



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
AIR QUALITY PROGRAM

PLAN APPROVAL

Issue Date: January 5, 2024

Effective Date: July 6, 2026

Revision Date: June 30, 2026

Expiration Date: July 5, 2027

Revision Type: Extension

In accordance with the provisions of the Air Pollution Control Act, the Act of January 8, 1960, P.L. 2119, as amended, and 25 Pa. Code Chapter 127, the Owner, [and Operator if noted] (hereinafter referred to as permittee) identified below is authorized by the Department of Environmental Protection (Department) to construct, install, modify or reactivate the air emission source(s) more fully described in the site inventory list. This Facility is subject to all terms and conditions specified in this plan approval. Nothing in this plan approval relieves the permittee from its obligations to comply with all applicable Federal, State and Local laws and regulations.

The regulatory or statutory authority for each plan approval condition is set forth in brackets. All terms and conditions in this permit are federally enforceable unless otherwise designated as "State-Only" requirements.

Plan Approval No. 09-0126D

Federal Tax Id - Plant Code: 55-0884195-1

Owner Information

Name: AIR LIQUIDE ELECTRONICS US LP

Mailing Address: 19 STEEL RD W
MORRISVILLE, PA 19067-3615

Plant Information

Plant: AIR LIQUIDE ELECTRONICS US LP/MORRISVILLE MFG PLT

Location: 09 Bucks County 09002 Falls Township

SIC Code: 2813 Manufacturing - Industrial Gases

Responsible Official

Name: MIKE LOPEZ

Title: ESG PLANT MANAGER

Phone: (215) 428 - 4607

Email: michael.lopez@airliquide.com

Plan Approval Contact Person

Name: THOMAS GREENHILL

Title: PROJECT MANAGER

Phone: (713) 301 - 8310

Email: thomas.greenhill@airliquide.com

[Signature] _____

JILLIAN A. GALLAGHER, SOUTHEAST REGION AIR PROGRAM MANAGER



Plan Approval Description

This plan approval is for the expansion of the existing Dichlorosilane Process (Chloride Gases) and the Silane Process (Pyrophoric Gases).



SECTION A. Table of Contents

Section A. Facility/Source Identification

Table of Contents
Plan Approval Inventory List

Section B. General Plan Approval Requirements

- #001 Definitions
- #002 Future Adoption of Requirements
- #003 Plan Approval Temporary Operation
- #004 Content of Applications
- #005 Public Records and Confidential Information
- #006 Plan Approval Terms and Conditions
- #007 Transfer of Plan Approvals
- #008 Inspection and Entry
- #009 Plan Approval Changes for Cause
- #010 Circumvention
- #011 Submissions
- #012 Risk Management
- #013 Prohibition of Air Pollution
- #014 Compliance Requirement

Section C. Site Level Plan Approval Requirements

- C-I: Restrictions
- C-II: Testing Requirements
- C-III: Monitoring Requirements
- C-IV: Recordkeeping Requirements
- C-V: Reporting Requirements
- C-VI: Work Practice Standards
- C-VII: Additional Requirements
- C-VIII: Compliance Certification
- C-IX: Compliance Schedule

Section D. Source Level Plan Approval Requirements

- D-I: Restrictions
- D-II: Testing Requirements
- D-III: Monitoring Requirements
- D-IV: Recordkeeping Requirements
- D-V: Reporting Requirements
- D-VI: Work Practice Standards
- D-VII: Additional Requirements

Note: These same sub-sections are repeated for each source!

Section E. Source Group Restrictions

- E-I: Restrictions
- E-II: Testing Requirements
- E-III: Monitoring Requirements
- E-IV: Recordkeeping Requirements
- E-V: Reporting Requirements
- E-VI: Work Practice Standards
- E-VII: Additional Requirements

Section F. Alternative Operating Scenario(s)

- F-I: Restrictions
- F-II: Testing Requirements



SECTION A. Table of Contents

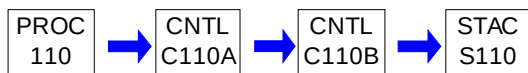
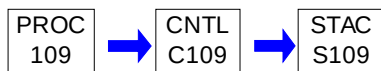
F-III: Monitoring Requirements
F-IV: Recordkeeping Requirements
F-V: Reporting Requirements
F-VI: Work Practice Standards
F-VII: Additional Requirements

