CLASS II AIR QUALITY PERMIT

PERMIT No. 97526 (AS REVISED BY SIGNIFICANT PERMIT REVISION No. 104692)

PERMITTEE:	**Linde Gas & Equipment, Inc.**
FACILITY:	**Linde Gas & Equipment, Inc.**
PLACE ID:	**2433**
DATE ISSUED:	**May 31, 2023 (As Revised on DATE PENDING)**
EXPIRY DATE:	**May 29, 2028**

SUMMARY

This Class II air quality synthetic minor permit is issued to Linde Gas & Equipment, Inc., the Permittee, for the continued operation of their chemical synthesis and repackaging facility located in Mohave County at 3426 W. Griffith Road, Kingman, Arizona 86401. This permit renews and supersedes Permit No. 70386.

The facility's potential to emit hazardous air pollutants (HAPs) is in excess of major source thresholds which is 10 tons per year for single HAPs and 25 tons per year for combined HAPs. However, the facility has accepted emission limitations and standards on HAPs. Therefore, it qualifies for synthetic minor permit as allowed under Arizona Administrative Code (A.A.C.) R18-2-306.01.A.

This permit is issued in accordance with Arizona Revised Statutes (A.R.S.) § 49-426. It contains requirements from Title 18, Chapter 2 of the A.A.C. and Title 40 of the Code of Federal Regulations (CFR). All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code R18-2-101 et. seq. (A.A.C.) and Title 40 of the CFR, except as otherwise defined in this permit.

Significant Permit Revision (SPR) No. 104692

This SPR authorizes Linde Gas & Equipment, Inc., the Permittee, to add a new NO_2 transfill operation for package leak detection during maintenance. This process will manage packages containing nitrogen dioxide (NO_2) and tetroxide (N_2O_4). When a leak is detected, the leaking package will be connected to the manifold system and the nitrogen gas (N_2) will be used to push the NO_2 and N_2O_4 from the original leaked package into an empty one. Following the transfer, additional N_2 will be used to purge any residual NO_2 and N_2O_4 from both the container and the system. Any remaining gas that cannot be transferred will be directed to the proposed scrubber. Lastly, any empty packages returned to the facility will be connected to the system to remove residual NO_2 and N_2O_4 before routing them to the scrubber.

This SPR includes the installation of the following equipment:

- One (1) scrubber and vessel with maximum capacity of 4,888 gallons, identified as Equipment ID NTS-1; and
- One (1) scrubber blower with maximum capacity of 5,000 standard cubic feet per minute (SCFM), also identified as Equipment ID NTS-1.

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ATTACHMENT "A": GENERAL PROVISIONS

I. PERMIT EXPIRATION AND RENEWAL

A. This permit is valid for a period of five (5) years from the date of issuance.
[A.R.S. § 49-426.F, A.A.C. R18-2-306.A.1]

B. The Permittee shall submit an application for renewal of this permit at least six (6) months, but not more than eighteen (18) months, prior to the date of permit expiration.
[A.A.C. R18-2-304.D.2]

II. COMPLIANCE WITH PERMIT CONDITIONS

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona Revised Statutes (A.R.S.) Title 49, Chapter 3, and the air quality rules under Title 18, Chapter 2 of the Arizona Administrative Code. Any permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
[A.A.C. R18-2-306.A.8.a]

B. 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.
[A.A.C. R18-2-306.A.8.b]

III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE

A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[A.A.C. R18-2-306.A.8.c]

B. The permit shall be reopened and revised under any of the following circumstances:

1. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; and
[A.A.C. R18-2-321.A.1.c]

2. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.
[A.A.C. R18-2-321.A.1.d]

C. Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and

shall affect only those parts of the permit for which cause to reopen exists. Such reopening shall be made as expeditiously as practicable. Permit reopenings shall not result in a resetting of the five-year permit term.

[A.A.C. R18-2-321.A.2]

IV. POSTING OF PERMIT

A. The Permittee shall post this permit or a certificate of permit issuance on location where the equipment is installed in such a manner as to be clearly visible and accessible. All equipment covered by this permit shall be clearly marked with one of the following:

[A.A.C. R18-2-315.A]

1. Current permit number; or

2. Serial number or other equipment ID number that is also listed in the permit to identify that piece of equipment.

B. A copy of the complete permit shall be kept on site.

[A.A.C. R18-2-315.B]

V. FEE PAYMENT

The Permittee shall pay fees to the Director pursuant to A.R.S. § 49-426(E) and A.A.C. R18-2-326.

[A.A.C. R18-2-306.A.9 and -326]

VI. EMISSIONS INVENTORY QUESTIONNAIRE AND EMISSIONS STATEMENT

A. The Permittee shall complete and submit to the Director an emissions inventory questionnaire no later than June 1 every three years beginning June 1, 2021. At the Director's request, the Permittee may be required to complete and submit emissions inventory questionnaires in addition to the triennial emissions inventory questionnaire. The Director shall notify the Permittee in writing of the decision to require additional emissions inventory questionnaires.

[A.A.C. R18-2-327.A.1.b]

B. The emissions inventory questionnaire shall be on an electronic or paper form provided by the Director and shall include the information required by A.A.C. R18-2-327.A.3 for the previous calendar year.

[A.A.C. R18-2-327.A.3]

C. The Permittee shall submit to the Director an amendment to an emissions inventory questionnaire, containing the documentation required by A.A.C. R18-2-327.A.3, whenever the Permittee discovers or receives notice, within two years of the original submittal, that incorrect or insufficient information was submitted to the Director by a previous emissions inventory questionnaire. The amendment shall be submitted to the Director within 30 days of discovery or receipt of notice. If the incorrect or insufficient information resulted in an incorrect annual emissions fee, the Director shall require that additional payment be made or shall apply an amount as a credit to a future annual emissions fee. The submittal of an amendment shall not subject the Permittee to an enforcement action or a civil or criminal

penalty if the original submittal of incorrect or insufficient information was not due to willful neglect.

[A.A.C. R18-2-327.A.4]

VII. COMPLIANCE CERTIFICATION

A. The Permittee shall submit a compliance certification to the Director semiannually which describes the compliance status of the source with respect to each permit condition. The certifications shall be submitted no later than May 15th and November 15th. The May 15th compliance certification shall report the compliance status of the source during the period between October 1st of the previous year and March 31st of the current year. The November 15th compliance certification shall report the compliance status of the source during the period between April 1st and September 30th of the current year.

[A.A.C. R18-2-309.2.a]

B. The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification;

[A.A.C. R18-2-309.2.c.i]

2. Identification of the methods or other means used by the Permittee for determining the compliance status with each term and condition during the certification period;

[A.A.C. R18-2-309.2c.ii]

3. Status of compliance with the terms and conditions of the permit for the period covered by the certification, including whether compliance during the period was continuous or intermittent. The certifications shall identify each deviation (including any deviations reported pursuant to Condition XII.B of this Attachment) during the period covered by the certification and take it into account for consideration in the compliance certification;

[A.A.C. R18-2-309.2.c.iii]

4. Other facts the Director may require in determining the compliance status of the source.

[A.A.C. R18-2-309.2.c.iv]

C. A progress report on all outstanding compliance schedules shall be submitted every six months beginning six months after permit issuance.

[A.A.C. R18-2-309.5.d]

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

[A.A.C. R18-2-309.3]

IX. INSPECTION AND ENTRY

Upon presentation of proper credentials, the Permittee shall allow the Director or the authorized representative of the Director to:

A. Enter upon the Permittee's premises where a source is located, emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
[A.A.C. R18-2-309.4.a]

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
[A.A.C. R18-2-309.4.b]

C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
[A.A.C. R18-2-309.4.c]

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
[A.A.C. R18-2-309.4.d]

E. Record any inspection by use of written, electronic, magnetic and photographic media.
[A.A.C. R18-2-309.4.e]

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

If this source becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.
[A.A.C. R18-2-304.D.3]

XI. ACCIDENTAL RELEASE PROGRAM

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the time line specified in 40 CFR Part 68.
[40 CFR Part 68]

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting
[A.A.C. R18-2-310.01.A, B, and C]

1. Excess emissions shall be reported as follows:

   a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:
   [A.A.C. R18-2-310.01.A]

(1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from Condition XII.A.1.b below.

(2) Detailed written notification by submission of an excess emissions report within 72 hours of the notification pursuant to Condition XII.A.1.a(1) above.

b. The report shall contain the following information:

(1) Identity of each stack or other emission point where the excess emissions occurred;

[A.A.C. R18-2-310.01.B.1]

(2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions;

[A.A.C. R18-2-310.01.B.2]

(3) Time and duration, or expected duration, of the excess emissions;

[A.A.C. R18-2-310.01.B.3]

(4) Identity of the equipment from which the excess emissions emanated;

[A.A.C. R18-2-310.01.B.4]

(5) Nature and cause of the emissions;

[A.A.C. R18-2-310.01.B.5]

(6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions;

[A.A.C. R18-2-310.01.B.6]

(7) Steps that were or are being taken to limit the excess emissions; and

[A.A.C. R18-2-310.01.B.7]

(8) If the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures governing source operation during periods of startup or malfunction.

[A.A.C. R18-2-310.01.B.8]

2. In the case of continuous or recurring excess emissions, the notification requirements shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the

estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition XII.A.1 above.
[A.A.C. R18-2-310.01.C]

B. Permit Deviations Reporting

The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Where the applicable requirement contains a definition of prompt or otherwise specifies a timeframe for reporting deviations, that definition or timeframe shall govern. Where the applicable requirement does not address the timeframe for reporting deviations, the Permittee shall submit reports of deviations according to the following schedule:

1. Notice that complies with Condition XII.A above is prompt for deviations that constitute excess emissions;
[A.A.C. R18-2-306.A.5.b.i]

2. Notice that is submitted within two (2) working days of discovery of the deviation is prompt for deviations of permit conditions identified by Condition I.D.1 of Attachment "B";
[A.A.C. R18-2-306.A.5.b.ii]

3. Except as provided in Conditions XII.B.1 and 2, prompt notification of all other types of deviations shall be semiannually, concurrent with the semiannual compliance certifications required in Section VII, and can be submitted via myDEQ, the Arizona Department of Environmental Quality's online portal.
[A.A.C. R18-2-306.A.5.b.ii]

XIII. RECORDKEEPING REQUIREMENTS

A. The Permittee shall keep records of all required monitoring information including, but not limited to, the following:

1. The date, place as defined in the permit, and time of sampling or measurements;
[A.A.C. R18-2-306.A.4.a.i]

2. The date(s) any analyses were performed;
[A.A.C. R18-2-306.A.4.a.ii]

3. The name of the company or entity that performed the analyses;
[A.A.C. R18-2-306.A.4.a.iii]

4. A description of the analytical techniques or methods used;
[A.A.C. R18-2-306.A.4.a.iv]

5. The results of analyses; and
[A.A.C. R18-2-306.A.4.a.v]

6. The operating conditions as existing at the time of sampling or measurement.

[A.A.C. R18-2-306.A.4.a.vi]

B. The Permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

[A.A.C. R18-2-306.A.4.b]

XIV. DUTY TO PROVIDE INFORMATION

A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.

[A.A.C. R18-2-304.G and -306.A.8.e]

B. If the Permittee has failed to submit any relevant facts or has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

[A.A.C. R18-2-304.H]

XV. PERMIT AMENDMENT OR REVISION

The Permittee shall apply for a permit amendment or revision for changes to the facility which does not qualify for a facility change without revision under Section XVII below, as follows:

A. Facility Changes that Require a Permit Revision;

[A.A.C. R18-2-317.01]

B. Administrative Permit Amendment;

[A.A.C. R18-2-318]

C. Minor Permit Revision; and

[A.A.C. R18-2-319]

D. Significant Permit Revision.

[A.A.C. R18-2-320]

The applicability and requirements for such action are defined in the above referenced regulations.

XVI. FACILITY CHANGE WITHOUT A PERMIT REVISION

A. Except for a physical change or change in the method of operation at a Class II source requiring a permit revision under A.A.C. R18-2-317.01, or a change subject to logging or

notice requirements in Condition XVI.B, a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Section.

