COMPANY: **Freeport-McMoRan Safford, Inc.**
FACILITY: **Freeport-McMoRan Safford Mine**
PERMIT #: **53649 (As amended by Significant Revision #63081)**
DATE ISSUED:
EXPIRY DATE: **February 15, 2017**

SUMMARY

This Class II, synthetic minor renewal operating permit is issued to Freeport-McMoRan Safford Inc. (FMSI), for the continued operation of the Safford Copper Mine facility.

The operations include open-pit copper mining, metallic minerals crushing, heap leaching, solution extraction and electrowinning, and a sulfuric acid production plant. The facility is located approximately 8 miles north-northeast of Safford, Graham County, Arizona. The facility operates two open pit mines (Dos Pobres and San Juan) located northeast of a single leach pad.

This facility has the potential to emit, before controls, over 100 tons per year (tpy) of particulate matter with an aerodynamic diameter less than 10 microns and nitrogen oxides (NO_X) emissions. FMSI is accepting voluntary emission and operating limits to stay below major source thresholds for these pollutants. Therefore, a synthetic minor Class II permit is required under Arizona Administrative Code (A.A.C.) R18-2-302.B.2.a.iii.

This permit is issued in accordance with Arizona Revised Statutes (A.R.S.) 49-426. It contains requirements from A.A.C. Title 18, Chapter 2 and the Code of Federal Regulations (CFR).

Significant Revision #63801

This SPR authorizes Freeport- McMoRan Safford Inc. (FMSI) to make the following changes:

- Revise the voluntarily accepted limit for emission of sulfur dioxide (SO_2) from the acid plant from 11.05 pounds per hour on a rolling 24-hour average to 100 pounds per hour on rolling 24 hour average,
- Add a new voluntarily accepted limit for rolling 12-month SO_2 emission of 90 tons per year for acid plant,
- Add a stand by start up diesel fueled boiler of 9 MMBtu per hour capacity operating for 200 hours per year,
- Replace one existing secondary crusher with a new secondary crusher,
- Include three existing ammonium nitrate prill bins in the permit, and

- Correct the date of manufacture on one existing emergency generator.

The increases in emissions with above changes are above the significant levels for sulfur dioxide. These changes meet all the requirements for a significant permit revision as outlined in A.A.C. R-18-2-320.B.

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ATTACHMENT "A": GENERAL PROVISIONS

Air Quality Control Permit No. 53649 (As amended by Significant Revision #63081) for *Freeport-McMoRan Safford, Inc.*

I. PERMIT EXPIRATION AND RENEWAL

[ARS § 49-426.F, A.A.C. R18-2-304.C.2, and -306.A.1]

A. This permit is valid for a period of five years from the date of issuance.

B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months, prior to the date of permit expiration**.**

II. COMPLIANCE WITH PERMIT CONDITIONS

[A.A.C. R18-2-306.A.8.a and b]

A. The Permittee shall comply with all conditions of this permit including all applicable requirements of the Arizona air quality statutes and air quality rules. Any permit noncompliance constitutes a violation of the Arizona Revised Statutes and 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.

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.

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

[A.A.C. R18-2-306.A.8.c, -321.A.1.c-d, and -321.A.2]

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.

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.

2. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.

C. Proceedings to reopen and reissue 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

reopenings shall be made as expeditiously as practicable. Permit reopenings shall not result in a resetting of the five-year permit term.

IV. POSTING OF PERMIT

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

A. The Permittee shall post this permit or a certificate of permit issuance where the facility is located 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:

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.

V. FEE PAYMENT

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

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

VI. ANNUAL EMISSION INVENTORY QUESTIONNAIRE

[A.A.C. R18-2-327.A&B]

A. The Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31st or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.

B. The questionnaire shall be on a form provided by the Director and shall include the information required by A.A.C. R18-2-327.

VII. COMPLIANCE CERTIFICATION

[A.A.C. R18-2-309.2.a, -309.2.c-d, and -309.5.d]

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 first certification shall be submitted no later than October 15th, and shall report the compliance status of the source during the period between March 16th and September 15th of each year. The second certification shall be submitted no later than April 15st and shall report the compliance status of the source during the period between September 16th of the previous year and March 15th of the current year.

The compliance certifications shall include the following:

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

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

3. The 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 certification shall be based on the methods and means designated in Condition VII.A.2 above. The certifications shall identify each deviation and take into account for consideration in the compliance certification;

4. All instances of deviations from permit requirements reported pursuant to Condition XII.B of this Attachment; and

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

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

VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS

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

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.

IX. INSPECTION AND ENTRY

[A.A.C. R18-2-309.4]

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;

B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;

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

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and

E. Record any inspection by use of written, electronic, magnetic and photographic media.

X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD

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

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.

XI. ACCIDENTAL RELEASE PREVENTION PROVISIONS

[40 CFR Part 68]

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.

XII. EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCY REPORTING

A. Excess Emissions Reporting

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

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:

      (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;

      (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;

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

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

(5) Nature and cause of such emissions;

(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; and

(7) Steps taken to limit the excess emissions. 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.

2. In the case of continuous or recurring excess emissions, the notification requirements of this section 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

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

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. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to an emergency or within two working days of the time when the owner or operator first learned of the occurrence of a deviation from a permit requirement.

C. Emergency Provision

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

1. An "emergency" means any situation arising from sudden and reasonable unforeseeable events beyond the control of the source, including acts of God, that require immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if Condition XII.C.3 is met.

3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;

   b. The permitted facility was being properly operated at the time;

   c. During the period of the emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

   d. The Permittee submitted notice of the emergency to the Director by certified mail, facsimile, or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.

D. Compliance Schedule

[ARS § 49-426.I.5]

For any excess emission or permit deviation that cannot be corrected with 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated.