Section G. Emission Restriction Summary

Section H. Miscellaneous

**SECTION A. Plan Approval Inventory List**

Source ID	Source Name	Capacity/Throughput	Fuel/Material
109	CHLORIDE GASES EXPANSION		
110	PYROPHORIC GASES EXPANSION		
C109	CHLORIDE GASES EXPANSION SCRUBBER	0.260 Lbs/HR	DICHLOROSILANE
C110A	PYROPHORIC GASES EXPANSION AFTERBURNER	0.698 Lbs/HR	SILANE
C110B	PYROPHORIC GASES EXPANSION FABRIC FILTER	0.699 Lbs/HR	SILANE
S109	CHLORIDE GASES EXPANSION STACK		
S110	PYROPHORIC GASES EXPANSION STACK		

PERMIT MAPS

**SECTION B. General Plan Approval Requirements****#001 [25 Pa. Code § 121.1]****Definitions**

Words and terms that are not otherwise defined in this plan approval shall have the meanings set forth in Section 3 of the Air Pollution Control Act (35 P.S. § 4003) and 25 Pa. Code § 121.1.

#002 [25 Pa. Code § 127.12b (a) (b)]**Future Adoption of Requirements**

The issuance of this plan approval does not prevent the future adoption by the Department of any rules, regulations or standards, or the issuance of orders necessary to comply with the requirements of the Federal Clean Air Act or the Pennsylvania Air Pollution Control Act, or to achieve or maintain ambient air quality standards. The issuance of this plan approval shall not be construed to limit the Department's enforcement authority.

#003 [25 Pa. Code § 127.12b]**Plan Approval Temporary Operation**

This plan approval authorizes temporary operation of the source(s) covered by this plan approval provided the following conditions are met.

(a) When construction, installation, modification, or reactivation is being conducted, the permittee shall provide written notice to the Department of the completion of the activity approved by this plan approval and the permittee's intent to commence operation at least five (5) working days prior to the completion of said activity. The notice shall state when the activity will be completed and when the permittee expects to commence operation. When the activity involves multiple sources on different time schedules, notice is required for the commencement of operation of each source.

(b) Pursuant to 25 Pa. Code § 127.12b (d), temporary operation of the source(s) is authorized to facilitate the shakedown of sources and air cleaning devices, to permit operations pending the issuance of a permit under 25 Pa. Code Chapter 127, Subchapter F (relating to operating permits) or Subchapter G (relating to Title V operating permits) or to permit the evaluation of the air contaminant aspects of the source.

(c) This plan approval authorizes a temporary operation period not to exceed 180 days from the date of commencement of operation, provided the Department receives notice from the permittee pursuant to paragraph (a), above.

(d) The permittee may request an extension of the 180-day shakedown period if further evaluation of the air contamination aspects of the source(s) is necessary. The request for an extension shall be submitted, in writing, to the Department at least 30 days prior to the end of the initial 180-day shakedown period and shall provide a description of the compliance status of the source, a detailed schedule for establishing compliance, and the reasons compliance has not been established. This temporary operation period will be valid for a limited time and may be extended for additional limited periods, each not to exceed 180 days.

(e) The notice submitted by the permittee pursuant to subpart (a) above, prior to the expiration of the plan approval, shall modify the plan approval expiration date on Page 1 of this plan approval. The new plan approval expiration date shall be 180 days from the date of commencement of operation.

#004 [25 Pa. Code § 127.12(a) (10)]**Content of Applications**

The permittee shall maintain and operate the sources and associated air cleaning devices in accordance with good engineering practice as described in the plan approval application submitted to the Department.

#005 [25 Pa. Code §§ 127.12(c) and (d) & 35 P.S. § 4013.2]**Public Records and Confidential Information**

(a) The records, reports or information obtained by the Department or referred to at public hearings shall be available to the public, except as provided in paragraph (b) of this condition.

(b) Upon cause shown by the permittee that the records, reports or information, or a particular portion thereof, but not emission data, to which the Department has access under the act, if made public, would divulge production or sales figures or methods, processes or production unique to that person or would otherwise tend to affect adversely the

**SECTION B. General Plan Approval Requirements**

competitive position of that person by revealing trade secrets, including intellectual property rights, the Department will consider the record, report or information, or particular portion thereof confidential in the administration of the act. The Department will implement this section consistent with sections 112(d) and 114(c) of the Clean Air Act (42 U.S.C.A. § 7412(d) and 7414(c)). Nothing in this section prevents disclosure of the report, record or information to Federal, State or local representatives as necessary for purposes of administration of Federal, State or local air pollution control laws, or when relevant in a proceeding under the act.