[A.A.C. R18-2-317.02.A]

B. The following changes may be made if the source keeps on site records of the changes according to Condition XVI.F below:

[A.A.C. R18-2-317.02.B]

1. Implementing an alternative operating scenario, including raw materials changes;

2. Changing process equipment, operating procedures, or making any other physical change if the permit requires the change to be logged;

3. Engaging in any new insignificant activity listed in A.A.C. R18-2-101.68 but not listed in the permit;

4. Replacing an item of air pollution control equipment listed in the permit with an identical (same model, different serial number) item. The Director may require verification of efficiency of the new equipment by performance tests; and

5. A change that results in a decrease in actual emissions if the source wants to claim credit for the decrease in determining whether the source has a net emissions increase for any purpose. The logged information shall include a description of the change that will produce the decrease in actual emissions. A decrease that has not been logged is creditable only if the decrease is quantifiable, enforceable, and otherwise qualifies as a creditable decrease.

C. The permit shield described in A.A.C. R18-2-325 shall not apply to any change made under this Section, other than implementation of an alternate operating scenario under Condition XVI.B.1.

[A.A.C. R18-2-317.02.F]

D. Notwithstanding any other part of this Section, the Director may require a permit to be revised for any change that, when considered together with any other changes submitted by the Permittee under this Section over the term of the permit, constitutes a change under subsection A.A.C. R18-2-317.01.A.

[A.A.C. R18-2-317.02.G]

E. A copy of all logs required under Condition XVI.B shall be filed with the Director within 30 days after each anniversary of the permit issuance date. If no changes were made at the source requiring logging, a statement to that effect shall be filed instead.

[A.A.C. R18-2-317.02.I]

F. Logging Requirements

[Arizona Administrative Code, Appendix 3]

1. Each log entry required by a change under Condition XVI.B shall include at least the following information:

   a. A description of the change, including:

(1) A description of any process change;

(2) A description of any equipment change, including both old and new equipment descriptions, model numbers, and serial numbers, or any other unique equipment ID number; and

(3) A description of any process material change.

b. The date and time that the change occurred.

c. The provisions of Condition XVI.B that authorizes the change to be made with logging.

d. The date the entry was made and the first and last name of the person making the entry.

2. Logs shall be kept for five (5) years from the date created. Logging shall be performed in indelible ink in a bound log book with sequentially number pages, or in any other form, including electronic format, approved by the Director.

XVII. TESTING REQUIREMENTS

A. The Permittee shall conduct performance tests as specified in the permit and at such other times as may be required by the Director.

[A.A.C. R18-2-312.A]

B. Operational Conditions during Performance Testing

Performance tests shall be conducted under such conditions as the Director shall specify to the plant operator based on representative performance of the source. The Permittee shall make available to the Director such records as may be necessary to determine the conditions of the performance tests. Operations during periods of start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative conditions of performance tests unless otherwise specified in the applicable standard.

[A.A.C. R18-2-312.C]

C. Performance Tests shall be conducted and data reduced in accordance with the test methods and procedures contained in the Arizona Testing Manual unless modified by the Director pursuant to A.A.C. R18-2-312.B.

[A.A.C. R18-2-312.B]

D. Test Plan

At least 14 working days prior to performing a test, the Permittee shall submit a test plan to the Director, which must include the following, in addition to all other applicable requirements, as identified in the Arizona Testing Manual:

[A.A.C. R18-2-312.B]

1. Test duration;

2. Test location(s);

3. Test method(s); and

4. Source operation and other parameters that may affect test results.

E. Stack Sampling Facilities

The Permittee shall provide, or cause to be provided, performance testing facilities as follows:

[A.A.C. R18-2-312.E]

1. Sampling ports adequate for test methods applicable to the facility;

2. Safe sampling platform(s);

3. Safe access to sampling platform(s); and

4. Utilities for sampling and testing equipment.

F. Interpretation of Final Results

Each performance test shall consist of three separate runs using the applicable test method. Each run shall be conducted for the time and under the conditions specified in the applicable standard. For the purpose of determining compliance with an applicable standard, the arithmetic mean of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs is required to be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control, compliance may, upon the Director's approval, be determined using the arithmetic mean of the results of the other two runs. If the Director or the Director's designee is present, tests may only be stopped with the Director's or such designee's approval. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes: forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation, which demonstrates good cause, must be submitted.

[A.A.C. R18-2-306.A.3.c and A.A.C. R18-2-312.F]

G. Report of Final Test Results

A written report of the results of performance tests conducted pursuant to 40 CFR 60 and 63, shall be submitted to the Director within 60 days after the test is performed. A written report of the results of all other performance tests shall be submitted within 4 weeks after the test is performed, or as otherwise provided in the Arizona Testing Manual. All performance testing reports shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

[A.A.C. R18-2-312.A and B]

H. Extension of Performance Test Deadline

For performance testing required under Condition XVII.A above, the Permittee may request an extension to a performance test deadline due to a force majeure event as follows:
[A.A.C. R18-2-312.J]

1. If a force majeure event is about to occur, occurs, or has occurred for which the Permittee intends to assert a claim of force majeure, the Permittee shall notify the Director in writing as soon as practicable following the date the Permittee first knew, or through due diligence should have known that the event may cause or caused a delay in testing beyond the regulatory deadline. The notification must occur before the performance test deadline unless the initial force majeure or a subsequent force majeure event delays the notice, and in such cases, the notification shall be given as soon as practicable.
[A.A.C. R18-2-312.J.1]

2. The Permittee shall provide to the Director a written description of the force majeure event and a rationale for attributing the delay in testing beyond the regulatory deadline to the force majeure; describe the measures taken or to be taken to minimize the delay; and identify a date by which the Permittee proposes to conduct the performance test. The performance test shall be conducted as soon as practicable after the force majeure event occurs.
[A.A.C. R18-2-312.J.2]

3. The decision as to whether or not to grant an extension to the performance test deadline is solely within the discretion of the Director. The Director shall notify the Permittee in writing of approval or disapproval of the request for an extension as soon as practicable.
[A.A.C. R18-2-312.J.3]

4. Until an extension of the performance test deadline has been approved by the Director under Conditions XVII.H.1, 2, and 3 above, the Permittee remains subject to the requirements of Section XVII.
[A.A.C. R18-2-312.J.4]

5. For purposes of this Section XVII, a “force majeure event” means an event that will be or has been caused by circumstances beyond the control of the Permittee, its contractors, or any entity controlled by the Permittee that prevents it from complying with the regulatory requirement to conduct performance tests within the specified timeframe despite the Permittee's best efforts to fulfill the obligation. Examples of such events are acts of nature, acts of war or terrorism, or equipment failure or safety hazard beyond the control of the Permittee.
[A.A.C. R18-2-312.J.5]

XVIII. PROPERTY RIGHTS

This permit does not convey any property rights of any sort, or any exclusive privilege.
[A.A.C. R18-2-306.A.8.d]

XIX. SEVERABILITY CLAUSE

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

[A.A.C. R18-2-306.A.7]

XX. PERMIT SHIELD

Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements identified in the portions of this permit subtitled "Permit Shield". The permit shield shall not apply to minor revisions pursuant to Condition XV.C of this Attachment and any facility changes without a permit revision pursuant to Section XVI of this Attachment.

[A.A.C. R18-2-317.F, - 320, and -325]

XXI. PROTECTION OF STRATOSPHERIC OZONE

If this source becomes subject to the provisions of 40 CFR Part 82, then the Permittee shall comply with these provisions accordingly.

[40 CFR Part 82]

XXII. APPLICABILITY OF NSPS/NESHAP GENERAL PROVISIONS

For all equipment subject to a New Source Performance Standard or a National Emission Standard for Hazardous Air Pollutants, the Permittee shall comply with all applicable requirements contained in Subpart A of Title 40, Chapter 60 and Chapter 63 of the Code of Federal Regulation.

[40 CFR Part 60 Subpart A and Part 63 Subpart A]

ATTACHMENT "B": SPECIFIC CONDITIONS

I. FACILITY-WIDE REQUIREMENTS

A. Applicability

This section is applicable to all facility-wide operations.

B. Operational Requirement

1. The Permittee shall operate and maintain each piece of equipment in accordance with manufacturer operation and maintenance instructions. If manufacturer operation and maintenance instructions are not available, the Permittee shall prepare an Operation and Maintenance (O&M) Plan. The O&M Plan shall provide adequate information to properly operate and maintain each piece of equipment in good working order.

[A.A.C. R18-2-306.A.2]

2. Recordkeeping Requirements

a. The Permittee shall maintain on site records of the manufacturer operation and maintenance instructions or O&M Plan for each piece of equipment.

[A.A.C. R18-2-306.A.4]

b. The Permittee shall maintain records of all maintenance activities carried out on each piece of equipment. These records shall include the type of maintenance activity performed and its duration, including the date, starting time, and ending time of each maintenance activity.

[A.A.C. R18-2-306.A.4]

c. The Permittee shall retain all recordkeeping on site to demonstrate compliance with Conditions I.B.2.a and I.B.2.b. These records shall be readily available upon request for a period of at least five (5) years in a form that is suitable for expeditious inspection and review.

[A.A.C. R18-2-306.A.4]

C. Opacity

1. Instantaneous Surveys and Six-Minute Observations

a. Instantaneous Surveys

Any instantaneous survey required by this permit shall be determined by either option listed in Conditions I.C.1.a(1) and (2):

[A.A.C. R18-2-311.b]

(1) Alternative Method ALT-082 (Digital Camera Operating Technique)

(a) The Permittee, or Permittee representative, shall be certified in the use of Alternative Method ALT-082.

(b) The results of all instantaneous surveys and six-minute observations shall be obtained within two hours.

(2) EPA Reference Method 9 Certified Observer.

[A.A.C. R18-2-306.A.3.c]

b. Six-Minute Observations

Any six-minute observation required by this permit shall be determined by either option listed in Conditions I.C.1.b(1) and (2):

[A.A.C. R18-2-311.b]

(1) Alternative Method ALT-082 (Digital Camera Operating Technique)

(a) The Permittee, or Permittee representative, shall be certified in the use of Alternative Method ALT-082.

(b) The results of all instantaneous surveys and six-minute observations shall be obtained within two hours.

(2) EPA Reference Method 9.

c. The Permittee shall have on site or on call a person certified in EPA Reference Method 9 unless all six-minute Method 9 observations required by this permit are conducted as a six-minute Alternative Method ALT-082 (Digital Camera Operating Technique) and all instantaneous visual surveys required by this permit are conducted as an instantaneous ALT-082 camera survey. Any six-minute Method 9 observation required by this permit can be conducted as a six-minute Alternative Method ALT-082 and any instantaneous visual survey required by this permit can be conducted as an instantaneous ALT-082 camera survey.

[A.A.C. R18-2-306.A.3.c]

2. Monitoring, Recordkeeping, and Reporting Requirements

[A.A.C. R18-2-306.A.3.c]

a. At the frequency specified in the following sections of this permit, the Permittee shall conduct an instantaneous survey of visible emissions from both process stack sources, when in operation, and fugitive dust sources.

b. If the visible emissions on an instantaneous basis appears less than or equal to the applicable opacity standard, then the Permittee shall keep a record of the name of the observer, the date on which the instantaneous survey was made, and the results of the instantaneous survey.

c. If the visible emissions on an instantaneous basis appears greater than the applicable opacity standard, then the Permittee shall immediately conduct a six-minute observation of the visible emissions.

(1) If the six-minute observation of the visible emissions is less than or equal to the applicable opacity standard, then the Permittee shall record the name of the observer, the date on which the six-minute observation was made, and the results of the six-minute observation.

(2) If the six-minute observation of the visible emissions is greater than the applicable opacity standard, then the Permittee shall do the following:

(a) Adjust or repair the controls or equipment to reduce opacity to less than or equal to the opacity standard;

(b) Record the name of the observer, the date on which the six-minute observation was made, the results of the six-minute observation, and all corrective action taken; and

(c) Report the event as an excess emission for opacity in accordance with Condition XII.A of Attachment "A".

