirteen (13) months apart]** and a performance tune-up of the heater shall be conducted **every five (5) years (no more than 61 months apart)**. §4-41, Rule 16.5(c) (40 CFR 63.7480–63.7575)
- 4.0 The York-Shipley boiler is 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. In accordance with this subpart, a log shall be maintained, on the premises, in which the **quantity of natural gas** that is burned in the two boilers and thermal-fluid heater combined during **each calendar month** is recorded. §4-41, Rule 15.1 (40 CFR 60.40c–60.48c); §4-57(c)(1)
- 5.0 The maximum allowable emissions of particulate matter (PM) from the Johnston boiler are 0.20 pound/hour. §4-57(a)(1)
- 6.0 The maximum allowable emissions of PM from the York-Shipley boiler are 0.20 pound/hour. This emission limitation is reasonable and proper, as determined by the Bureau Director. §4-41, Rule 27.3
- 7.0 The maximum allowable emissions of PM from the thermal-fluid heater are 0.04 pound/hour. This emission limitation is best available control technology (BACT), as determined by the Bureau Director. §4-8(e)(2)
- 8.0 Visible emissions from the Johnston boiler 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 York-Shipley boiler 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
- 10.0 Visible emissions from the thermal-fluid heater 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)
- 11.0 Testing of either of the two boilers or the thermal-fluid heater to determine the emissions of PM, nitrogen oxides (NO_x), and carbon monoxide (CO) and to determine the opacity of the emissions may be required by the Bureau Director. If required, these tests shall consist of and be performed in accordance with test methods approved by the U.S. EPA and be performed 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:

- 1.0 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; §4-57(f)(3)(i)
- 2.0 The liability of a permittee of a source for any violation of applicable requirements prior to or at the time of permit issuance; §4-57(f)(3)(ii)
- 3.0 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); §4-57(f)(3)(iii)
- 4.0 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)(3)(iv)
- 5.0 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)

§4-57(f)