#006 [25 Pa. Code § 127.12b]**Plan Approval Terms and Conditions**

[Additional authority for this condition is derived from 25 Pa. Code Section 127.13]

(a) This plan approval will be valid for a limited time, as specified by the expiration date contained on Page 1 of this plan approval. Except as provided in § 127.11a and 127.215 (relating to reactivation of sources; and reactivation), at the end of the time, if the construction, modification, reactivation or installation has not been completed, a new plan approval application or an extension of the previous approval will be required.

(b) If construction has commenced, but cannot be completed before the expiration of this plan approval, an extension of the plan approval must be obtained to continue construction. To allow adequate time for departmental action, a request for the extension shall be postmarked at least thirty (30) days prior to the expiration date. The request for an extension shall include the following:

- (i) A justification for the extension,
- (ii) A schedule for the completion of the construction

If construction has not commenced before the expiration of this plan approval, then a new plan approval application must be submitted and approval obtained before construction can commence.

(c) If the construction, modification or installation is not commenced within 18 months of the issuance of this plan approval or if there is more than an 18-month lapse in construction, modification or installation, a new plan approval application that meets the requirements of 25 Pa. Code Chapter 127, Subchapter B (related to plan approval requirements), Subchapter D (related to prevention of significant deterioration of air quality), and Subchapter E (related to new source review) shall be submitted. The Department may extend the 18-month period upon a satisfactory showing that an extension is justified.

#007 [25 Pa. Code § 127.32]**Transfer of Plan Approvals**

(a) This plan approval may not be transferred from one person to another except when a change of ownership is demonstrated to the satisfaction of the Department and the Department approves the transfer of the plan approval in writing.

(b) Section 127.12a (relating to compliance review) applies to a request for transfer of a plan approval. A compliance review form shall accompany the request.

(c) This plan approval is valid only for the specific source and the specific location of the source as described in the application.

#008 [25 Pa. Code § 127.12(a)(4) & 35 P.S. § 4008 & § 114 of the CAA]**Inspection and Entry**

(a) Pursuant to 35 P.S. § 4008, no person shall hinder, obstruct, prevent or interfere with the Department or its personnel in the performance of any duty authorized under the Air Pollution Control Act.

(b) The permittee shall also allow the Department to have access at reasonable times to said sources and associated air cleaning devices with such measuring and recording equipment, including equipment recording visual observations, as the Department deems necessary and proper for performing its duties and for the effective enforcement of the Air Pollution Control Act and regulations adopted under the act.

**SECTION B. General Plan Approval Requirements**

(c) Nothing in this plan approval condition shall limit the ability of the Environmental Protection Agency to inspect or enter the premises of the permittee in accordance with Section 114 or other applicable provisions of the Clean Air Act.

#009 [25 Pa. Code 127.13a]**Plan Approval Changes for Cause**

This plan approval may be terminated, modified, suspended or revoked and reissued if one or more of the following applies:

- (a) The permittee constructs or operates the source subject to the plan approval in violation of the act, the Clean Air Act, the regulations promulgated under the act or the Clean Air Act, a plan approval or permit or in a manner that causes air pollution.
- (b) The permittee fails to properly or adequately maintain or repair an air pollution control device or equipment attached to or otherwise made a part of the source.
- (c) The permittee fails to submit a report required by this plan approval.
- (d) The Environmental Protection Agency determines that this plan approval is not in compliance with the Clean Air Act or the regulations thereunder.

#010 [25 Pa. Code §§ 121.9 & 127.216]**Circumvention**

- (a) The permittee, or any other person, may not circumvent the new source review requirements of 25 Pa. Code Chapter 127, Subchapter E by causing or allowing a pattern of ownership or development, including the phasing, staging, delaying or engaging in incremental construction, over a geographic area of a facility which, except for the pattern of ownership or development, would otherwise require a permit or submission of a plan approval application.
- (b) No person may permit the use of a device, stack height which exceeds good engineering practice stack height, dispersion technique or other technique which, without resulting in reduction of the total amount of air contaminants emitted, conceals or dilutes an emission of air contaminants which would otherwise be in violation of this plan approval, the Air Pollution Control Act or the regulations promulgated thereunder, except that with prior approval of the Department, the device or technique may be used for control of malodors.