(d) Conduct another six-minute observation to document the effectiveness of the adjustments or repairs completed.

D. Recordkeeping and Reporting Requirements

1. Deviations from the following Attachment "B" permit conditions shall be promptly reported in accordance with Condition XII.B.2 of Attachment "A":
[A.A.C. R18-2-306.A.5.b]

a. Condition II.B.2.a(1) of Attachment "B";

b. Condition II.B.2.b(1) of Attachment "B";

c. Condition II.B.2.c(1) of Attachment "B";

d. Condition II.C.2.a(1) of Attachment "B";

e. Condition II.C.2.b(1) of Attachment "B";

f. Condition II.C.2.c(1) of Attachment "B";

g. Condition II.C.2.e(1) of Attachment "B";

h. Condition II.C.2.f(1) of Attachment "B";

i. Condition II.C.2.g(1) of Attachment "B";

j. Condition II.C.2.h of Attachment "B";

k. Condition II.C.2.i(1) of Attachment "B";

l. Condition II.C.2.j of Attachment "B"; and

m. Condition II.C.2.k of Attachment "B".

2. The Permittee shall submit reports of all monitoring activities required in Attachment "B" along with the semiannual compliance certifications required by Section VII of Attachment "A."

[A.A.C. R18-2-306.A.5]

E. Ambient Monitoring System Requirements

[A.A.C. R18-2-306.A.3.c and -331.A.3.c]
[Material permit conditions are indicated by underlines and italics]

1. *The Permittee shall operate and maintain the Vertex monitoring system in accordance with the Ambient Air Monitoring Plan incorporated herein as Appendix A.*

2. Any one-hour average fenceline concentration of arsine exceeding 7.5 parts per billion (ppb) shall be reported as described in Condition X.

3. Reportable alarms resulting from the fenceline monitors shall be reported as follows:

a. The Permittee shall report to the Director any reportable alarms resulting from the monitors. Such report shall be in two parts as specified below:

(1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the reportable alarm event including all available information from Condition I.E.3.b below.

(2) Detailed written notification by submission of a report within 72 hours of the notification pursuant to Condition I.E.3.a(1) above.

b. The report shall contain the following information:

(1) Identity of each monitor involved in the reportable alarm event;

(2) Magnitude of the pollutant concentration detected by the monitor(s);

(3) Date, time and duration, or expected duration, of the reportable alarm event;

(4) Identity of the equipment from which the pollutant(s) emanated;

(5) Nature and cause of such emissions;

(6) If the reportable alarm event was the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions; and

(7) Steps taken to reduce concentrations below the reportable alarm threshold. If the reportable alarm event resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.

4. In the case of continuous or recurring reportable alarm events, the notification requirements of this section shall be satisfied if the source provides the required notification after reportable alarm events occur and includes in such notification an estimate of the time the reportable alarm event will continue. Reportable alarm events occurring after the estimated time period, or changes in the nature of the emissions as originally reported, shall require additional notification pursuant to Condition I.E.3 above.

F. Nothing in this permit shall alter or affect the following:

[A.A.C. R18-2-325.B]

1. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that Section;

2. The liability of the facility for any violation of applicable requirements prior to or at the time of permit issuance;

3. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;

4. The ability of the EPA Administrator or the Director to obtain information from the facility pursuant to Section 114 of the Act, or any provision of state law; and

5. The authority of the Director to require compliance with new applicable requirements adopted after the permit is issued."

II. SYNTHESIS AND HANDLING OPERATIONS

A. Applicability

This Section applies to the synthesis and/or handling of arsine, diborane, diethyltelluride, phosphine, silane, dichlorosilane, ammonia, silicon tetrafluoride, germanium tetrafluoride, silicon tetrachloride, enriched boron 11 triflouride, boron trifluoride, carbon tetrafluoride,

carbon monoxide, methyl fluoride, fluorine, methyl bromide, methyl iodide, dichloromethane, and any mixtures thereof.

B. Particulate Matter and Opacity

1. Emission Limitations and Standards

a. The opacity of any plume or effluent from any stack shall not be greater than 20%.

[A.A.C. R18-2-702.B.3]

b. If the presence of uncombined water is the only reason for an exceedance of any visible emissions requirement in Condition II.B.1.a, the exceedance shall not constitute a violation of the applicable opacity limit.

[A.A.C. R18-2-702.C]

c. In any one hour period, the Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere in excess of the amounts calculated by the following equations:

(1) For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$E = 4.1P^{0.67}$

E = the maximum allowable particulate emission rate in pounds-mass per hour.

P = the process weight rate in tons-mass per hour.

[A.A.C. R18-2-730.A.1.a]

(2) For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

$E = 55.0P^{0.11} - 40$

Where E and P are defined as indicated in Condition II.B.1.c(1) above.

[A.A.C. R18-2-730.A.1.b]

d. When applying the process weight rate equations, the Permittee shall utilize the total process weight from all similar units employing a similar type process to determine the maximum allowable emissions of particulate matter.

[A.A.C. R18-2-730.B]

2. Air Pollution Control Requirements

a. Arsine Baghouse 1

(1) *The Permittee shall operate* and maintain *Arsine Baghouse 1 to capture particulate matter emissions from the Arsine Guardian 1 combustion unit in a manner consistent with good air pollution control practices*.

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

(2) *The effluent of Arsine Baghouse 1 shall be directed to the Ventilation Emergency Scrubber 1 (VES-1)*.

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

b. Arsine Baghouse 2

(1) *The Permittee shall operate* and maintain *Arsine Baghouse 2 to capture particulate matter emissions from the Arsine Guardian 2 combustion unit in a manner consistent with good air pollution control practices.*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

(2) *The effluent of Arsine Baghouse #2 shall be directed to the Ventilation Emergency Scrubber 1 (VES-1).*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

c. Phosphine Dynawave Wet Scrubber

(1) *The Permittee shall operate* and maintain *Phosphine Dynawave Wet Scrubber to capture particulate matter emissions from the Phosphine Guardian combustion unit in a manner consistent with good air pollution control practices*.

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

(2) *The effluent of the Phosphine Dynawave Wet Scrubber shall be directed to the Ventilation Emergency Scrubber 1 (VES-1)*.

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

d. Silane Baghouses 1 and 2

(1) *The Permittee shall operate* and maintain *Silane Baghouses 1 and 2 to capture particulate matter emissions from the Silane Guardian combustion unit in a manner consistent with good air pollution control practices*.

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

(2) *The effluent of Silane Baghouses 1 and 2 shall be directed to the Ventilation Emergency Scrubber 1 (VES-1).*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

3. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-702.B.3 and C, and -730.A.1 and B.

[A.A.C. R18-2-325]

C. HAPs and Gaseous Emissions

1. Emission Limitations and Standards

a. *The Permittee shall not cause, allow or permit to be discharged into the atmosphere arsine emissions in excess of 10.23 grams in any one-hour period.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material permit conditions are indicated by underlines and italics]

b. *The Permittee shall not cause, allow or permit to be discharged into the atmosphere arsine emissions in excess of 618.18 grams in any rolling 24-hour period.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material permit conditions are indicated by underlines and italics]

c. *The Permittee shall not cause, allow or permit to be discharged into the atmosphere arsine emissions in excess of 3,343.15 grams in any rolling 365-day period.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material permit conditions are indicated by underlines and italics]

d. The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under their control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730.D]

e. Materials including solvents or other volatile compounds, paints, acids, alkalis, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices or equipment shall be mandatory.

[A.A.C. R18-2-730.F]

f. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution

is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the Permittee to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.
[A.A.C. R18-2-730.G]

2. Air Pollution Control Requirements

a. Arsine Guardian 1

(1) *The Permittee shall operate* and maintain *Arsine Guardian 1 combustion unit to capture and destroy emissions of arsine and its mixtures as well as diethyltelluride and its mixtures in a manner consistent with good air pollution control practices.*
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

(2) *The effluent of the Arsine Guardian 1 combustion unit shall be directed to the Arsine Baghouse 1 for particulate matter collection.*
[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

b. Arsine Guardian 2

(1) *The Permittee shall operate* and maintain *Arsine Guardian 2 combustion unit to capture and destroy emissions of arsine and its mixtures as well as diethyltelluride and its mixtures in a manner consistent with good air pollution control practices.*
[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

(2) *The effluent of the Arsine Guardian 2 combustion unit shall be directed to the Arsine Baghouse 2 for particulate matter collection.*
[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

c. Phosphine Guardian

(1) *The Permittee shall operate* and maintain *Phosphine Guardian combustion unit to capture and destroy emissions of phosphine and its mixtures in a manner consistent with good air pollution control practices.*

(2) *The effluent of the Phosphine Guardian combustion unit shall be directed to the Phosphine Dynawave Wet Scrubber System for particulate matter collection.*
[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

d. Silane Guardian

(1) *The Permittee shall operate* and maintain *Silane Guardian combustion unit to capture and destroy emissions silane and its mixtures, diborane and its mixtures, and carbon monoxide in a manner consistent with good air pollution control practices.*

(2) *The effluent of the Silane Guardian combustion unit shall be directed to the Silane Baghouses 1 and 2 for particulate matter collection.*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

e. Wet Scrubbers A, B, C and D

(1) *The Permittee shall operate* and maintain *Wet Scrubbers A, B, C and D to capture and destroy emissions of dichlorosilane, trichlorosilane, silicon tetrachloride and methyltrichlorosilane in a manner consistent with good air pollution control practices.*

(2) *The effluent of Wet Scrubbers A, B, C and D shall be directed to the Ventilation Emergency Scrubber 3 (VES 3).*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

f. Ventilation Emergency Scrubber 1 (VES-1)

(1) *The Permittee shall operate* and maintain *Ventilation Emergency Scrubber 1 (VES-1) to capture and destroy emissions of arsine, diborane, silane, diethyltelluride, phosphine, dichloromethane, methyl bromide, methyl iodide, and carbon monoxide in a manner consistent with good air pollution control practices.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

(2) *The Permittee shall operate Ventilation Emergency Scrubber 1 (VES-1) in accordance with Attachment "C" of this permit.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

g. Process Caustic Wet Scrubber (PCWS-1)

(1) *The Permittee shall operate* and maintain *Process Caustic Wet Scrubber 1 (PCWS-1) to capture and destroy emissions of silicon tetrafluoride, germanium tetrafluoride, fluorine and enriched boron 11 trifluoride in a manner consistent with good air pollution control practices.*

(2) *The effluent of the Process Caustic Wet Scrubber 1 (PCWS-1) shall be directed to the Ventilation Emergency Scrubber 2 (VES-2).*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

h. Ventilation Emergency Scrubber 3 (VES-3)

The Permittee shall operate and maintain *Ventilation Emergency Scrubber (VES-3) to capture and destroy emissions of dichlorosilane, trichlorosilane, methyltrichlorosilane, silicon tetrachloride, disilane; mixtures of disilane and silane; mixtures of disilane and silicon tetrafluoride; enriched boron-11 trifluoride; boron trifluoride; mixtures of diborane and hydrogen; and mixtures of diborane and nitrogen, mixtures of diborane and boron tetrafluoride, enriched boron-11 trifluoride, and carbon monoxide in a manner consistent with good air pollution control practices.*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

i. Process Dry Scrubber (PDS-1)

(1) *The Permittee shall operate* and maintain *Process Dry Scrubber (PDS-1) to capture emissions of fluorine and inert gases in a manner consistent with good air pollution control practices.*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

(2) *The effluent of the Process Dry Scrubber (PDS-1) shall be directed to the Ventilation Emergency Scrubber 2 (VES-2).*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

j. Ventilation Emergency Scrubber 2 (VES-2)

The Permittee shall operate and maintain *Ventilation Emergency Scrubber 2 (VES-2) to capture and destroy emissions of silicon tetrafluoride, germanium tetrafluoride, enriched boron 11 trifluoride, boron trifluoride, fluorine, and inert gases in a manner consistent with good air pollution control practices.*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

k. Fluorine Emergency Stack (FES)

The Permittee shall operate and maintain *the Fluorine Emergency Stack (FES) to capture and destroy emissions of fluorine in a manner consistent with good air pollution control practices.*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

3. Testing Requirements

a. The Permittee shall schedule and conduct an annual performance test for arsine emissions from the stack of Ventilation Emergency Scrubber 1 (VES-1). Testing shall be conducted in accordance with Section XVII of Attachment "A" of this permit.