E. Affirmative Defenses for Excess Emissions due to Malfunctions, Startup, and Shutdown

[A.A.C. R18-2-310]

1. Applicability

   This rule establishes affirmative defenses for certain emissions in excess of an emission standard or limitation and applies to all emission standards or limitations except for standards or limitations:

   a. Promulgated pursuant to Sections 111 or 112 of the Act;

b. Promulgated pursuant to Titles IV or VI of the Clean Air Act;

c. Contained in any Prevention of Significant Deterioration (PSD) or New Source Review (NSR) permit issued by the U.S. EPA;

d. Contained in A.A.C. R18-2-715.F; or

e. Included in a permit to meet the requirements of A.A.C. R18-2-406.A.5.

2. Affirmative Defense for Malfunctions

Emissions in excess of an applicable emission limitation due to malfunction shall constitute a violation. When emissions in excess of an applicable emission limitation are due to a malfunction, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

a. The excess emissions resulted from a sudden and unavoidable breakdown of process equipment or air pollution control equipment beyond the reasonable control of the Permittee;

b. The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

c. If repairs were required, the repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded. Off-shift labor and overtime were utilized where practicable to ensure that the repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the Permittee satisfactorily demonstrated that the measures were impracticable;

d. The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

e. All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

f. The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

g. During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

h. The excess emissions did not stem from any activity or event that could have been foreseen and avoided, or planned, and could not have been avoided by better operations and maintenance practices;

i. All emissions monitoring systems were kept in operation if at all practicable; and

j. The Permittee's actions in response to the excess emissions were documented by contemporaneous records.

3. Affirmative Defense for Startup and Shutdown

a. Except as provided in Condition XII.E.3.b below, and unless otherwise provided for in the applicable requirement, emissions in excess of an applicable emission limitation due to startup and shutdown shall constitute a violation. When emissions in excess of an applicable emission limitation are due to startup and shutdown, the Permittee has an affirmative defense to a civil or administrative enforcement proceeding based on that violation, other than a judicial action seeking injunctive relief, if the Permittee has complied with the reporting requirements of A.A.C. R18-2-310.01 and has demonstrated all of the following:

(1) The excess emissions could not have been prevented through careful and prudent planning and design;

(2) If the excess emissions were the result of a bypass of control equipment, the bypass was unavoidable to prevent loss of life, personal injury, or severe damage to air pollution control equipment, production equipment, or other property;

(3) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;

(4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;

(5) All reasonable steps were taken to minimize the impact of the excess emissions on ambient air quality;

(6) During the period of excess emissions there were no exceedances of the relevant ambient air quality standards established in Title 18, Chapter 2, Article 2 of the Arizona Administrative Code that could be attributed to the emitting source;

(7) All emissions monitoring systems were kept in operation if at all practicable; and

(8) Contemporaneous records documented the Permittee's actions in response to the excess emissions.

b. If excess emissions occur due to a malfunction during routine startup and shutdown, then those instances shall be treated as other malfunctions subject to Condition XII.E.2 above.

4. Affirmative Defense for Malfunctions during Scheduled Maintenance

If excess emissions occur due to a malfunction during scheduled maintenance, then those instances will be treated as other malfunctions subject to Condition XII.E.2 above.

5. Demonstration of Reasonable and Practicable Measures

For an affirmative defense under Condition XII.E.2 or XII.E.3 above, the Permittee shall demonstrate, through submission of the data and information required by Condition XII.E and A.A.C. R18-2-310.01, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of the excess emissions.

XIII. RECORD KEEPING REQUIREMENTS

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

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;

2. The date(s) analyses were performed;

3. The name of the company or entity that performed the analyses;

4. A description of the analytical techniques or methods used;

5. The results of such analyses; and

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

B. The Permittee shall retain records of all required monitoring data and support information for a period of at least 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.

C. All required records shall be maintained either in an unchangeable electronic format or in a handwritten logbook utilizing indelible ink.

XIV. REPORTING REQUIREMENTS

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

The Permittee shall submit the following reports:

A. Compliance certifications in accordance with Section VII of Attachment "A".

B. Excess emission; permit deviation, and emergency reports in accordance with Section XII of Attachment "A".

C. Other reports required by any condition of Attachment "B".

XV. DUTY TO PROVIDE INFORMATION

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

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.

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.

XVI. PERMIT AMENDMENT OR REVISION

[A.A.C. R18-2-317.01, -318, -319, and -320]

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

A. Facility Changes that Require a Permit Revision - Class II (A.A.C. R18-2-317.01);

B. Administrative Permit Amendment (A.A.C. R18-2-318);

C. Minor Permit Revision (A.A.C. R18-2-319); and

D. Significant Permit Revision (A.A.C. R18-2-320)

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

XVII. FACILITY CHANGE WITHOUT A PERMIT REVISION

[A.A.C. R18-2-306.A.4 and -317.02]

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 Conditions XVII.B and XVII.C below, a change at a Class II source shall not be subject to revision, notice, or logging requirements under this Section.

B. Except as otherwise provided in the conditions applicable to an emissions cap created under A.A.C. R18-2-306.02, the following changes may be made if the source keeps on site records of the changes according to Appendix 3 of the Arizona Administrative Code:

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. R18-2-101.57.a through A.A.C. R18-2-101.57.i 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. Except as provided in the conditions applicable to an emissions cap created under A.A.C. R18-2-306.02, the following changes may be made if the source provides written notice to the Department in advance of the change as provided below:

1. Replacing an item of air pollution control equipment listed in the permit with one that is not identical but that is substantially similar and has the same or better pollutant removal efficiency: 7 days. The Director may require verification of efficiency of the new equipment by performance tests;

2. A physical change or change in the method of operation that increases actual emissions more than 10% of the major source threshold for any conventional pollutant but does not require a permit revision: 7 days;

3. Replacing an item of air pollution control equipment listed in the permit with one that is not substantially similar but that has the same or better efficiency: 30 days. The Director may require verification of efficiency of the new equipment by performance tests;

4. A change that would trigger an applicable requirement that already exists in the permit: 30 days unless otherwise required by the applicable requirement;

5. A change that amounts to reconstruction of the source or an affected facility: 7 days. For the purposes of this subsection, reconstruction of a source or an affected facility shall be presumed if the fixed capital cost of the new components exceeds 50% of the fixed capital cost of a comparable entirely new source or affected facility and the changes to the components have occurred over the 12 consecutive months beginning with commencement of construction; and

6. A change that will result in the emissions of a new regulated air pollutant above an applicable regulatory threshold but that does not trigger a new applicable requirement for that source category: 30 days. For purposes of this requirement, an applicable regulatory threshold for a conventional air pollutant shall be 10% of the applicable major source threshold for that pollutant.