#011 [25 Pa. Code § 127.12c]**Submissions**

Reports, test data, monitoring data, notifications shall be submitted to the:

Regional Air Program Manager
PA Department of Environmental Protection
(At the address given on the plan approval transmittal letter or otherwise notified)

#012 [25 Pa. Code § 127.12(a)(9) & 40 CFR Part 68]**Risk Management**

- (a) If required by Section 112(r) of the Clean Air Act, the permittee shall develop and implement an accidental release program consistent with requirements of the Clean Air Act, 40 CFR Part 68 (relating to chemical accident prevention provisions) and the Federal Chemical Safety Information, Site Security and Fuels Regulatory Relief Act (P.L. 106-40).
- (b) The permittee shall prepare and implement a Risk Management Plan (RMP) which meets the requirements of Section 112(r) of the Clean Air Act, 40 CFR Part 68 and the Federal Chemical Safety Information, Site Security and Fuels Regulatory Relief Act when a regulated substance listed in 40 CFR § 68.130 is present in a process in more than the listed threshold quantity at the facility. The permittee shall submit the RMP to the Environmental Protection Agency according to the following schedule and requirements:
 - (1) The permittee shall submit the first RMP to a central point specified by the Environmental Protection Agency no later than the latest of the following:

**SECTION B. General Plan Approval Requirements**

- (i) Three years after the date on which a regulated substance is first listed under § 68.130; or,
- (ii) The date on which a regulated substance is first present above a threshold quantity in a process.

(2) The permittee shall submit any additional relevant information requested by the Department or the Environmental Protection Agency concerning the RMP and shall make subsequent submissions of RMPs in accordance with 40 CFR § 68.190.

(3) The permittee shall certify that the RMP is accurate and complete in accordance with the requirements of 40 CFR Part 68, including a checklist addressing the required elements of a complete RMP.

(c) As used in this plan approval condition, the term "process" shall be as defined in 40 CFR § 68.3. The term "process" means any activity involving a regulated substance including any use, storage, manufacturing, handling, or on-site movement of such substances or any combination of these activities. For purposes of this definition, any group of vessels that are interconnected, or separate vessels that are located such that a regulated substance could be involved in a potential release, shall be considered a single process.

#013 [25 Pa. Code § 121.7]**Prohibition of Air Pollution**

No person may permit air pollution as that term is defined in the Air Pollution Control Act (35 P.S. §§ 4001-4015).

#014 [25 Pa. Code § 127.25]**Compliance Requirement**

A person may not cause or permit the operation of a source subject to § 127.11 (relating to plan approval requirements), unless the source and air cleaning devices identified in the application for the plan approval and the plan approval issued to the source, are operated and maintained in accordance with specifications in the application and conditions in the plan approval issued by the Department. A person may not cause or permit the operation of an air contamination source subject to this chapter in a manner inconsistent with good operating practices.

**SECTION C. Site Level Plan Approval Requirements****I. RESTRICTIONS.****Emission Restriction(s).****# 001 [25 Pa. Code §123.1]****Prohibition of certain fugitive emissions**

(a) No person may permit the emission into the outdoor atmosphere of fugitive air contaminant from a source other than the following:

- (1) Construction or demolition of buildings or structures.
- (2) Grading, paving and maintenance of roads and streets.
- (3) Use of roads and streets. Emissions from material in or on trucks, railroad cars and other vehicular equipment are not considered as emissions from use of roads and streets.
- (4) Clearing of land.
- (5) Stockpiling of materials.
- (6) Open burning operations, as specified in 25 Pa. Code § 129.14.
- (7) Blasting in open pit mines. Emissions from drilling are not considered as emissions from blasting;
- (8) N/A
- (9) Sources and classes of sources other than those identified in (1)-(8) of this condition, for which the permittee has obtained a determination from the Department that fugitive emissions from the source, after appropriate control, meet the following requirements:
 - (i) The emissions are of minor significance with respect to causing air pollution; and
 - (ii) The emissions are not preventing or interfering with the attainment or maintenance of any ambient air quality standard.

002 [25 Pa. Code §123.31]**Limitations**

A person may not permit fugitive particulate matter to be emitted into the outdoor atmosphere from a source specified in 25 Pa. Code § 123.1(a) (relating to prohibition of certain fugitive emissions) if such emissions are visible at the point the emissions pass outside the person's property.

003 [25 Pa. Code §123.41]**Limitations**

A person may not permit the emission into the outdoor atmosphere of visible air contaminants in such a manner that the opacity of the emission is either of the following:

- (a) Equal to or greater than 20% for a period or periods aggregating more than three minutes in any 1 hour; or
- (b) Equal to or greater than 60% at any time.