[A.A.C. R18-2-312.A]

b. In addition to the reporting requirements in Condition XVII.G of Attachment "A" of this permit, the Permittee shall submit the Vertex continuous monitoring data for the time period concurrent with the performance test required in Condition II.C.3.a above.

4. Monitoring, Recordkeeping and Reporting Requirements

The Permittee shall operate, maintain *and calibrate the Vertex continuous monitoring system, in accordance with the manufacturer's specifications, for purposes of demonstrating compliance with the emission limits in Conditions II.C.1.a, II.C.1.b, and II.C.1.c above*.

[A.A.C. R18-2-306.A.3.c and -331.A.3.c]
[Material permit conditions are indicated by underlines and italics]

5. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-730.D, F and G.

[A.A.C. R18-2-325]

III. AMMONIA OPERATIONS

A. Applicability

This Section applies to the ammonia filling and processing operations.

B. Particulate Matter and Opacity

1. Emission Limitations and Standards

a. The opacity of any plume or effluent from the stack of the ammonia scrubber shall not be greater than 20%.

[A.A.C. R18-2-702.B.3]

b. If the presence of uncombined water is the only reason for an exceedance of any visible emissions requirement in Condition III.B.1.a, the exceedance shall not constitute a violation of the applicable opacity limit.

[A.A.C. R18-2-702.C]

c. In any one hour period, the Permittee shall not cause, allow, or permit the discharge of particulate matter into the atmosphere in excess of the amounts calculated by the following equations:

(1) For process sources having a process weight rate of 60,000 pounds per hour (30 tons per hour) or less, the maximum allowable emissions shall be determined by the following equation:

$E = 4.1P^{0.67}$

Where:

E = the maximum allowable particulate emission rate in pounds-mass per hour

P = the process weight rate in tons-mass per hour

[A.A.C. R18-2-730.A.1.a]

(2) For process sources having a process weight rate greater than 60,000 pounds per hour (30 tons per hour), the maximum allowable emissions shall be determined by the following equation:

$E = 55.0P^{0.11} - 40$

Where E and P are defined as indicated in Condition III.B.1.c(1) above.

[A.A.C. R18-2-730.A.1.b]

d. When applying the process weight rate equations, the Permittee shall utilize the total process weight from all similar units employing a similar type process to determine the maximum allowable emissions of particulate matter.

[A.A.C. R18-2-730.B]

2. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-702.B.3, A.A.C. R18-2-702.C, A.A.C. R18-2-730.A.1 and A.A.C. R18-2-730.B.

[A.A.C. R18-2-325]

C. Gaseous and Odorous Emissions

1. Emission Limitations

a. The Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730.D]

b. Materials including solvents or other volatile compounds, paints, acids, alkalis, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices or equipment shall be mandatory.

[A.A.C. R18-2-730.F]

c. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the Permittee to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.

[A.A.C. R18-2-730.G]

2. Air Pollution Controls

The Permittee shall install, operate and maintain *the Ammonia Recovery System (Wet Scrubber) to capture and destroy ammonia emissions associated with ammonia cylinder processing operations in a manner consistent with good air pollution control practices*.

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]
[Material permit conditions are indicated by underline and italics]

3. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-730.D, F and G.

[A.A.C. R18-2-325]

IV. NITROGEN DIOXIDE TRANSFILL OPERATIONS

A. Applicability

This Section applies to NO2 Transfill operations as subject to the Arizona Administrative Code (A.A.C) R18-2-730 for Unclassified Sources.

B. Nitrogen Dioxide ($NO_{2)}$

1. Emission Limitations and Standards

a. The Permittee shall not emit gaseous or odorous materials from the equipment, operations or premises under its control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730.D]

b. Materials including solvents or other volatile compounds, paints, acids, alkalis, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices or equipment shall be mandatory.

[A.A.C. R18-2-730.F]

c. Where a stack, vent or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the Permittee to a degree that will adequately dilute, reduce or eliminate the discharge of air pollution to adjoining property.

[A.A.C. R18-2-730.G]

2. Air Pollution Control Requirements

NO_2 Transfill Scrubber

a. *The Permittee shall install, operate and maintain the NO_2 Transfilll Scrubber to capture and destroy emissions of NO_2 in a manner consistent with good air pollution control practices.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

b. *The Permittee shall install, operate and maintain the NO_2 Transfill Scrubber in accordance with their design objective of limiting NO_2 concentration at the scrubber outlet to less than 6.5 parts per millions continuously.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material permit conditions are indicated by underlines and italics]

3. Performance Testing Requirements

a. Within 60 days after the facility has achieved its maximum manufacturing rate but no later than 180 days after the initial startup, the Permittee shall conduct an initial performance test on the NO_2 Transfill scrubber. Performance tests shall be conducted in accordance with Section XVII of Attachment "A".

[A.A.C. R18-2-312.A]

b. After the initial performance test (at least 12 months from the date of the initial performance test, but no later than 12 months before the permit expires), the Permittee shall conduct a performance test on the NO_2 Transfill scrubber at least once during the permit term. Performance tests shall be conducted in accordance with Section XVII of Attachment "A".

[A.A.C. R18-2-312.A]

c. The Permittee shall conduct performance tests to demonstrate compliance with Condition IV.B.2.b above in accordance with EPA Reference Method 7 or 7E.

[A.A.C. R18-2-312. B]

d. If the results of any performance test required by Condition IV.B.3.a or IV.B.3.b above is less than or equal 6.5 ppm of the applicable emission limitations in Condition IV.B.2.b, the Permittee is not required to conduct an additional performance test for the NO_2 transfill scrubber during the permit term.

[A.A.C. R18-2-306.A.3.c and -312]

e. If the results of any performance test required by Condition IV.B.3.a or IV.B.3.b above is greater than 6.5 ppm of the applicable emission limitations in Condition IV.B.2.b, the Permittee shall conduct the subsequent performance test on the NO_2 transfill scrubber between 11 and 13 months from the date of the previous performance test.

[A.A.C. R18-2-306.A.3.c and -312]

f. If the results of any subsequent performance test required by Condition IV.B.3.e above is less than or equal than 6.5 ppm of the applicable emission limitations in Condition IV.B.2.b, no further testing is required for the NO_2 transfill scrubber during the permit term.

[A.A.C. R18-2-306.A.3.c and -312]

4. Monitoring, Recordkeeping, and Reporting Requirements

The Permittee shall keep records of all performance tests carried out on the NO_2 Transfill Scrubber. Performance tests shall be conducted in accordance with Section XVII of Attachment "A".

[A.A.C. R18-2-306. A.4]

C. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-730.D, -F and -G.

[A.A.C. R18-2-325]

V. NON-NSPS EMERGENCY GENERATORS

A. Applicability

This Section applies to each internal combustion engine identified in Attachment "C" as subject to A.A.C. R18-2-719 for Existing Stationary Rotating Machinery and NESHAP 40 CFR 63 Subpart ZZZZ.

B. Particulate Matter and Opacity

1. Emission Limitations and Standards

[A.A.C. R18-2-719.B, -719.C.1 and -719.E]

a. Particulate Matter

(1) The Permittee shall not cause or allow to be discharged into the atmosphere from the generator stack(s) particulate matter in excess of the amount calculated by the following equation:

$E = 1.02Q^{0.769}$

where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the heat input in million Btu per hour.

(2) For the purposes of the calculations required in Condition V.B.1.a(1) above, the heat input shall be the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The total heat input of all operating fuel-burning units at a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

b. Opacity

[A.A.C. R18-2-719.E]

(1) The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period greater than 10 consecutive seconds which exceeds 40% opacity.

(2) Visible emissions when starting cold equipment shall be exempt from this requirement for the first 10 minutes.

2. Monitoring and Recordkeeping Requirements

[A.A.C. R18-2-306.A.3.c.]

a. Each quarter, the Permittee shall monitor visible emissions emanating from each generator stack when the generator is in operation sources in accordance with Condition I.C.

b. The Permittee shall keep records of fuel supplier certifications. The certification shall contain information regarding the name of fuel supplier and lower heating value of the fuel. These records shall be made available to ADEQ upon request

3. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C. R18-2-719.B, -719.C.1 and -719.E.

[A.A.C. R18-2-325]

C. Sulfur Dioxide

1. Emission Limitations and Standards

a. The Permittee shall not emit or cause to emit more than 1.0 pound of sulfur dioxide per million Btu heat input

[A.A.C. R18-2-719.F]

b. The Permittee shall not burn high sulfur diesel fuel (sulfur content greater than 0.9 % by weight) in the generator(s).

[A.A.C. R18-2-719.H]

2. Recordkeeping and Reporting Requirements

a. The Permittee shall keep daily records of the sulfur content and lower heating value of the fuel being fired in the generator(s). The Permittee shall keep records of fuel supplier certifications or other documentation listing the sulfur content to demonstrate compliance with the sulfur content limit specified in Condition V.C.1 above. These records shall be made available to ADEQ upon request.

[A.A.C. R18-2-306.A.3.c and -719.I]

b. The Permittee shall report to the Director any daily period during which the sulfur content of the fuel being fired in the machine exceeds 0.8%.

[A.A.C. R18-2-719.J]

3. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with A.A.C. R18-2-719.F, -719.H, -719.I, and -719.J.

[A.A.C. R18-2-325]

D. HAPs

1. Compliance Dates

[40 CFR 63.6595(a)(1)]

The Permittee operating an existing Compression Ignition (CI) Reciprocating Internal Combustion Engine (RICE) shall comply with the following applicable emission limitations and operating limitations.

2. General Requirements

a. The Permittee shall comply with the applicable emission limitations and operating limitations in this Attachment at all times.

b. The Permittee shall operate and maintain at all times the generator(s) including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions.

c. The Permittee shall minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes.

[40 CFR 63.6625(h); Table 2c of Subpart ZZZZ]

d. The Permittee shall operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop a maintenance plan which shall provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

[40 CFR 63.6625(e)]

3. Operating Requirements

[40 CFR 60.6640 (f)]

a. The Permittee shall operate the emergency stationary RICE according to the requirements in Conditions V.D.3.a(1) and V.D.3.a(2) below. If the engine is not operated according to the requirements in Conditions V.D.3.a(1) and V.D.3.a(2) below, the engine will not be considered an emergency engine and shall meet all requirements for non-emergency engines.

(1) The Permittee may operate the emergency stationary RICE for any combination of the purposes specified in Condition V.D.3.a(5) of this section for a maximum of 100 hours per calendar year. Any non-emergency situations as allowed by Condition V.D.3.a(5) count towards the 100 hours per calendar year.

[40 CFR 63.6640 (f)(2)]

(2) The Permittee may operate the emergency RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The Permittee may petition the Administrator and the Director for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that the Federal, State, or local standards require maintenance and testing beyond 100 hours per year. Copies of records shall be made available to ADEQ upon request.

[40 CFR 63.6640 (f)(2)(i)]

(3) The Permittee may operate the emergency stationary RICE for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference***), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

[40 CFR 63.6640 (f)(2)(ii)]

(4) The Permittee may operate the emergency stationary RICE for emergency demand response for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

[40 CFR 63.6640 (f)(2)(iii)]

(5) The Permittee operating an emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year on non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in Condition V.D.3.a(1). Except as provided in Conditions V.D.3.a(2) and V.D.3.a(3), the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

b. If the emergency CI stationary RICE has a site rating of more than 100 brake HP, a displacement of less than 30 liters, uses diesel fuel, and is contractually obligated to be available for more than 15 hours per calendar year for purposes specified in Conditions V.D.3.a(3) and V.D.3.a(4) or Condition V.D.3.a(5), the Permittee must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for non-road diesel fuel beginning January 1, 2015, except that any existing fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

[40 CFR 63.6604(b)]

c. *The Permittee shall install a non-resettable hour meter if one is not already installed.*

[40 CFR 63.6625(f) and R18-2-331.A.3.c]
[Material Permit Conditions are indicated by underlines and italics]

d. The Permittee shall change the oil and filter every 500 hours operation or annually, whichever comes first. If the Permittee prefers to extend the oil change requirement, an oil analysis program described below shall be

completed. The oil analysis must be performed at the same frequency specified for changing the oil.