D. For each change under Condition XVII.C above, the written notice shall be by certified mail or hand delivery and shall be received by the Director the minimum amount of time in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided with less than required notice, but must be provided as far in advance of the change, or if advance notification is not practicable, as soon after the change as possible. The written notice shall include:

1. When the proposed change will occur;

2. A description of the change;

3. Any change in emissions of regulated air pollutants; and

4. Any permit term or condition that is no longer applicable as a result of the change.

E. A source may implement any change in Condition XVII.C above without the required notice by applying for a minor permit revision under A.A.C. R18-2-319 and complying with subsection A.A.C. R18-2-319.D.2 and A.A.C. R18-2-319.G.

F. 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 XVII.B.1.

G. 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 same source under this Section over the term of the permit, constitutes a change under subsection A.A.C. R18-2-317.01.A.

H. If a source change is described under both Conditions XVII.B and XVII.C above, the source shall comply with Condition XVII.C above. If a source change is described under

both Condition XVII.C above and A.A.C. R18-2-317.01.B, the source shall comply with A.A.C. R18-2-317.01.B.

I. A copy of all logs required under Condition XVII.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.

J. Logging Requirements

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

1. Each log entry required by a change under Condition XVII.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 provision of A.A.C. R18-2-317.02.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 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.

XVIII. TESTING REQUIREMENTS

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

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

B. Operational Conditions during Testing

Tests shall be conducted during operation at the maximum possible capacity of each unit under representative operational conditions unless other conditions are required by the applicable test method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during periods of start-up,

shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

C. 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.

D. Test Plan

At least 14 calendar days prior to performing a test, the Permittee shall submit a test plan to the Director in accordance with A.A.C. R18-2-312.B and the Arizona Testing Manual. This test plan must include the following:

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:

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.

G. Report of Final Test Results

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

XIX. PROPERTY RIGHTS

[A.A.C. R18-2-306.A.8.d]

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

XX. SEVERABILITY CLAUSE

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

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.

XXI. PERMIT SHIELD

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

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 any minor revisions pursuant to Condition XVI.C of this Attachment and any facility changes without a permit revision pursuant to Section XVII of this Attachment.

XXII. NSPS AND NESHAP REQUIREMENTS

[40 CFR Part 60, Part 63]

For all equipment subject to a New Source Performance Standard/National Emissions Standards 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 Regulations.

ATTACHMENT "B": SPECIFIC CONDITIONS
Air Quality Control Permit No. 53649 (As amended by Significant Revision #63081) for
Freeport-McMoRan Safford, Inc.

I. EACILITY WIDE REQUIREMENTS

A. Operating Limitations

1. The Permittee shall operate and maintain all equipment identified in Attachment "C" in accordance with manufacturer's specifications, or operating practices which conform with good air pollution control practices.
[A.A.C. R18-2-306.A.2]

2. The Permittee shall have on-site or on-call a person that is certified in EPA Reference Method 9 for the observation and evaluation of visible emissions.
[A.A.C. R18-2-306.A.3.c]

3. The Permittee shall comply with the visual observation plan to monitor visible emissions. The plan shall identify a central lookout station or multiple observation points specifically identified.
[A.A.C. R18-2-306.A.3.c]

4. The Permittee shall comply with the dust control plan that identifies control measures used to control particulate matter emissions from unpaved roads, open areas and storage piles. Any changes to the dust control plan shall be submitted to the Director for approval. If the Director does not deny the change within 30 days of receipt of the notification, the changes shall be deemed approved.
[A.A.C. R18-2-306.A.3.c]

5. The Permittee shall perform comprehensive annual preventive maintenance checks on all the dust collectors at the facility.
[A.A.C. R18-2-306.A.3.c]

6. 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]

B. Recordkeeping Requirements

1. The Permittee shall maintain, on-site, records of the manufacturer's specifications or industry standard practices for minimizing emissions for all air pollution control devices, fuel burning equipment, and IC engines as listed in Attachment "C".
[A.A.C. R18-2-306.A.4]

2. The Permittee shall keep records of all visible observations performed according to the visual observation plan and control measures used as identified in the dust

control plan to control particulate matter emissions from unpaved roads, open areas and storage piles.

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

3. All records, analyses, and reports shall be retained for a minimum of five years from the date of generation. The most recent two years of data shall be kept on-site.

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

C. Reporting Requirements

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

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

II. METALLIC MINERAL PROCESSING EQUIPMENT

A. Metallic Mineral Processing Equipment Subject to NSPS Subpart LL

1. Applicability

This Section applies to the metallic mineral processing equipment which is identified in Attachment "C" as subject to NSPS 40 CFR 60 Subpart LL.

2. Particulate Matter and Opacity

a. Emission Limitations/Standards

(1) The Permittee shall not cause to be discharged into the atmosphere from an affected facility any stack emissions that contain particulate matter in excess of 0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot).