004 [25 Pa. Code §123.42]**Exceptions**

The opacity limitations as per 25 Pa. Code § 123.41 shall not apply to a visible emission in any of the following instances:

- (a) When the presence of uncombined water is the only reason for failure of the emission to meet the limitations.
- (b) When the emission results from the operation of equipment used solely to train and test persons in observing the opacity of visible emissions.
- (c) When the emission results from the sources specified in 25 Pa. Code § 123.1(a) (relating to prohibition of certain fugitive emissions).

005 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

(a) If at any time the Department has cause to believe that air contaminant emissions from any source may be in excess of the limitations specified in this Plan Approval, or established pursuant to, any applicable rule or regulation contained in 25 Pa. Code Article III, the permittee shall be required to conduct whatever tests are deemed necessary by the Department to determine the actual emission rate(s).

(b) Such testing shall be conducted in accordance with the provisions of 25 Pa. Code Chapter 139, the most current



SECTION C. Site Level Plan Approval Requirements

version of the DEP Source Testing Manual, and the EPA Clean Air Act National Stack Testing Guidance, when applicable, and in accordance with any restrictions or limitations established by the Department at such time as it notifies the permittee that testing is required.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

No additional monitoring requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

IV. RECORDKEEPING REQUIREMENTS.

No additional record keeping requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

V. REPORTING REQUIREMENTS.

006 [25 Pa. Code §127.12b] Plan approval terms and conditions.

- (a) The permittee shall report malfunctions, emergencies or incidents of excess emissions to the Department at 484-250-5920. A malfunction is any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. An emergency is any situation arising from sudden and reasonably unforeseeable events beyond the control of the owner or operator of a facility which requires immediate corrective action to restore normal operation and which causes the emission source to exceed emissions, due to unavoidable increases in emissions attributable to the situation. An emergency shall not include situations caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.
- (b) When the malfunction, emergency or incident of excess emissions poses an imminent danger to the public health, safety, welfare, or environment, it shall be reported to the Department and the County Emergency Management Agency by telephone within one (1) hour after the discovery of the malfunction, emergency or incident of excess emissions. The owner or operator shall submit a written or emailed report of instances of such malfunctions, emergencies or incidents of excess emissions to the Department within three (3) business days of the telephone report.
- (c) The report shall describe the following:
- (1) Name, permit or authorization number, and location of the facility;
 - (2) Nature and cause of the malfunction, emergency or incident;
 - (3) Date and time when the malfunction, emergency or incident was first observed;
 - (4) Expected duration of excess emissions;
 - (5) Estimated rate of emissions; and
 - (6) Corrective actions or preventative measures taken.
- (d) Any malfunction, emergency or incident of excess emissions that is not subject to the notice requirements of paragraph (b) of this condition shall be reported to the Department by telephone within 24 hours (or by 4:00 PM of the next business day, whichever is later) of discovery and in writing or by e-mail within five (5) business days of discovery. The report shall contain the same information required by paragraph (c), and any permit specific malfunction reporting requirements.
- (e) During an emergency an owner or operator may continue to operate the source at their discretion provided they submit justification for continued operation of a source during the emergency and follow all the notification and reporting



SECTION C. Site Level Plan Approval Requirements

requirements in accordance with paragraphs (b)-(d), as applicable, including any permit specific malfunction reporting requirements.

(f) Reports regarding malfunctions, emergencies or incidents of excess emissions shall be submitted to the appropriate DEP Regional Office Air Program Manager.

(g) Any emissions resulted from malfunction or emergency are to be reported in the annual emissions inventory report, if the annual emissions inventory report is required by permit or authorization.

VI. WORK PRACTICE REQUIREMENTS.

007 [25 Pa. Code §127.12b] Plan approval terms and conditions.

The permittee shall ensure that the source(s) and air pollution control device(s), listed in this plan approval, are operated and maintained in a manner consistent with good operating and maintenance practices, and in accordance with manufacturer's specifications.

008 [25 Pa. Code §127.12b] Plan approval terms and conditions.

The permittee shall immediately, upon discovery, implement measures which may include the application for the installation of an air cleaning device(s), if necessary, to reduce the air contaminant emissions to within applicable limitations, if at any time the operation of the source(s) identified in this plan approval, is causing the emission of air contaminants in excess of the limitations specified in, or established pursuant to 25 Pa. Code Article III or any other applicable rule promulgated under the Clean Air Act.

009 [25 Pa. Code §127.12b] Plan approval terms and conditions.

The permittee shall comply with all of the existing requirements of its current permit, No. 09-00126, unless specifically revised in this plan approval. The provisions in this plan approval shall be construed to supersede any contrary provisions in any previous operating permit.