[40 CFR 63.6625 (i) and (j), and Table 2d to 40 CFR 63 Subpart ZZZZ]

(1) The Permittee shall at a minimum analyze the following three parameters: Total Base Number (for CI engines), Total Acid Number (for SI engines), viscosity and water content. The condemning limits for these parameters are as follows:

(a) Total Base Number is less than 30 percent of the Total Base Number of the oil when new;

(b) Viscosity: changed more than 20 percent from the viscosity of oil when new; and

(c) Water Content: greater than 0.5 percent by volume.

(d) If all of the above limits are not exceeded, the Permittee is not required to change the oil. If any of the above limits are exceeded, the Permittee shall change the oil within 2 business days of receiving the results of the analysis or before commencing operation, whichever is later. Records shall be kept of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program shall be part of the maintenance plan for the operation of the engine.

e. The Permittee shall inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

[40 CFR 63.6603(a); Table 2d of Subpart ZZZZ]

f. The Permittee shall inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

[40 CFR 63.6603(a); Table 2d of Subpart ZZZZ]

4. Recordkeeping Requirements

a. The Permittee shall keep records of the hours of operation of the RICE that is recorded through the non-resettable hour meter. Records shall include the date, start and stop times, hours spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in Condition V.D.3.a(3), the owner or operator must keep records of the notification of the emergency situation and the date, start time, and end time of the engine operation for these purposes.

[40 CFR 63.6655(f)]

b. The Permittee shall keep records of the parameters that are analyzed and the results of the oil analysis, if any, and the oil changes for the engine.
[40 CFR 63.6625(i)]

c. The Permittee shall keep records of the maintenance conducted on the CI RICE that demonstrates operation and maintenance of the CI RICE in accordance with your maintenance plan.
[40 CFR 63.6655(e)]

d. If the emergency stationary RICE does not meet the standards applicable to non-emergency engine, the Permittee shall keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The Permittee shall document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the Permittee shall keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.
[40 CFR 63.6655]

e. The Permittee shall keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the stationary RICE and after-treatment control device (if any) were operated and maintained in accordance with the Permittee's maintenance plan.
[40 CFR 63.6655]

5. Reporting

a. For emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in Conditions V.D.3.a(2) and V.D.3.a(3) or that operates for the purpose specified in Condition V.D.3.a(4), the Permittee must submit to the Administrator and Director annually, a report according to the following requirements:
[40 CFR 63.6650]

(1) Company name and address where the engine is located.

(2) Date of the report and beginning and ending dates of the reporting period.

(3) Engine site rating and model year.

(4) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(5) Hours operated for the purpose specified in Condition V.D.3.a(2).

(6) Number of hours the engine is contractually obligated to be available for the purposes specified in Condition V.D.3.a(3).

(7) A statement declaring deviations, if any, from the fuel requirements as specified in 40 CFR 80.510(b) for non-road diesel fuel.

(8) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(9) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.edpa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator and Director at their respective addresses below.

(a) EPA Region IX, Director, Air Division
75th Hawthorne Street
San Francisco, CA 94105

(b) Director, Air Quality Division
1110 W. Washington Street
Phoenix, AZ 85007

6. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with 40 CFR Part 63.6603(a), 6605(b), 63.6625(f), 63.6655(e), 63.6655(f), Table 2d of 40 CFR subpart ZZZZ.

[A.A.C. R18-2-325]

VI. NSPS – EMERGENCY COMPRESSION IGNITION INTERNAL COMBUSTION ENGINES (CI ICE)

A. Applicability

This Section applies to each emergency CI ICE identified in Attachment "C" as subject to NSPS 40 CFR 60 Subpart IIII.

B. Emergency ICE

An emergency ICE shall be limited to emergency situations and required testing and maintenance only such as to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the

normal power source, if the facility runs on its own power production) is interrupted, or used to pump water in the case of fire or flood, etc. Stationary CI ICE used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity shall not be considered to be emergency engines.

C. Operating Requirement

1. *The Permittee shall install a non-resettable hour meter prior to startup of the engine.*

[A.A.C. R18-2-306.A.3 and -331.A.3.c]
[Material Permit Conditions are indicated by underlines and italics]

2. The Permittee shall operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions.

[40 CFR 60.4211(a)(1)]

3. The Permittee shall change only those emission-related settings that are permitted by the manufacturer.

[40 CFR 60.4211(a)(2)]

4. The Permittee shall meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply.

[40 CFR 60.4211(a)(3)]

5. The Permittee must operate the emergency stationary ICE according to the requirements in Condition VI.C.5.a through VI.C.5.c below. In order for the engine to be considered an emergency stationary ICE, any operation other than emergency operation, maintenance response, and operation in non-emergency situations for 50 hours per year, as described in Conditions VI.C.5.a through VI.C.5.c below is prohibited. If the emergency stationary ICE is not operated in accordance with the requirements in Conditions VI.C.5.a through VI.C.5.c below, the engine will not be considered an emergency engine and must meet all requirements for non-emergency engines.

[40 CFR 60.4211(f)]

a. There is no time limit on the use of emergency stationary ICE in emergency situations.

[40 CFR 60.4211(f)(1)]

b. The Permittee may operate the emergency stationary ICE for any combination of the purposes specified in Conditions VI.C.5.b(1) through VI.C.5.b(3) below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by Condition VI.C.5.c below counts as part of the 100 hours per calendar year allowed by this Condition VI.C.5.b.

[40 CFR 60.4211(f)(2)]

(1) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government, the manufacturer, the vendor, the regional transmission operator, or the insurance company associated with the engine. The Permittee may petition the Administrator or Director for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond the 100 hours per year.

[40 CFR 60.4211(f)(2)(i)]

(2) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 60.17), or other authorized entity as determined by the Reliability Coordinator has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

[40 CFR 60.4211(f)(2)(ii)]

(3) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

[40 CFR 60.4211(f)(2)(iii)]

c. The Permittee may operate the emergency stationary ICE for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in Condition VI.C.5.b. Except as provided in Condition VI.C.5.c(1), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

[40 CFR 60.4211(f)(3)]

(1) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(a) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(b) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential

voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(c) The dispatch follows reliability emergency operation or similar protocols that follow specific NERC regional, state, public utility commission, or local standards or guidelines.

(d) The power is provided only to the facility or to support the local transmission and distribution system.

(e) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[40 CFR 60.4211(f)(3)(i)]

6. Operation of the CI ICE other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, is prohibited.

[40 CF 60.4211(f) and A.A.C. R18-2-331.A.3.a]
[Material permit conditions are indicated by underline and italics]

7. For CI ICE with a displacement of less than 30 liters per cylinder that use diesel fuel, the Permittee must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for non-road diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

[40 CFR 60.4207(b)]

8. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with 40 CFR 60.4209(a) and §60.4211(f).

[A.A.C. R18-2-325]

D. Emission Limitations and Standards

[40 CFR 60.4205 (a) through (e)]

1. The Permittee operating a new or modified or reconstructed emergency CI ICE shall comply with the emission standards listed in the corresponding applicable regulations for the same model year and cylinder displacement as stated in Conditions VI.D.2 through VI.D.7.

2. Pre-2007 with Displacement <10 Liters:

The Permittee operating pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 of this section.

[40 CFR 60.4205(a)]

3. Pre-2007 with Displacement $10 \leq x < 30$ Liters:

The Permittee operating pre-2007 model year emergency stationary CI ICE with a displacement great than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

[40 CFR 60.4205(a)]

4. 2007 and Later < 30 Liters

The Permittee operating 2007 and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new non-road CI engines in 40 CFR 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

[40 CFR 60.4205(b)]

5. Fire Pump Displacement < 30 Liters:

The Permittee operating fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emissions standards in Table 2 of this subsection, for all pollutants.

[40 CFR 60.4205(c)]

6. Displacement ≥ to 30 Liters:

[40 CFR 60.4205(d)]

The Permittee operating emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements below:

a. For engines installed prior to January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(1) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is 130 rpm;

(2) $45*n^{-0.2}$ g/KW-hr ($34*n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm where n is maximum engine speed; and

(3) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

b. For engines installed on or after January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(1) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(2) $44*n^{-0.23}$ g/KW-hr ($33*n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(3) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

7. Displacement < 30 Liters with Performance Test Requirements:

The Permittee operating emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in 40 CFR 60.4212.

[40 CFR 60.4205(e)]

Table B-1: Emission Standards for Stationary Pre-2007 Model Year Engines with a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines > 2237 KW (3000 HP) and With a Displacement of <10 Liters per Cylinder

Engine Power	NMHC + NO_X	HC	NO_X	CO	VOC
	g/KW-hr (g/HP-hr)				
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW<560 (600≤HP<750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table B-2: Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

Engine Power	Model Year(s)	NO_X + NMHC	CO	PM
	g/KW-hr (g/HP-hr)			
KW<8 (HP<11)	2008+	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008+	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

8. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with 40 CFR 60.4205(a), §60.4205(b), §60.4205(c), §60.4205 (d), §60.4205(e), and §60.4205(f)

[A.A.C. R18-2-325]

E. Compliance Requirements

1. Pre-2007 Model Year Engines

[40 CFR 60.4211 (b)]

a. The Permittee operating a pre-2007 model year stationary CI ICE or a CI fire pump manufactured prior to the model years in Table 3 of 40 CFR Part 60 Subpart IIII, shall demonstrate compliance according to one of the following methods:

b. Purchasing an engine certified according to 40 CFR Part 89 or 40 CFR Part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

c. Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

d. Keeping records of engine manufacturer data indicating compliance with the standards.

e. Keeping records of control device vendor data indicating compliance with the standards.

f. Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in 40 CFR 60.4212, as applicable.

2. 2007 and Later Year Stationary CI ICE

[40 CFR 60.4211(c)]

The Permittee operating a 2007 model year and later stationary CI ICE or a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in Table 3 of 40 CFR Part 60, Subpart IIII, shall comply by purchasing an engine certified to the emission standards in §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's specifications, except as permitted in Condition VI.E.4.

3. Modified or Reconstructed Stationary ICE

[40 CFR 60.4205(e) and 4211(e)]

The Permittee operating a modified or reconstructed stationary CI ICE shall demonstrate compliance with the applicable standards using one of the following methods:

a. Purchasing an engine certified to the emission standards in 60.4205(f).

b. Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in 60.4212. The test shall be conducted within 60 days after the engine commences operation after the modification or reconstruction. The in-use performance tests shall meet the NTE standards as indicated in 40 CFR 60.4212.

4. If the Permittee does not install, configure, operate, and maintain the CI ICE and control device according to the manufacturer's emission-related written instructions, or change the emission-related setting in a way that is not permitted by the manufacturer, the Permittee shall demonstrate compliance as following:

[40 CFR 60.4211(g)]

a. CI ICE less than 100 HP

The Permittee shall keep a maintenance plan and records of conducted maintenance to demonstrate compliance and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the Permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

b. CI ICE greater than or equal to 100 HP and less than or equal to 500 HP

The Permittee shall keep a maintenance plan and records of conducted maintenance to demonstrate compliance and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the Permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after changing any non-permitted emission-related setting.

c. CI ICE greater than 500 HP

The Permittee shall keep a maintenance plan and records of conducted maintenance to demonstrate compliance and shall, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, the Permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after changing any non-permitted emission-related setting on the engine. Subsequent tests shall be conducted every 8760 hours of engine operation or 3 years, whichever comes first.

5. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with 40 CFR 60.4211(b), §60.4211(c), §60.4211(e), §60.4211(g) and §60.4205(e).

[A.A.C. R18-2-325]

F. Notification Requirements

[40 CFR 60.4214(b)]

There is no requirement for submission of initial notification for emergency stationary ICEs.

G. Recordkeeping Requirements

1. If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

[40 CFR 60.4214(c)]

2. Starting with model years in Table 5 of 40 CFR Subpart IIII, the Permittee operating an emergency ICE that does not meet the standards applicable to non-emergency engines in the applicable model year, shall keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter.

3. The Permittee shall record the time of operation of the engine and the reason the engine was in operation during that time.

[40 CFR 60.4214(b)]

4. The Permittee operating an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in Condition VI.C.2, you must submit an annual report according to the requirements in Conditions VI.G.4.a through VI.G.4.c of this section.

   a. The report must contain the following information.

      (1) Company name and address where the engine is located.

      (2) Date of the report and beginning and ending dates of the reporting period.

      (3) Engine site rating and model year.

      (4) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

      (5) Hours operated for the purposes specified in Conditions VI.C.5.b(1) and VI.C.5.b(2) including the date, start time, and end time for engine operation for the purposes specified in Conditions VI.C.5.b(1) and VI.C.5.b(2).

      (6) Number of hours the engine is contractually obligated to be available for the purposes specified in Condition VI.C.5.

      (7) Hours spent operating for the purposes specified in Condition VI.C.5.b(3), including the date, start time, and end time for engine operation for the purposes specified in Condition VI.C.5.b(3). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

   b. Annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

   c. The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 60.4.

[40 CFR 60.4214(d)]

5. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with 40 CFR 60.4214(b).

VII. FUGITIVE DUST REQUIREMENTS

A. Applicability

This Section applies to any non-point source of fugitive dust in the facility.

B. Particulate Matter and Opacity

Open Areas, Roadways & Streets, Storage Piles, and Material Handling

1. Emission Limitations and Standards

a. Opacity of emissions from any fugitive dust non-point source shall not be greater than 40%.

[A.A.C. R18-2-614]

b. The Permittee shall employ the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

(1) Keep dust and other types of air contaminants to a minimum in an open area where construction operations, repair operations, demolition activities, clearing operations, leveling operations, or any earth moving or excavating activities are taking place, by good modern practices such as using an approved dust suppressant or adhesive soil stabilizer, paving, covering, landscaping, continuous wetting, detouring, barring access, or other acceptable means;

[A.A.C. R18-2-604.A]

(2) Keep dust to a minimum from driveways, parking areas, and vacant lots where motor vehicular activity occurs by using an approved dust suppressant, or adhesive soil stabilizer, or by paving, or by barring access to the property, or by other acceptable means;

[A.A.C. R18-2-604.B]

(3) Keep dust and other particulates to a minimum by employing dust suppressants, temporary paving, detouring, wetting down or by other reasonable means when a roadway or alley is used, repaired, constructed, or reconstructed;

[A.A.C. R18-2-605.A]

(4) Take reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust. Earth or other material that is deposited by trucking or earth moving equipment shall be

removed from paved streets by the person responsible for such deposits;

[A.A.C. R18-2-605.B]

(5) Take reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods when crushing, screening, handling, transporting or conveying of materials or other operations likely to result in significant amounts of airborne dust;

[A.A.C. R18-2-606]

(6) Take reasonable precautions such as chemical stabilization, wetting, or covering when organic or inorganic dust producing material is being stacked, piled, or otherwise stored;

[A.A.C. R18-2-607.A]

(7) Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material, or with the use of spray bars and wetting agents;

[A.A.C. R18-2-607.B]

(8) Any other method as proposed by the Permittee and approved by the Director.

[A.A.C. R18-2-306.A.3.c]

2. Monitoring and Recordkeeping Requirements

a. The Permittee shall maintain records of the dates on which any of the activities listed in Condition VII.B.1.b above were performed and the control measures that were adopted.

[A.A.C. R18-2-306.A.3.c]

b. Opacity Monitoring Requirements

Each month, the Permittee shall monitor visible emissions from fugitive sources in accordance with Condition I.C.

[A.A.C. R18-2-306.A.3.c]

C. Permit Shield

Compliance with this Section shall be deemed compliance with A.A.C. R18-2-604. -605, -606, 607, and -614.

[A.A.C. R18-2-325]

VIII. OTHER PERIODIC ACTIVITIES

A. Abrasive Blasting

1. Particulate Matter and Opacity

a. Emission Limitations and Standards

The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:

[A.A.C. R18-2-726]

(1) Wet blasting;

(2) Effective enclosures with necessary dust collecting equipment; or

(3) Any other method approved by the Director.

b. Opacity

The Permittee shall not cause, allow or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 20% opacity.

[A.A.C. R18-2-702.B.3]

2. Monitoring and Recordkeeping Requirement

a. Each time an abrasive blasting project is conducted, the Permittee shall make a record of the following:

[A.A.C. R18-2-306.A.3.c]

(1) The date the project was conducted;

(2) The duration of the project; and

(3) Type of control measures employed.

b. A certified EPA Reference Method 9 observer shall conduct a quarterly survey of visible emissions emanating from sandblasting or other abrasive blasting operations when in operation and in accordance with Condition I.C.

[A.A.C. R18-2-306.A.3.c]

c. If there were no sandblasting or other abrasive blasting operations during a calendar quarter, then no quarterly survey of visible emissions is required. However, the Permittee shall record that no sandblasting or other abrasive blasting operations occurred during that calendar quarter.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with Condition VIII.A.1.a shall be deemed compliance with A.A.C. R18-2-702.B.3 and -726.

[A.A.C. R18-2-325]

B. Use of Paints

1. Volatile Organic Compounds and Opacity

a. Emission Limitations and Standards

While performing spray painting operations, the Permittee shall comply with the following requirements:

(1) The Permittee shall not conduct or cause to be conducted any spray painting operation without minimizing organic solvent emissions. Such operations, other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96% of the overspray.
[A.A.C.R18-2-727.A]

(2) The Permittee or their designated contractor shall not either:

(a) Employ, apply, evaporate, or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or

(b) Thin or dilute any architectural coating with a photochemically reactive solvent.
[A.A.C.R18-2-727.B]

(3) For the purposes of Condition VIII.B.1.a(1), a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in Condition VIII.B.1.a(2), or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:
[A.A.C.R18-2-727.C]

(a) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation-hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones: 5 percent.

(b) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent.

(c) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.

(4) Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more

than one of the groups of organic compounds described in Condition VIII.B.1.a(3), it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C.R18-2-727.D]

b. Opacity

The Permittee shall not cause, allow or permit visible emissions from painting operations in excess of 20% opacity.

[A.A.C. R18-2-702.B.3]

2. Monitoring and Recordkeeping Requirements

a. Each time a spray painting project is conducted, the Permittee shall make a record of the following:

(1) The date the project was conducted;

(2) The duration of the project;

(3) Type of control measures employed;

(4) Safety Data Sheets for all paints and solvents used in the project; and

(5) The amount of paint consumed during the project.

b. Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of Condition VIII.B.2.a.

[A.A.C. R18-2-306.A.3.c]

c. A certified EPA Reference Method 9 observer shall conduct a quarterly survey of visible emissions emanating from spray painting operations when in operation and in accordance with Condition I.C.

[A.A.C. R18-2-306.A.3.c]

d. If there were no spray painting operations during a calendar quarter, then no quarterly survey of visible emissions is required. However, the Permittee shall record that no spray painting operations occurred during that calendar quarter.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the Conditions of this Section shall be deemed compliance with A.A.C.R18-2702.B.2 and -727.

[A.A.C.R18-2-325]

C. Demolition and Renovation - Hazardous Air Pollutants

1. Emission Limitation and Standard

The Permittee shall comply with all of the requirements of 40 CFR 61 Subpart M (National Emission Standards for Hazardous Air Pollutants - Asbestos).

[A.A.C. R18-2-1101.A.12]

2. Monitoring and Recordkeeping Requirement

The Permittee shall keep all required records in a file. The required records shall include the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents.

[A.A.C. R18-2-306.A.3.c]

3. Permit Shield

Compliance with the Condition VIII.C.1 shall be deemed compliance with A.A.C. R18-2-1101.A.12.

[A.A.C. R18-2-325]

ATTACHMENT "C": OPERATION AND MAINTENANCE PLAN

I. GENERAL REQUIREMENTS

A. Prior to implementing any changes to this Attachment, the Permittee shall obtain the Director's approval pursuant to the appropriate provisions of Condition XV of Attachment "A".

B. At the time that the Permittee submits an air quality permit application or notification pursuant to Condition XV of Attachment "A" (including changes that do not require a permit revision) for the construction, modification or replacement of an air pollution control device, the Permittee shall develop and submit an Operation and Maintenance Plan that contains the following information:

[A.A.C. R18-2-306.A.3.c]

1. The process parameters that provide reasonable assurance that the control device is achieving the designed level of control;

2. The operating parameter set points for each process parameter to be monitored; and

3. A detailed preventative maintenance plan.

C. The Permittee shall monitor the parameters required by this Attachment as required by this permit, except for weekends and holidays when no plant activity is occurring.

[A.A.C. R18-2-306.A.3.c]

D. The Permittee shall inspect and maintain all equipment in accordance with Condition I.B.1 of Attachment "B".

[A.A.C. R18-2-306.A.3.c]

II. ARSINE GUARDIANS AND BAGHOUSES

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below:

[A.A.C. R18-2-306.A.3.c]

1. Reaction Chamber Temperature, in degrees celsius, shall be recorded continuously; and

2. Baghouse pressure differential in Arsine Baghouses 1 and 2, in inches of H_2O, shall be recorded continuously.

B. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

C. Operating Parameter Set points

The baghouse pressure differentials for Baghouses 1 and 2 shall be kept between 0.2" H_2O and 10" H_2O.

[A.A.C. R18-2-306.A.3.c]

D. Excursions

1. An excursion is defined as any Baghouse pressure differential less than 0.2" H_2O or greater than 10" H_2O, on a 15-minute average, while the baghouse is in operation or arsine is being vented to the control system.

2. Upon detection of an excursion, the Permittee shall restore operation of the equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include:

[A.A.C. R18-2-306.A.3.c]

   a. Minimizing the period of any startup, shutdown, or malfunction, and

   b. Taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of the excursion. Such actions may include:

      (1) Initial inspection and evaluation;

      (2) Recording that operations returned to normal without operator action; or

      (3) Any necessary follow-up actions to return operations to within the parameters listed in Condition II.C.

3. The Permittee shall submit reports of all excursions along with the compliance certifications required by Section VII of Attachment "A." The reports shall include, at a minimum, the following:

[A.A.C. R18-2-306.A.3.c]

   a. Summary information on the number, duration and cause (including unknown cause, if applicable) of the excursion, and the corrective actions taken; and

   b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable).

III. PHOSPHINE GUARDIANS AND DYNAWAVE

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below, during days that phosphine is being produced, processed, or phosphine is being vented to the control system:

[A.A.C. R18-2-306.A.3.c]

1. Reaction Chamber Temperature, in degrees celsius, shall be recorded continuously.

2. Dynawave Spray Nozzle Inlet Pressure, in psig, shall be manually recorded at least once per day.

3. Dynawave pressure differential, in inches of H_2O, shall be recorded at least once per day.

B. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

C. Operating Parameter Setpoints

Operating parameters listed in Condition III.A above shall be kept within the values listed in Table C-1 below.

[A.A.C. R18-2-306.A.3.c]

Table C-1: Operating Parameters for Phosphine Operations

	Reaction Chamber Temperature (°C)	Dynawave Spray Nozzle Inlet Pressure (psig)	Dynawave ∆P (inches water)
Max	900	30	31
Min	350	5	0.5

D. Excursions

1. An excursion is defined as:

   a. Any Reaction Chamber temperature reading less than 350°C;

   b. Any Dynawave spray nozzle inlet pressure less than 5 psig or greater than 30 psig; or

   c. Any Dynawave pressure differential less than 0.5" H_2O or greater than 31" H_2O.