[40 CFR 60.382(a)(1)]

(2) *The Permittee shall not cause to be discharged into the atmosphere from an affected facility any stack emissions that exhibit greater than 7 percent opacity, unless the stack emissions are discharged from an affected facility using a wet scrubbing emission control device.*

[40 CFR 60.382(a)(2) and A.A.C.18-2-331.A.3.f]
[Material permit conditions are indicated by underline and italics]

(3) *The Permittee shall not cause to be discharged into the atmosphere from any affected facility any process fugitive emissions that exhibit greater than 10 percent opacity.*

[40 CFR 60.382(b) and A.A.C.18-2-331.A.3.f]
[Material permit conditions are indicated by underline and italics]

(4) *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2110-BAG 001 any emissions which contain particulate matter or PM_{10} in excess of 1.71 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material Permit Conditions are indicated by underline and italics]

(5) *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2210-BAG 001 any emissions which contain particulate matter or PM_{10} in excess of 1.44 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material Permit Conditions are indicated by underline and italics]

(6) *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2210-BAG 002 any emissions which contain particulate matter or PM_{10} in excess of 4.94 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material Permit Conditions are indicated by underline and italics]

(7) *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2210-BAG 003 any emissions which contain particulate matter or PM_{10} in excess of 3.22 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material Permit Conditions are indicated by underline and italics]

(8) *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2210-BAG 004 any emissions which contain particulate matter or PM_{10} in excess of 0.96 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material Permit Conditions are indicated by underline and italics]

(9) *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2280-BAG 001 any emissions which contain particulate matter or PM_{10} in excess of 0.41 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material Permit Conditions are indicated by underline and italics]

(10) *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2310-BAG 001 any emissions which contain particulate matter or PM_{10} in excess of 1.37 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material Permit Conditions are indicated by underline and italics]

(11) *The Permittee shall not cause or allow to be emitted into the atmosphere from Baghouse 2310-BAG 002 any emissions which contain particulate matter or PM_{10} in excess of 0.41 lb/hr.*

[A.A.C. R18-2-306.01 and -331.A.3.a]
[Material Permit Conditions are indicated by underline and italics]

b. Air Pollution Control Equipment

(1) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Baghouse 2110-BAG-001 to control particulate matter emissions from Vibrating Grizzly Feeder 2110-GRI 003, Jaw Crusher 2110-CRJ 001, and all material transfers in the primary crushing circuit.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(2) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Baghouse 2210-BAG-001 to control particulate matter emissions from Secondary Crushers 2210-CRU 001 and 002, and all material transfers in the secondary crushing circuit.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(3) *The Permittee shall, to the extent practicable, install, operate.* and maintain *Baghouse 2210-BAG-002 to control particulate matter emissions from Tertiary Screens 2270-SCN 001, 002, 003 and 004, Tertiary Crushers 2270-CRU 001, 002, 003 and 004, and all material transfers in the tertiary crushing and screening circuit.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(4) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Baghouse 2210-BAG-003 to control particulate matter emissions from Secondary Screens 2230-SCN 001 and 002, and all material transfers in the secondary screening circuit.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(5) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Baghouse 2210-BAG-004 to control particulate matter emissions from material transfers to Tertiary Crushing Surge Bin 2270-BIN 001 and Secondary Crushing Surge Bin 2210-BIN 001.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(6) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Baghouse 2280-BAG-001 to control particulate matter emissions from material transfers from Fine Ore Product Conveyor 2280-CON 001 to Fine Ore Bin Feed Conveyor 2280-CON 002.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(7) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Baghouse 2310-BAG-001 to control particulate matter emissions from material transfers in the agglomeration circuit.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(8) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Baghouse 2310-BAG-002 to control particulate matter emissions from Fine Ore Surge Bin 2310-BIN 001.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(9) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Water Spray 2110-WSS-001 to control particulate matter emissions from Scalping Grizzlies 2110-GRI 001 and 2110-GRI 002.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(10) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Water Spray 2110-WSS-002 to control particulate matter emissions from Dust Collector 2110-BAG 001.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(11) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Water Spray 2130-WSS-001 to control particulate matter emissions from Reclaim Belt Feeders 2130-FDR 001, 002 and 003*. [A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(12) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Water Spray 2210-WSS-003 to control particulate matter emissions from Dust Collector 2210-BAG 003.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(13) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Water Spray 2210-WSS-001 to control particulate matter emissions from Dust Collector 2210-BAG 001.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(14) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Water Spray 2210-WSS-002 to control particulate matter emissions from Dust Collector 2210-BAG 002.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(15) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Water Spray 2280-WSS-001 to control particulate matter emissions from Dust Collector 2280-BAG 001.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(16) *The Permittee shall, to the extent practicable, install, operate,* and maintain *Water Spray 2310-WSS-001 to control particulate matter emissions from Dust Collector 2310-BAG 001 and from Agglomeration Drum Feeders 2310 FDR 001 and 002.*

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

(17) *The Permittee shall, to the extent practicable, install, operate,* and maintain *water sprays to control particulate matter emissions from the Portable Crushing and Screening Plant.*

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

c. Monitoring, Reporting and Recordkeeping Requirements

(1) Baghouse Stack Opacity

(a) A certified Method 9 observer shall conduct a bi-weekly visual survey of emissions from the baghouse stack when the baghouse is in operation. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(b) If the observer sees a plume from a stack or fugitive source that on an instantaneous basis appears to exceed the applicable opacity standard of 7%, then the observer shall take a six-minute Method 9 observation of the plume. If visibility or other conditions prevent the observation, then the observer shall document these conditions.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(c) If the six-minute opacity of the plume is less than the applicable opacity standard of 10%, then the observer shall make a record of the results of the Method 9 observation.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(d) If the six-minute opacity of the plume exceeds the applicable opacity standard of 10%, the Permittee shall

adjust or repair the equipment as necessary to reduce opacity to a level below 7% and report the incident as an excess emission for opacity. The Permittee shall make a record of the results of the Method 9 observation, the corrective action taken, and the excess emissions report.

[A.A.C. R18-2-306.A.3.c, 306.A.4 and 306.A.5]

(2) Process Source Fugitive Emissions

(a) A certified Method 9 observer shall conduct a bi-weekly visual survey of process fugitive emission sources covered under this Section while they are in operation. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(b) If the observer sees a plume from a stack or fugitive source that on an instantaneous basis appears to exceed the applicable opacity standard of 10%, then the observer shall take a six-minute Method 9 observation of the plume. If visibility or other conditions prevent the observation, then the observer shall document these conditions.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(c) If the six-minute opacity of the plume is less than the applicable opacity standard of 10%, then the observer shall make a record of the results of the Method 9 observation.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(d) If the six-minute opacity of the plume exceeds the applicable opacity standard of 10%, the Permittee shall adjust or repair the equipment as necessary to reduce opacity to a level below 10% and report the incident as an excess emission for opacity. The Permittee shall make a record of the results of the Method 9 observation, the corrective action taken, and the excess emissions report.