VII. ADDITIONAL REQUIREMENTS.

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VIII. COMPLIANCE CERTIFICATION.

No additional compliance certifications exist except as provided in other sections of this plan approval including Section B (relating to Plan Approval General Requirements).

IX. COMPLIANCE SCHEDULE.

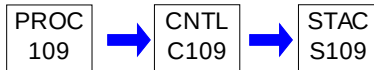
No compliance milestones exist.

**SECTION D. Source Level Plan Approval Requirements**

Source ID: 109

Source Name: CHLORIDE GASES EXPANSION

Source Capacity/Throughput:

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.**# 001 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

For each type of gas processed through this source, the owner or operator shall monitor the following when this source is in operation:

- (a). The volume of each cylinder.
- (b). The number of cylinders processed on a monthly basis.

IV. RECORDKEEPING REQUIREMENTS.**# 002 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

For each type of gas processed through this source, the owner or operator shall record the following when this source is in operation:

- (a). The volume of each cylinder.
- (b). The number of cylinders processed on a monthly basis.

003 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The permittee shall calculate and record the total Dichlorosilane emissions from this source and its associated control devices on a monthly basis and a 12-month rolling sum basis.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.**# 004 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

The owner or operator shall operate this source in a manner that minimizes fugitive emissions of the gases being processed.

**SECTION D. Source Level Plan Approval Requirements****# 005 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

The owner or operator shall operate and maintain this source in accordance with manufacturer's specifications.

006 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

(a) The owner or operator shall only operate this source when the Scrubber (Source ID No. C109) is in operation.

(b) The Scrubber shall not be bypassed under any circumstances.

007 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The transfill equipment and lab instruments, associated with this source, will reside inside exhausted enclosures. Face velocity across the opening shall be at least 200 lfpm (linear feet per minute).

VII. ADDITIONAL REQUIREMENTS.**# 008 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

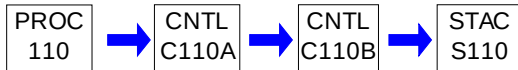
Source ID No. 109 includes, but is not limited to Process Hoods and Controls for Chloride Gases (Dichlorosilane).

**SECTION D. Source Level Plan Approval Requirements**

Source ID: 110

Source Name: PYROPHORIC GASES EXPANSION

Source Capacity/Throughput:

**I. RESTRICTIONS.**

No additional requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.**# 001 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

For each type of gas processed through this source, the owner or operator shall monitor the following when this source is in operation:

- (a). The volume of each cylinder processed.
- (b). The number of cylinders processed on a monthly basis.

IV. RECORDKEEPING REQUIREMENTS.**# 002 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

The permittee shall calculate and record the total particulate matter emissions from this source and its associated control devices on a monthly basis and a 12-month rolling sum basis.

003 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

For each type of gas processed through this source, the owner or operator shall keep records of the following when this source is in operation:

- (a). The volume of each cylinder processed.
- (b). The number of cylinders processed on a monthly basis.

004 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The permittee shall calculate and record the total Silane emissions from this source and its associated control devices on a monthly basis and a 12-month rolling sum basis.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

**SECTION D. Source Level Plan Approval Requirements****VI. WORK PRACTICE REQUIREMENTS.****# 005 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

The permittee shall operate and maintain this source in accordance with manufacturer's specifications.

006 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The indoor product routing panels and lab instruments, associated with this source, will reside inside exhausted enclosures. Face velocity across the opening shall be at least 200 lfpm.

007 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

(a) The owner or operator shall only operate this source when the Afterburner (Source ID No. C110A) and the Fabric Filter (Source ID No. C110B) are in operation.

(b) The Afterburner and Fabric Filter shall not be bypassed under any circumstances.

VII. ADDITIONAL REQUIREMENTS.**# 008 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

Source ID No. 110 includes, but is not limited to, the following: Process Hoods and Controls for Pyrophoric Gases (Silane).

**SECTION D. Source Level Plan Approval Requirements**

Source ID: C109

Source Name: CHLORIDE GASES EXPANSION SCRUBBER

Source Capacity/Throughput:

0.260 Lbs/HR

DICHLOROSILANE

I. RESTRICTIONS.**Control Device Efficiency Restriction(s).****# 001 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

Collected process air shall be vented through the liquid caustic scrubber (C109) achieving a 99.99% reduction efficiency of chloride gases.