2. Upon detection of an excursion, the Permittee shall restore operation of the equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include:

[A.A.C. R18-2-306.A.3.c]

a. Minimizing the period of any startup, shutdown, or malfunction, and

b. Taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of the excursion. Such actions may include:

(1) Initial inspection and evaluation;

(2) Recording that operations returned to normal without operator action; or

(3) Any necessary follow-up actions to return operations to within the parameters listed in Table C-1 above.

3. The Permittee shall submit reports of all excursions along with the compliance certifications required by Section VII of Attachment "A." The reports shall include, at a minimum, the following:

[A.A.C. R18-2-306.A.3.c]

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of the excursion, and the corrective actions taken.

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable).

IV. SILANE GUARDIANS AND BAGHOUSES

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below, on days when silane is being processed or silane is being vented to the control system:

[A.A.C. R18-2-306.A.3.c]

1. Reaction Chamber Temperature, in degrees celsius, shall be recorded continuously.

2. Baghouse pressure differential, in inches of H_2O, shall be recorded at least once per day for the baghouse that is in operation.

B. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

C. Operating Parameter Setpoints

Operating parameters listed in Condition IV.A above shall be kept within the values listed

in Table C-2 below.

[A.A.C. R18-2-306.A.3.c]

Table C-2: Operating Parameters for Silane Operations

	Reaction Chamber Temperature (°C)	Baghouse ∆P (inches water)
Max	900	10
Min	100	0.2

D. Excursions

1. An excursion is defined as:

   a. Any Reaction Chamber temperature reading less than 100°C while the unit is in operation or silane is being vented to the control system; or

   b. Any Baghouse pressure differential less than 0.2" H_2O or greater than 10" H_20 while the baghouse is in operation or silane is being vented to the control system.

2. Upon detection of an excursion, the Permittee shall restore operation of the equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include:

   a. Minimizing the period of any startup, shutdown, or malfunction; and

   b. Taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of the excursion. Such actions may include:

      (1) Initial inspection and evaluation;

      (2) Recording that operations returned to normal without operator action; or

      (3) Any necessary follow-up actions to return operations to within the parameters listed in Table C-2 above.

   [A.A.C. R18-2-306.A.3.c]

3. The Permittee shall submit reports of all excursions along with the compliance certifications required by Section VII of Attachment "A." The reports shall include, at a minimum, the following:

   [A.A.C. R18-2-306.A.3.c]

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of the excursion, and the corrective actions taken.

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable).

V. DICHLOROSILANE WET SCRUBBERS

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below, during days that dichlorosilane is being processed or dichlorosilane is being vented to the control system:

[A.A.C. R18-2-306.A.3.c]

1. Caustic strength (strength of scrubber solution), in mL acid, shall be recorded at least once per day;

2. Tower flow rate (flow rate of scrubber solution in the scrubber tower), in gallons per minute, shall be recorded at least once per day; and

3. Pressure differential across the orifice plate, in inches H_2O, shall be recorded at least once per day.

B. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

VI. AMMONIA SCRUBBER

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below, on days when ammonia is being processed or ammonia is being vented to the control system:

[A.A.C. R18-2-306.A.3.c]

1. NH_4OH Concentration, in percent, shall be recorded at least once per day;

2. Tank Level, in percent of full, shall be recorded at least once per day; and

3. Mini Scrubber Pump Discharge Pressure, in psig, shall be recorded at least once per day.

B. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

C. Operating Parameter Setpoints

Operating parameters listed in Condition VI.A above shall be kept within the values listed in Table C-3 below.

Table C-3: Operating Parameters

	NH_4OH Concentration (%)	Tank Level (%)	Mini Scrubber Pump Discharge Pressure (psig)
Max	30%	95%	40 psig
Min	N/A	15%	5 psig

[A.A.C. R18-2-306.A.3.c]

D. Excursions

1. An excursion is defined as:

   a. Any NH_4OH concentration of greater than 30%;

   b. Any tank level less than 15% full (except when the tank is being emptied or refilled) or greater than 95% full; or

   c. Any mini scrubber pump discharge pressure greater than 40 psig or less than 5 psig.

2. Upon detection of an excursion, the Permittee shall restore operation of the equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include:

[A.A.C. R18-2-306.A.3.c]

   a. Minimizing the period of any startup, shutdown, or malfunction; and

   b. Taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of the excursion. Such actions may include:

      (1) Initial inspection and evaluation;

      (2) Recording that operations returned to normal without operator action; or

      (3) Any necessary follow-up actions to return operations to within the parameters listed in Table C-3 above.

3. The Permittee shall submit reports of all excursions along with the compliance certifications required by Section VII of Attachment "A." The reports shall include, at a minimum, the following:

[A.A.C. R18-2-306.A.3.c]

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of the excursion, and the corrective actions taken; and

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable).

VII. VENTILATION EMERGENCY SCRUBBER (VES-1)

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below:

[A.A.C. R18-2-306.A.3.c]

1. Potassium Permanganate ($KMnO_4$) concentration, in percent $KMnO_4$, shall be recorded at least once per day;

2. $KMnO_4$ flow rate, in gallons per minute, shall be recorded continuously; and

3. Air flow rate, in cubic feet per minute, shall be recorded continuously.

B. The primary $KMnO_4$ electric pump shall be backed up by a diesel generator. In the event of an electric motor pump failure, loss of flow must be detected via motor amperage or other method as approved by ADEQ, and the diesel generator must start up automatically.

[A.A.C. R18-2-306.A.3.c]

C. The $KMnO_4$ solution shall be tested every week to determine the percent dissolved solids and percent suspended solids, except during a week in which a muck-out is scheduled.

[A.A.C. R18-2-306.A.3.c]

D. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

E. During times when the liquid flow meter is inoperative, the Permittee shall monitor the potassium permanganate liquid flow rate by manually verifying the pump motor amperage and the potassium permanganate level in the VES-1 at least twice per 8-hour shift with at least 3 hours between each measurement. An alternative monitoring approach may be used with prior written approval by the Director. The Permittee shall not operate for more than 7 days with the liquid flow meter inoperative.

[A.A.C. R18-2-306.A.3.c]

VIII. PROCESS CAUSTIC WET SCRUBBER (PCWS-1)

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below, during days that GeF_4, SiF_4 and $B^{11}F_3$ are being processed or such compounds are being vented to the control system:

[A.A.C. R18-2-306.A.3.c]

1. Caustic (Sodium Hydroxide – NaOH) concentration, shall be monitored using the surrogate parameter "pH" and recorded at least once per day;

2. Tower Nozzle Pressure shall have a low pressure alarm and the status recorded daily;

3. Sump Liquid Level shall have a low level alarm switch and the level shall be recorded at least once per day; and

4. The Pressure Differential across the tower, in inches water column, shall be recorded at least once per day.

B. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

C. Operating Parameter Setpoints

Operating parameters listed in Condition VIII.A above shall be kept within the values listed in Table C-4 below.

Table C-4: Operating Parameters for Caustic Wet Scrubber

	Caustic (NaOH) Strength (pH)	Tower Nozzle Pressure (psig)	Sump Liquid Level (inch)	DP Across Tower (inches water column)
Max	N/A	16	20	0.6
Min	12	10	14	0.1

[A.A.C. R18-2-306.A.3.c]

D. Excursions

1. An excursion is defined as:

   a. Anytime the pH falls below 12;

   b. Anytime the Tower nozzle pressure falls below 10 psig during any venting operation;

   c. Any Sump Liquid Level that falls below 14 inches during any venting operation; or

d. Anytime the Differential Pressure (DP) Across the Tower climbs above 0.6 inches water column or below 0.1 inches water column.

2. Upon detection of an excursion, the Permittee shall restore operation of the equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include:

[A.A.C. R18-2-306.A.3.c]

a. Minimizing the period of any startup, shutdown, or malfunction; and

b. Taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of the excursion. Such actions may include:

(1) Initial inspection and evaluation,

(2) Recording that operations returned to normal without operator action, or

(3) Any necessary follow-up actions to return operations to within the parameters listed in Table C-4 above.

3. The Permittee shall submit reports of all excursions along with the compliance certifications required by Section VII of Attachment "A." The reports shall include, at a minimum, the following:

[A.A.C. R18-2-306.A.3.c]

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of the excursion, and the corrective actions taken; and

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable).

IX. VENTILATION EMERGENCY SCRUBBER (VES-3)

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below, during days that Disilane, Silane, Silicon Tetrafluoride, Enriched Boron-11 Trifluoride, Boron Trifluoride, Diborane, or any mixtures thereof, are being processed or vented to the control system:

[A.A.C. R18-2-306.A.3.c]

1. Tower 1 liquid flow rate shall be recorded at least once per day on a process log;

2. Tower 2 liquid flow rate shall be recorded at least once per day on a process log; and

3. Liquid pH shall be recorded at least once per day on a process log.

B. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

C. Operating Parameter Setpoints

Operating parameters listed in Condition IX.A above shall be kept within the values listed in Table C-5 below.

[A.A.C. R18-2-306.A.3.c]

Table C-5: Operating Parameters for Ventilation Emergency Scrubber (VES-3)

	Tower 1 Liquid Flow Rate (gpm)	Tower 2 Liquid Flow Rate (gpm)	Liquid pH
Max	200	200	13.5
Min	100	100	9.5

D. Excursions

1. An excursion is defined as:

   a. Any Tower 1 liquid flow rate less than 100 gpm or greater than 200 gpm;

   b. Any Tower 2 liquid flow rate less than 100 gpm or greater than 200 gpm; or

   c. Any pH less than 9.5 or greater than 13.5.

2. Upon detection of an excursion, the Permittee shall restore operation of the equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include:

[A.A.C. R18-2-306.A.3.c]

   a. Minimizing the period of any startup, shutdown, or malfunction, and

   b. Taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of the excursion. Such actions may include:

      (1) Initial inspection and evaluation;

(2) Recording that operations returned to normal without operator action; or

(3) Any necessary follow-up actions to return operations to within the parameters listed in Table C-5 above.

3. The Permittee shall submit reports of all excursions along with the compliance certifications required by Section VII of Attachment "A." The reports shall include, at a minimum, the following:

[A.A.C. R18-2-306.A.3.c]

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of the excursion, and the corrective actions taken; and

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable).

X. PROCESS DRY SCRUBBER (PDS-1)

A. The End Point Sensor Light status shall be recorded on a daily basis and a log shall be maintained recording when the End Point Sensor Light activates.

[A.A.C. R18-2-306.A.3.c]

B. The Permittee shall maintain records of all maintenance activities, including when the alumina bed is replaced, in a log that identifies the date, time and description of these maintenance activities, as well as the reason for the maintenance activity performed.

[A.A.C. R18-2-306.A.3.c]

C. Excursions

1. An excursion is defined as:

Continuing a venting operation without changing out the alumina bed cartridge with a new one after the End Point Sensor Light has shut off signifying that the alumina bed has reached the 95% saturation level.

2. Upon detection of an excursion, the Permittee shall restore operation of the equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include:

[A.A.C. R18-2-306.A.3.c]

a. Shutting down venting to the Process Dry Scrubber until a fresh alumina bed cartridge is installed and the End Point Sensor Lamp is reset to "Lit" status; and

b. Maintaining a shutdown status until a replacement of the activated alumina bed is completed and any leaks are found and repaired.

3. The Permittee shall submit reports of all excursions along with the compliance certifications required by Section VII of Attachment "A." The reports shall include, at a minimum, the following:

[A.A.C. R18-2-306.A.3.c]

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of the excursion, and the corrective actions taken; and

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable).