[A.A.C. R18-2-306.A.3.c, 306.A.4 and 306.A.5]

d. Testing Requirements

The Permittee shall conduct performance tests every two years to show compliance with the particulate matter emission limits in Condition II.A.2.a above. Test Methods 201A and Method 202, or Method 5 and Method 202 shall be used to determine the particulate matter emissions.

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

e. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with 40 CFR 60.382(a)(1), 60.382(a)(2), and 60.382(b).
[A.A.C. R18-2-325]

B. Metallic Mineral Processing Equipment Subject to State Regulations

1. Applicability

This Section applies to the material handling activities between the primary crusher and the coarse ore stockpile, the lengths of all conveyor belts between the transfer points, the agglomerator, and the final conveyor drop point at any leach pad.

2. Particulate Matter and Opacity

a. Emission Limitations/Standards

(1) The Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any process source subject to the provisions of this Section in total quantities in excess of the amounts calculated by one of the following equations:

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

$E = 4.10P^{0.67}$

Where:

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

P = the process weight rate in tons-mass per hour.
[A.A.C. R18-2-721.B.1]

(b) For process sources having a process weight rate greater than 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 above.

[A.A.C. R18-2-721.B.2]

(2) For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emissions of particulate matter.

[A.A.C. R18-2-721.D]

(3) The opacity of any plume or effluent from any process source subject to the provisions of this Section shall not be greater than 20%.

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

(4) If the presence of uncombined water is the only reason for an exceedance of the visible emissions requirements in III.B.2.a.(3) above, the exceedance shall not constitute a violation of the applicable opacity limit.

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

b. Air Pollution Control Equipment

The Permittee shall, to the extent practicable, install, operate, and maintain *Water Spray 2110-WSS-003 to control particulate matter emissions from the Primary Crushing Discharge Conveyor*.

[A.A.C. R18-2-306.01 and -331.A.3.d and e]
[Material Permit Conditions are indicated by underline and italics]

c. Monitoring, Reporting and Recordkeeping Requirements

(1) A certified Method 9 observer shall conduct a bi-weekly visual survey of emissions from all the sources covered by this Section while they are in operation. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(2) If the observer sees a plume that on an instantaneous basis appears to exceed the applicable opacity standard of 20%, then the observer shall take a six-minute Method 9 observation of the plume. If visibility or other conditions prevent the observation, then the observer shall document these conditions.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(3) If the six-minute opacity of the plume is less than the applicable opacity standard of 20%, then the observer shall make a record of the results of the Method 9 observation.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(4) If the six-minute opacity of the plume exceeds the applicable opacity standard of 20%, the Permittee shall adjust or repair equipment as necessary to reduce opacity to a level below 20% and report the incident as an excess emission for opacity. The Permittee shall make a record of the results of the Method 9 observation, the corrective action taken, and the excess emissions report.

[A.A.C. R18-2-306.A.3.c, 306.A.4 and 306.A.5]

d. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with A.A.C. R18-2-702.B.3, 702.C, 721.B and 721.D.

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

III. SOLUTION EXTRACTION/ELECTROWINNING PROCESS (SX/EW)

A. Emission Limitations/ Standards

1. The Permittee shall not cause or permit the emission of gaseous or odorous materials from equipment and operations associated with the SX/EW process in such quantities or concentrations as to cause air pollution.

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

2. Materials including solvents or other volatile compounds, acids and alkalis utilized in the SX/EW process 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 other equipment shall be mandatory.

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

3. 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]

B. Air Pollution Control Requirements

1. *The Permittee shall install, maintain, and use covers on the mixer settler tanks except the Tri-Canter Feed Tank (1-4210-TNK-011), listed in the Solvent Extraction Section, SX/EW-Equipment List, Attachment "C", to control emissions from the SX/EW Plant.*

[A.A.C. R18-2-306.A.2 and -331.A.3.d and e]

[Material permit conditions are indicated by underline and italics]

2. *The Permittee shall use one or more of the following methods to control emissions from the Electrowinning Tankhouse:*

   a. *Foam*

   b. *Blankets*

   c. *Surfactants*

   d. *Brushes*

   e. *Thermal retention balls*

   f. *Water foggers*

   g. *Other effective means of controlling sulphuric acid emissions approved by the Director*.

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

C. Monitoring, Reporting and Recordkeeping Requirements

The Permittee shall maintain a record of all control measures used to limit emissions from the SX/EW process.

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

D. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-730.D, F and G.

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

IV. ACID PLANT

A. Applicability

This Section applies to the sulphuric acid plant.

B. Sulfur Dioxide

1. Emission Limitations and Standards

   a. The Permittee shall not cause to be discharged into the atmosphere from the acid plant any gases which contain sulfur dioxide in excess of 4 lb per ton of acid produced, the production being expressed as 100 percent H_2SO_4.

[40 CFR 60.82(a)]

b. *The Permittee shall not cause to be discharged into the atmosphere from the acid plant, sulfur dioxide in excess of 100 lbs per hour on a rolling 24-hour averaging period.*

[A.A.C. R18-2-306.01 & -331.A.3.a]
[Material permit condition is indicated by underline and italics]

c. *The Permittee shall not cause to be discharged into the atmosphere from the acid plant, sulfur dioxide in excess of 90 tons per year in any rolling 12-month averaging period.*

[A.A.C. R18-2-306.01 & -331.A.3.a]
[Material permit condition is indicated by underline and italics]

2. Air Pollution Control Requirements

The Permittee shall install, operate, and maintain *a caustic scrubber for the control of sulfur dioxide emissions from the acid plant.*

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

3. Monitoring, Recordkeeping and Reporting Requirements

a. *The Permittee shall install, calibrate,* maintain, *and operate a continuous monitoring system (CEMS) for the measurement of sulfur dioxide.*

[40 CFR 60.84(a), A.A.C. R18-2--306.A.3.c, d, and -331.A.3.c & e]
[Material permit conditions are indicated by underline and italics]

b. The SO_2 CEMS shall have a dual span value equal to 1,000 ppm and 100 ppm for complying with the emission limits in Condition IV.B.1.a and Conditions IV.B.1.b & c respectively.