002 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The owner or operator shall use a solution of sodium hydroxide to neutralize the chloride and hydrochloric acid gases processed through this scrubber. The owner or operator shall maintain a minimum pH of 11.5 for the scrubber solution for all times when this source is in operation.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.**# 003 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

The owner or operation shall monitor the following parameters as specified for each component to ensure efficient function of the system on a daily basis when the source is in operation:

- a) The pH of the scrubber solution
- b) The flow rate of the packed bed scrubber solution
- c) The flow rate of the venturi scrubber solution, and
- d) The differential pressure across the packed bed

004 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The owner or operator shall operate and maintain this source in accordance with manufacturer's recommendations.

005 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The owner or operator shall monitor the date, time, and duration for any circumstance where a gas bypass occurs and report the malfunction to DEP as required by Section C.

**SECTION D. Source Level Plan Approval Requirements****IV. RECORDKEEPING REQUIREMENTS.****# 006 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

The owner or operator shall record the date when the neutralizing solution is replaced by a new solution in the scrubber.

007 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The owner or operation shall record the following parameters as specified for each component to ensure efficient function of the system on a daily basis when the source is in operation:

- a) The pH of the scrubber solution
- b) The flow rate of the packed bed scrubber solution
- c) The flow rate of the venturi scrubber solution, and
- d) The differential pressure across the packed bed

008 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The owner or operator shall record the date, time, and duration for any circumstance where a gas bypass occurs and report the malfunction to DEP as required by Section C.

009 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The permittee shall keep records of all inspections and/or maintenance that is performed on this source, any deficiencies, and any corrective action taken.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.**# 010 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

The owner or operator shall operate and maintain this source in accordance with manufacturer's specifications and good air pollution control practices.

011 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

If the pH value of the original solution in the tank falls below 11.5, the owner or operator shall add sodium hydroxide to bring the solution pH value above 11.5 to continue operation.

012 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

**SECTION D. Source Level Plan Approval Requirements**

The owner or operator shall operate this source in a manner that minimizes fugitive emissions of the gases being processed.

013 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

Equipment shall be provided so that the following parameter can be measured and recorded for the referenced equipment:

- e) The pH of the scrubber solution
- f) The flow rate of the packed bed scrubber solution
- g) The flow rate of the venturi scrubber solution, and
- h) The differential pressure across the packed bed.

014 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The permittee shall perform inspections and/or maintenance on this scrubber on at least a monthly basis.

015 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The owner or operator shall maintain the following operational parameters for the packed bed stage of the Scrubber System when this system is in operation:

- (a). A minimum flow rate of the scrubber solution of 1 gallons per minute.
- (b). A differential pressure drop, across the packing, between 1.7 iwc and 3.5 iwc.
- (c). A minimum pH of 11.5

016 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The owner or operator shall maintain the following operational parameters for the venturi stage of the Scrubber System when this system is in operation:

- (a). A minimum flow rate of the scrubber solution of 3 gallons per minute.
- (b). A minimum pH of 11.5

VII. ADDITIONAL REQUIREMENTS.**# 017 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

Source ID No. C109 is a CR Clean Air Company liquid caustic Scrubber with a Venturi stage and a Packed Bed stage (Model No. 3x3M-24V/6T-14H-18V).

**SECTION D. Source Level Plan Approval Requirements**

Source ID: C110A

Source Name: PYROPHORIC GASES EXPANSION AFTERBURNER

Source Capacity/Throughput:

0.698 Lbs/HR

SILANE

I. RESTRICTIONS.**Control Device Efficiency Restriction(s).**

001 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

Collected process air shall be vented through an afterburner (C110A) in series with a fabric filter (C110B) achieving a combined 99.99% reduction efficiency of pyrophoric gases and particulate matter.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

002 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

The permittee shall continuously monitor the combustion zone exit gas temperature for this afterburner, when in operation.

IV. RECORDKEEPING REQUIREMENTS.

003 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

The permittee shall keep records of all inspections and/or maintenance that is performed on this source, any deficiencies, and any corrective action taken.

004 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

The permittee shall continuously record the combustion zone exit gas temperature for this afterburner, when in operation.

Note: "continuous" recording requires recordings at least every 15 minutes when the source is in operation.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

VI. WORK PRACTICE REQUIREMENTS.

005 [25 Pa. Code §127.12b]

Plan approval terms and conditions.

The permittee shall perform inspections and/or maintenance on this afterburner on at least a monthly basis.

**SECTION D. Source Level Plan Approval Requirements****# 006 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

Equipment will be installed so that the Afterburner combustion zone temperature can be measured and recorded.