XI. VENTILATION EMERGENCY SCRUBBER (VES-2)

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below during days that gases are being produced or vented to the control system:

[A.A.C. R18-2-306.A.3.c]

1. Caustic (Sodium Hydroxide – NaOH) concentration in the Tower Liquid Recycle shall be monitored using the surrogate parameter "pH" and shall be recorded at least once per day;

2. Tower Liquid Recycle Rate, in gallons per minute, shall be recorded continuously and have a "low flow" alarm;

3. Sump Liquid Level shall have a low-level alarm and the level status shall be recorded at least once per day;

4. Air flow rate, in cubic feet per minute, shall be recorded continuously; and

5. The Pressure Differential across the tower, in inches water column, shall be recorded at least once per day.

B. In the event of a recirculation pump failure, the loss of flow must be detected and the process must be shut down until flow is restored.

[A.A.C. R18-2-306.A.3.c]

C. The NaOH solution shall be tested every week to determine the % dissolved solids and % suspended solids, except during a week in which a muck-out is scheduled.

[A.A.C. R18-2-306.A.3.c]

D. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

E. During times when the liquid flow meter is inoperative, the Permittee shall monitor the Tower Liquid Recycle Rate manually along with the Liquid Sump Level in the VES-2 Scrubber at least twice per 8-hour shift. An alternative monitoring approach may be used with prior written approval by the Director. The Permittee shall not operate for more than 7 days with the liquid flow meter inoperative.

[A.A.C. R18-2-306.A.3.c]

F. Operating Parameter Setpoints

Operating parameters listed in Condition XI.A above shall be kept within the values listed in Table C-6 below.

[A.A.C. R18-2-306.A.3.c]

Table C-6: Operating Parameters for the Ventilation Emergency Scrubber VES-2

	Caustic (NaOH) Strength (pH)	Tower Liquid Recycle Rates (gpm)	Sump Liquid Level (inch)	DP Across Tower (inches water column)
Max	N/A	N/A	20	4.5
Min	8	30	12	1.5

G. Excursions

1. An excursion is defined as:

   a. Anytime the pH falls below 8;

   b. Anytime the Tower Liquid Recycle Rate falls below 30 gpm;

   c. Anytime the Sump Liquid Level falls below 12 inches; or

   d. Anytime the Differential Pressure (DP) Across the Tower climbs above 4.5 inches water column or below 1.5 inches water column.

2. Upon detection of an excursion, the Permittee shall restore operation of the equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include:

[A.A.C. R18-2-306.A.3.c]

   a. Minimizing the period of any startup, shutdown, or malfunction; and

b. Taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of the excursion. Such actions may include:

(1) Initial inspection and evaluation;

(2) Recording that operations returned to normal without maintenance repair as a result of operator adjustment or action; or

(3) Any necessary follow-up actions to return operations to within the parameters listed in Table C-6 above.

3. The Permittee shall submit reports of all excursions along with the compliance certifications required by Section VII of Attachment "A." The reports shall include, at a minimum, the following:

[A.A.C. R18-2-306.A.3.c]

a. Summary information on the number, duration and cause (including unknown cause, if applicable) of the excursion, and the corrective actions taken; and

b. Summary information on the number, duration and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable).

XII. FLOURINE EMERGENCY STACK (FES)

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below:

[A.A.C. R18-2-306.A.3.c]

1. Pressure differential across the adsorber shall be recorded at least once per quarter; and

2. Pressure differential across the pre-filter shall be recorded at least once per quarter.

B. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time, and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

C. Operating Parameter Setpoints

Operating parameters listed in Condition XII.A above shall be kept within the values listed in Table C-7 below.

[A.A.C. R18-2-306.A.3.c]

Table C-7: Operating Parameters for the Fluorine Emergency Stack (FES)

	Differential Pressure (kPa)
Adsorber	<1.0
Pre-Filter	< 0.2

D. Excursions

1. An excursion is defined as:

   a. A differential pressure reading across the adsorber greater than or equal to 1.0 kPa while the scrubber is in operation; or

   b. A differential pressure reading across the pre-filter greater than or equal to 0.2 kPa while the scrubber is in operation.

2. Upon detection of an excursion, the Permittee shall restore operation of the equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include:

   [A.A.C. R18-2-306.A.3.c]

   a. Minimizing the period of any startup, shutdown, or malfunction; and

   b. Taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of the excursion. Such actions may include:

      (1) Initial inspection and evaluation;

      (2) Recording that operations returned to normal without operator action; or

      (3) Any necessary follow-up actions to return operations to within the parameters listed in Table C-7 above.

3. The Permittee shall submit reports of all excursions along with the compliance certifications required by Section VII of Attachment "A". The reports shall include, at a minimum, the following:

   [A.A.C. R18-2-306.A.3.c]

   a. Summary information on the number, duration, and cause (including unknown cause, if applicable) of the excursion, and the corrective actions taken; and

   b. Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitoring downtime incidents (other

than downtime associated with zero and span or other calibration checks, if applicable).

XIII. NO_2 TRANSFILL SCRUBBER

A. The following process parameters shall be monitored and recorded on a process log at the intervals listed below, on days when NO_2 or N_2O_4 is being processed or is being vented to the NO_2 transfill scrubber:

[A.A.C. R18-2-306.A.3.c]

Differential pressure, in inches of water gauge, shall be recorded at least once every month.

B. The Permittee shall maintain records of all maintenance activities in a log that identifies the date, time and description of the maintenance activity, as well as a reason for the maintenance activity that was performed.

[A.A.C. R18-2-306.A.3.c]

C. The Permittee shall replace the media as needed or as recommended based on vendor specifications as reviewed every quarter.

[A.A.C. R18-2-306.A.3.c]

D. The Permittee shall calibrate the stack gas monitor's sensor every six (6) months.

[A.A.C. R18-2-306.A.3.c]

E. The Permittee shall test the stack gas monitor alarm's sensor every month.

[A.A.C. R18-2-306.A.3.c]

F. Operating Parameter Setpoints

Operating parameters listed in Condition XIII.A above shall be kept within the values listed in Table C-8 below.

Table C-8: Operating Parameters for the NO_2 Transfill Scrubber

	Differential Pressure (inches of water gauge)
Max	21 inches of water gauge
Min	12 inches of water gauge

[A.A.C. R18-2-306.A.3.c]

G. Excursions

1. An excursion is defined as

   a. Any NO_2 concentration of greater than 6.5 ppm;

   b. Any scrubber differential pressure greater than 21 inches of water gauge or less than 12 inches of water gauge.

2. An excursion is defined as upon detection of an excursion, the Permittee shall restore operation of the equipment to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include:

   [A.A.C. R18-2-306.A.3.c]

   a. Minimizing the period of any startup, shutdown, or malfunction; and

   b. Taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of the excursion. Such actions may include:

      (1) Initial inspection and evaluation;

      (2) Recording that operations returned to normal without operator action; or

      (3) Any necessary follow-up actions to return operations to within the parameters listed in Table C-8 above.

3. The Permittee shall submit reports of all excursions along with the compliance certifications required by Section VII of Attachment "A". The reports shall include, at a minimum, the following:

   [A.A.C. R18-2-306.A.3.c]

   a. Summary information on the number, duration, and cause (including unknown cause, if applicable) of the excursion, and the corrective actions taken; and

   b. Summary information on the number, duration, and cause (including unknown cause, if applicable) for monitoring downtime incidents (other than downtime associated with zero and span or other calibration checks, if applicable).

ATTACHMENT "D": EQUIPMENT LIST

EQUIPMENT TYPE	MAX. CAPACITY	MAKE	MODEL	INSTALLATION / MFG. DATE	EQUIPMENT ID NUMBER	A.A.C. / NSPS / NESHAP
Ventilation Emergency Scrubber	30,000 scfm	Construction International, Inc.	Countercurrent Packed Column Wet Scrubber	N/A	VES-1	A.A.C. R18-2-730
Arsine Guardian 1	2,000 scfm	Hoechst Celanese	Guardian 8	N/A	N/A	A.A.C. R18-2-730
Arsine Guardian 2	2,000 scfm	ATMI	Guardian 8	N/A	N/A	A.A.C. R18-2-730
Arsine Baghouse 1	N/A	Mikropul Environmental Systems	64S8 TRH"C"	N/A	N/A	A.A.C. R18-2-730
Arsine Baghouse 2	N/A	Mikropul Environmental Systems	64S8 TRH	N/A	N/A	A.A.C. R18-2-730
Silane Guardian	2,000 scfm	MG Industries	Guardian 8	N/A	N/A	A.A.C. R18-2-730
Silane Baghouses 1 and 2	1,800 acfm	STACLEAN Diffuser Co.	49-8-ADR	N/A	N/A	A.A.C. R18-2-730
Phosphine Guardian	1,300 scfm	Hoechst Celanese	Guardian 8	N/A	N/A	A.A.C. R18-2-730
Phosphine Dynawave Wet Scrubber	1,300 scfm	Monsanto Enviro-Chem	Reverse Jet Scrubbing System	N/A	N/A	A.A.C. R18-2-730
TCS Wet Scrubber A		Advanced Air Technologies	Apollo Series	N/A	N/A	A.A.C. R18-2-730
DCS Wet Scrubber B	200 scfm	Advanced Air Technologies	Apollo Series	N/A	N/A	A.A.C. R18-2-730
DCS Wet Scrubber C	200 scfm	Advanced Air Technologies	Apollo Series	N/A	N/A	A.A.C. R18-2-730

EQUIPMENT TYPE	MAX. CAPACITY	MAKE	MODEL	INSTALLATION / MFG. DATE	EQUIPMENT ID NUMBER	A.A.C. / NSPS / NESHAP
TCS Wet Scrubber D		Advanced Air Technologies	Apollo Series	N/A	N/A	A.A.C. R18-2-730
Emergency Generator	536 hp	Caterpillar	N/A	TBD	002	NSPS 40 CFR 60 IIII
VES-1 Diesel Generator	230 hp	Caterpillar	C6.6 DIT	March 2017	N/A	NSPS 40 CFR 60 IIII
Diesel Generator VES-2 Scrubber	136 hp	Onsite Energy / John Deere	N/A	2010	N/A	NSPS 40 CFR 60 IIII
Diesel Fire Water Pump	244 hp	Cummins Diesel	N/A	1990	N/A	A.A.C. R18-2-719; NESHAP 40 CFR 63 ZZZZ
Cylinder Shot Blaster & Dust Collector	240 cyl/day	Viking Corp	GC112 (blaster) 9DC (collector)	April 2006	N/A	A.A.C. R18-2-726
Spray Paint Booth	16'×10'×8' (8,000 cfm exhaust fan)	Global Finishing Solutions	DFECG-100816-NSB-4L-BD-SP (U144849-A)	November 2022	007	A.A.C. R18-2-727
Ammonia Recovery System	200 lb/hr	RM Technologies	N/A	July 2006		A.A.C. R18-2-730
Caustic Wet Scrubber	2,825-3,000 scfm 1.5 hp pump 10 hp - fan	Advanced Air Technologies	Orion Series	2010	VES-2	A.A.C. R18-2-730
Process Caustic Wet Scrubber	50 scfm 1.5 hp – pump	Advanced Air Technology	Apollo 50 Series	04/09/2008	PCWS-1	A.A.C. R18-2-730
Process Dry Scrubber	100 slpm	CS Clean Systems	CS200BS	2010	PDS-1	A.A.C. R18-2-730
Gas Detection	N/A	Honeywell	Vertex	2010	N/A	N/A

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EQUIPMENT LIST

EQUIPMENT TYPE	MAX. CAPACITY	MAKE	MODEL	INSTALLATION / MFG. DATE	EQUIPMENT ID NUMBER	A.A.C. / NSPS / NESHAP
Ventilation Emergency Scrubber	20 scfm	Advanced Air Technologies	Orion Series Twin Tower	TBD	VES-3	A.A.C. R18-2-730
Emergency Gas Release Absorber	1,060 scfm	CS Clean Systems	CLEAN-PROTECT CP500SF	TBD	FES	A.A.C. R18-2-702 A.A.C. R18-2-730
NO_2 Transfill Scrubber	4,888 gal; 5,000 scfm blower	Purafil	EGS-FOC-1	2023	NTS-1	A.A.C. R18-2-730

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APPENDIX "A": AMBIENT AIR MONITORING PLAN