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

c. *The Permittee shall install, calibrate*, maintain, *and operate a flow measurement sensor to measure the stack gas volumetric flow rate.*

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

d. The installation of the SO_2 CEMS shall meet the requirements of 40 CFR 60 Appendix B "Performance Specification 2".

[40 CFR 60.13(a)]

e. The installation of the flow measurement sensor shall meet the requirements of 40 CFR 60 Appendix B "Performance Specification 6"

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

f. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments as required by 40 CFR 60 Appendix F, the SO2 CEMS shall be in continuous operation whenever the acid plant is operating or shutting down. The CEMS shall complete a minimum of one cycle of

operation (sampling, analyzing, and data recording) for each successive 15-minute period.

[40 CFR 60.13(e)]

g. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments as required by 40 CFR 60 Appendix F, the flow measurement sensor shall be in continuous operation whenever the acid plant is operating or shutting down. The flow measurement sensor shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

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

h. For the SO_2 CEMS, the Permittee shall compute 1-hour averages from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages. The data may be recorded in reduced or nonreduced form.

[40 CFR 60.13(h)]

i. For the flow measurement sensor, the Permittee shall compute 1-hour averages from four or more data points equally spaced over each 1-hour period. Data recorded during periods of continuous system breakdown, repair, calibration checks, and zero and span adjustments shall not be included in the data averages. The data may be recorded in reduced or nonreduced form.

[A.A.C R18-2-306.A.3.d and 306.A.4.a]

j. The SO_2 CEMS shall meet the requirements of 40 CFR Part 60 Appendix F, "Procedure 1".

[40 CFR 60.13(a)]

k. The flow measurement sensor shall meet the requirements of 40 CFR Part 60 Appendix F, "Procedure 1".

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

l. The pollutant gas used to prepare calibration gas mixtures under Performance Specification 2 and for calibration checks under 40 CFR 60.13(d), shall be sulfur dioxide. Method 8 shall be used for conducting monitoring system performance evaluations under 40 CFR 60.13(c) except that only the sulfur dioxide portion of the Method 8 results shall be used.

[40 CFR 60.84(a)]

m. The Permittee shall establish a conversion factor for the purpose of converting monitoring data into units of the standard (pound per ton) specified in Condition IV.B.1.a. The conversion factor shall be determined, as a minimum, three times daily by measuring the

concentration of sulfur dioxide entering the converter using suitable methods (e.g. the Reich test, National Air Pollution Control Administration Publication No. 999-AP-13) and calculating the appropriate conversion factor for each eight-hour period as follows:

CF = k [(1.000-0.015r)/(r-s)]

Where:

CF = conversion factor (lb/ton per ppm)

k = constant derived from material balance. For determining k in English units, k = 0.1306.

r = percentage of sulfur dioxide by volume entering the gas converter. Appropriate corrections must be made for air injection plants subject to the Director's approval.

s = percentage of sulfur dioxide by volume in the emissions to the atmosphere determined by the continuous monitoring system required in Condition IV.B.3.a.

[40 CFR 60.84(b)]

n. The Permittee shall record all conversion factors and values required under Condition IV.B.3.m.

[40 CFR 60.84(c)]

o. For the purpose of reports under 40 CFR 60.7(c), periods of excess emissions shall be all three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed the standard in Condition IV.B.1.a.

[40 CFR 60.84(e)]

p. For purposes of demonstrating compliance with Condition IV.B.1.b, the Permittee shall utilize the data from the SO_2 CEMS in conjunction with the flow measurement sensor to calculate SO_2 emissions in units of pounds per hour (lb/hr). At the end of each hour the Permittee shall calculate and record the hourly average SO_2 emission rate based on the previous 24 hours.

[A.A.C. R18-2-306.A.3.c and 306.A.4.a]

q. For purposes of demonstrating compliance with Condition IV.B.1.c, the Permittee shall calculate the monthly emission from this hourly data in Condition IV.B.3.p above. At the end of each month, the Permittee shall calculate and record the 12-month rolling total SO_2 emission (sum of the current month and prior eleven (11) most recent months).

[A.A.C. R18-2-306.A.3.c and 306.A.4.a]

r. The Permittee shall submit an excess emissions and monitoring system performance (MSP) report and-or a summary report form to the Department semiannually. The reports shall be postmarked by the 30th day following the end of each of the 2nd and 4th quarter and shall be in the format specified in 40 CFR 60.7(d). Each excess emission and MSP report shall include the following information:

[40 CFR 60.7(c)]

(1) The magnitude of excess emissions computed, any conversion factor(s) used, and the date and time of commencement and completion of each time period of excess emissions and the process operating time during the reporting period.

(2) Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the steam boiler unit. The nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.

(3) The date and time identifying each period during which the continuous monitoring system was inoperative except for zero and span checks and the nature of the system repairs or adjustments.

(4) When no excess emissions have occurred or the continuous monitoring system(s) have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

s. Alternative SO_2 Continuous Monitoring Approach

Alternatively, the Permittee may use the following continuous emission monitoring approach and calculation procedures in determining SO_2 emission rates in pounds per ton standard specified in Condition IV.B.1.a. *If the Permittee chooses this option, continuous emission monitoring systems for measuring SO_2, O_2 and CO_2 (if required) shall be installed, calibrated, maintained and operated by the Permittee and subject to the certification procedures in Performance Specifications 2 and 3.* All monitoring, recordkeeping, reporting and testing conditions which apply to the standard monitoring approach shall apply to the alternative approach. In addition to all SO_2 CEMS requirements applicable to the primary approach, the alternative approach shall also be subject to equivalent O_2 and CO_2 CEMS requirements (if required). The calibration procedure and span value for the SO_2 monitor shall be as specified in Condition IV.B.3.b. The span value for CO_2 (if required) shall be 10 percent and for O_2 shall be 20.9 percent (air). A conversion factor based on process rate data is not necessary. Calculate the SO_2 emission rate as follows:

$$E_S = (C_S S)/[0.265-(0.126\%O_2)-(A\%CO_2)]$$

Where:

E_S = emission rate of SO_2, lb/ton of 100 percent H_2SO_4 produced.