007 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The permittee shall not operate Spource ID 110 (Pyrophoric Gases Expansion) unless this afterburner is in operation.

008 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The permittee shall operate and maintain this source in accordance with the manufacturer's specifications and good air pollution control practices.

009 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The permittee shall maintain a minimum temperature of 1,400°F (760°C) in the afterburner combustion chamber exit gas.

VII. ADDITIONAL REQUIREMENTS.**# 010 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

Source ID C110A is a natural gas-fired Afterburner manufactured by John Zink. Model No. D-601-1. Maximum capacity 0.11 mmBtu/hr.

**SECTION D. Source Level Plan Approval Requirements**

Source ID: C110B

Source Name: PYROPHORIC GASES EXPANSION FABRIC FILTER

Source Capacity/Throughput:

0.699 Lbs/HR

SILANE

I. RESTRICTIONS.**Emission Restriction(s).**

001 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

No person may permit the emission into the outdoor atmosphere of particulate matter from this source in excess of 0.04 gr/dscf, pursuant to 25 Pa. Code § 123.13 (c)(1)(i).

Control Device Efficiency Restriction(s).

002 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

Collected process air shall be vented through an afterburner (C110A) in series with a fabric filter (C110B) achieving a combined 99.99% reduction efficiency of pyrophoric gases and particulate matter.

II. TESTING REQUIREMENTS.

No additional testing requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

III. MONITORING REQUIREMENTS.

003 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

The permittee shall monitor the pressure differential across this fabric filter on a daily basis when this source is in operation.

IV. RECORDKEEPING REQUIREMENTS.

004 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

The permittee shall keep records of all inspections and/or maintenance that is performed on this fabric filter, any deficiencies, and any corrective action taken.

005 [25 Pa. Code §127.12b]
Plan approval terms and conditions.

The permittee shall keep records of the pressure differential across this fabric filter on a daily basis when this source is in operation.

V. REPORTING REQUIREMENTS.

No additional reporting requirements exist except as provided in other sections of this plan approval including Section B (Plan Approval General Requirements).

**SECTION D. Source Level Plan Approval Requirements****VI. WORK PRACTICE REQUIREMENTS.****# 006 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

The permittee shall operate and maintain this source in accordance with the manufacturer's specifications and good air pollution control practices.

007 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The permittee shall perform inspections and/or maintenance on this fabric filter on at least a monthly basis.

008 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The permittee shall keep on hand a sufficient quantity of spare fabric collector cartridges for this fabric collector in order to be able to immediately replace any cartridges or bags requiring replacement.

009 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

Equipment will be installed so that the Fabric Filter pressure drop across collector can be measured.

010 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The permittee shall not operate Source ID 110 (Pyrophoric Gases Expansion) unless the afterburner and this fabric filter are in operation.

011 [25 Pa. Code §127.12b]**Plan approval terms and conditions.**

The pressure drop across this Fabric Filter shall not exceed 4.0 inches water column (iwc).

VII. ADDITIONAL REQUIREMENTS.**# 012 [25 Pa. Code §127.12b]****Plan approval terms and conditions.**

Source ID C110B is a Fabric Collector manufactured by AAF FabriPulse M. Model No. 6-420-1500.



SECTION E. Source Group Plan Approval Restrictions.

**SECTION F. Alternative Operation Requirements.**

No Alternative Operations exist for this Plan Approval facility.

**SECTION G. Emission Restriction Summary.**

No emission restrictions listed in this section of the permit.

**SECTION H. Miscellaneous.**

The following exempt emergency generator engines are currently being installed at this facility. When this Plan Approval is incorporated into SOOP 09-00126 these engines will be placed in Section D of the Permit:

One (1) Generac 673 bhp Natural Gas-fired, engine, Model No. SG0350KG30219N18PPEYG, family: NGNXB21.92N3

One (1) Generac 374 bhp Natural Gas-fired, engine, Model No. SG0250KG20142S18HPEYG, family: NGNXB14.22N

Emission Limit:

The permittee shall limit the aggregate NOx emissions from all exempt engines on site to less than 100 lbs/hr, 1000 lbs/day, 2.75 tons per ozone season and 6.6 tons per year on a 12-month rolling basis.

Recordkeeping:

The permittee shall maintain monthly records of the aggregate NOx emissions from all exempt engines on site including pounds per hour, pounds per day, ozone season (i.e., the period from May 1 through September 30 of each year) sums, and 12-month rolling sums to demonstrate compliance with the NOx emission limits applicable to this source.



***** End of Report *****