C_S = concentration of SO_2, lb/dscf.

S = acid production rate factor, 11,800 dscf/ton of 100 percent H_2SO_4 produced.

$\%O_2$ = oxygen concentration, percent dry basis.

A = 0.0196 for propane, 0 for no fuel (auxiliary fuel factor).

$\%CO_2$ = carbon dioxide concentration, percent dry basis.

[40 CFR 60.84(d), A.A.C. R18-2-306.A.3.c and 331.A.3.c]

t. The Permittee shall log and notify ADEQ whenever a change is made between the standard and alternative SO_2 continuous monitoring approach contained in Condition IV.B.3.p and r.

[A.A.C. R18-2-306.A.4.a and 306.A.5]

4. Testing Requirements

a. The Permittee shall conduct an annual performance test as outlined in Condition IV.B.4.c, below to demonstrate compliance with the SO_2 emissions limit specified in Condition IV.B.1.a.

[40 CFR 60.8(a) and 60.85(b)]

b. The Permittee shall determine compliance with the SO_2 emission standards in Conditions IV.B.1.a as follows:

(1) The emission rate (E) of SO_2 shall be computed for each run using the following equation:

$E = (CQ_{SD})/(PK)$

Where:

E = emission rate of SO_2 (lb/ton) of 100 percent H_2SO_4 produced.

C = concentration of SO_2 (lb/dscf).

Q_{SD} = volumetric flow rate of the effluent gas (dscf/hr).

P = production rate of 100 percent H_2SO_4 (ton/hr).

K = conversion factor (1.0 lb/lb).

[40 CFR 60.85(b)(1)]

(2) Method 8 shall be used to determine the SO_2 concentrations (C's) and the volumetric flow rate (Q_{SD}) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 40.6 dscf.

[40 CFR 60.85(b)(2)]

(3) Suitable methods shall be used to determine the production rate (P) of 100 percent H_2SO_4 for each run. Material balance over the production system shall be used to confirm the production rate.

[40 CFR 60.85(b)(3)]

c. The Permittee shall conduct an annual performance evaluation of the SO_2 CEMS in accordance with 40 CFR 60, Appendix B, "Performance Specification 2".

[40 CFR 60.13(c)(2)]

d. The Permittee shall conduct an annual performance evaluation of the flow measurement sensor in accordance with 40 CFR 60, Appendix B, "Performance Specification 6".

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

5. Permit Shield

Compliance with this Part shall be deemed compliance with 40 CFR 60.8(a), 60.13(a), 60.13(b), 60.13(c)(2), 60.13(e), 60.13(h), 60.82(a), 60.84(a)-(e), 60.85(b)(1) to (3), and 60.85(c).

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

C. Acid Mist

1. Emission Limitations and Standards

[40 CFR 60.83(a)(1)]

The Permittee shall not cause to be discharged into the atmosphere from the acid plant any gases which contain sulphuric acid mist in excess of 0.15 lb per ton of acid produced, the production being expressed as 100 percent sulfuric acid

2. Testing Requirements

a. The Permittee shall conduct an annual performance test in accordance with procedures specified in Condition IV.C.2.b below, to show compliance with the sulphuric acid mist standards specified in Condition IV.C.1.

[A.A.C. R18-2-306.A.3.c, 40 CFR 60.8(a), and 60.85(b)]

b. The Permittee shall determine compliance with the sulphuric acid mist emission standards in Condition IV.C.1 as follows:

(1) The emission rate (E) of sulphuric acid mist shall be computed for each run using the following equation:

$E = (CQ_{SD})/(PK)$

Where:

E = emission rate of sulphuric acid mist (lb/ton) of 100 percent H_2SO_4 produced.

C = concentration of sulphuric acid mist (lb/dscf).

Q_{SD} = volumetric flow rate of the effluent gas (dscf/hr).

P = production rate of 100 percent H_2SO_4 (ton/hr).

K = conversion factor (1.0 lb/lb).

[40 CFR 60.85(b)(1)]

(2) Method 8 shall be used to determine the sulphuric acid mist concentrations (C's) and the volumetric flow rate (Q_{SD}) of the effluent gas. The moisture content may be considered to be zero. The sampling time and sample volume for each run shall be at least 60 minutes and 40.6 dscf.

[40 CFR 60.85(b)(2)]

(3) Suitable methods shall be used to determine the production rate (P) of 100 percent H_2SO_4 for each run. Material balance over the production system shall be used to confirm the production rate.

[40 CFR 60.85(b)(3)]

3. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with 40 CFR 60.8(a), 60.83(a)(1), 60.85(b)(1)-(3), and 60.85(c)(1)(i)-(ii).

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

D. Opacity

1. Emission Limitations and Standards

a. *The Permittee shall not cause to be discharged into the atmosphere from the acid plant any gases which exhibit 10 percent opacity or greater.*

[40 CFR 60.83(a)(2) and A.A.C.R18-2-331.A.3.f]
[Material permit conditions are indicated by underline and italics]

b. The opacity limit above shall not apply during periods of startup, shutdown and malfunction.

[40 CFR 60.11(c)]

2. Monitoring, Reporting and Recordkeeping Requirements

a. Baseline Establishment

The Permittee shall conduct Method 9 observations when the emission unit and control device are operating under representative operating conditions to establish a baseline opacity level. The baseline opacity level shall represent the highest reading from three EPA Method 9 observations (72 readings) and be within the applicable opacity limit.

[A.A.C. R18-2-306.A.3.c and 306.A.5]

b. Baseline Reestablishment

If necessitated by the results of the bi-weekly monitoring, the Permittee may re-establish the baseline opacity level. Re-establishment of the baseline shall be performed utilizing the same procedures used in setting up the initial baseline level. Within 30 days of re-establishing the baseline opacity, the Permittee shall report the results to the Director. The report shall also contain a description of the need for re-establishing the baseline.

[A.A.C. R18-2-306.A.3.c and 306.A.5]

c. A certified EPA Reference Method 9 observer shall conduct a bi-weekly survey of visible emissions emanating from the acid plant. The Permittee shall keep a record of the name of the observer, location of observer, date and time of survey, and the results of the survey.

[A.A.C. R18-2-306.A.3.c and 306.A.4.a]

(1) If the observer sees a plume from the acid plant stack that on an instantaneous basis appears to exceed the baseline opacity level, then the observer shall take a six-minute Method 9 observation of the plume. If visibility or other conditions prevent the observation, then the observer shall document these conditions.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(2) If the six-minute opacity of the plume is less than the baseline level, the observer shall make a record of the results of the Method 9 observation.

[A.A.C. R18-2-306.A.3.c and 306.A.4]

(3) If the six-minute opacity of the plume exceeds the baseline level but is less than the applicable opacity standard of 10%, the Permittee shall adjust or repair the controls or process equipment as practicable to reduce opacity to the baseline level. The

Permittee shall make a record of the results of the Method 9 observation and the corrective action taken.
[A.A.C. R18-2-306.A.3.c and 306.A.4]

(4) If the six-minute opacity of the plume exceeds the applicable opacity standard of 10%, the Permittee shall adjust or repair the controls or process equipment as necessary to reduce opacity to below the standard and as practicable to reduce opacity to the baseline level. The Permittee shall report the incident as an excess emission for opacity. The Permittee shall make a record of the results of the Method 9 observation, the corrective action taken, and the excess emission report.
[A.A.C. R18-2-306.A.3.c, 306.A.4 and 306.A.5]

(5) If corrective actions fail to reduce opacity to or below the baseline level, the Permittee shall document all corrective action taken and initiate procedures to re-establish the baseline within 48 hours in accordance with Condition IV.D.2.b.
[A.A.C. R18-2-306.A.3.c and 306.A.5]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.83(a)(2). [A.A.C. R18-2-325]

E. Nitrogen Oxides

1. Emission Limitations and Standards

The Permittee shall not cause to be discharged into the atmosphere from the acid plant nitrogen oxides in excess of 10.0 lbs per hour.
[A.A.C. R18-2-306.01 and331.A.3.a]
[Material permit conditions are indicated by underline and italics]

2. Testing Requirements

The Permittee shall conduct an annual Method 7 performance test to determine compliance with the nitrogen oxides limit specified in Condition IV.E.1 above.
[A.A.C. R18-2-306.A.3.c]

V. UNCLASSIFIED SOURCES

A. Applicability

This Section applies to the Sulfur Furnace Pre-Heater Burner (S-600) and the Cooling Tower (CT-201).

B. Operating Limitations

1. The Permittee shall burn only propane in the Sulphur Furnace Pre-Heater Burner.
[A.A.C. R18-2-306.A.2]

2. *The Permittee shall not operate the Sulphur Furnace Pre-Heater Burner for more than 2,000 hours per year on a 12-month rolling total.*
[A.A.C. R18-2-306.01 and 331.A.3.a]
[Material permit conditions are indicated by underline and italics]

3. Materials including solvents or other volatile compounds, acids and alkalis 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 other equipment shall be mandatory.
[A.A.C. R18-2-730.F]

4. 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]

5. The Permittee shall keep a log of the daily hours of operation of the sulphur furnace pre-heater.
[A.A.C. R18-2-306.A.3.c]

6. The Permittee shall calculate and log the monthly and 12-month rolling totals of hours of sulphur pre-heater operation.
[A.A.C. R18-2-306.A.3.c]

5. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-730.F and 730.G.
[A.A.C. R18-2-325]

C. Particulate Matter

1. Emission Limitation/Standard

The Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in excess of the amounts calculated by one of the following equations:

a. For process sources having a process weight rate of 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 emissions 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]

b. 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 above.

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

c. When applying the process weight rate equation, 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 Part shall be deemed compliance with A.A.C. R18-2-730.A.1.a, 730.A.1.b and 730.B.

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

D. Opacity

1. Emission Limitations

The Permittee shall not cause or allow to be discharged into the atmosphere, from any plume or effluent, visible emissions in excess of 20 percent, as determined by EPA Reference Method 9. Where the presence of uncombined water is the only reason for the exceedances of any visible emissions requirement, such exceedances shall not constitute a violation.

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

2. Monitoring, Recordkeeping and Reporting Requirements

A certified EPA Reference Method 9 observer shall conduct a biweekly survey of visible emissions emanating from the cooling towers and from the sulphur furnace pre-heater burner when in operation. If visibility or other conditions prevent the observation, then the observer shall document these conditions. If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation. The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed. These records shall include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observation. If the observation shows a Method 9 opacity reading in excess of 20 percent, the Permittee shall report this to ADEQ as excess emission and initiate appropriate corrective action to reduce the opacity below 20 percent. The Permittee shall keep a record of the corrective action performed.

[A.A.C. R18-2-306.A.3.c, 306A.4.a, and 306.A.5]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-702.B and C.

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

E. Nitrogen Oxides

1. Emission Limitation/Standard

The Permittee shall not cause, allow or permit the discharge of nitrogen oxides, from the stack of the Sulphur Furnace Pre-Heater Burner, into the atmosphere in excess of 500 parts per million.

[A.A.C. R18-2-730.A.3]

2. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with A.A.C. R18-2-730.A.3.

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

F. Sulfur Dioxide

1. Emission Limitation/Standard

The Permittee shall not cause, allow or permit the discharge of sulfur dioxide, from the stack of the Sulphur Furnace Pre-Heater Burner, into the atmosphere in excess of 600 parts per million.

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

2. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C.R18-2-730.A.2.

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

VI. FUEL-BURNING EQUIPMENT

A. Propane Fuel-Burning Equipment

1. Applicability

This Section applies to the hot water heaters and the acid plant start-up boiler (B-600).

2. Operating Limitations

The Permittee shall burn only propane in the fuel burning equipment.

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

3. Particulate Matter

a. Emission Limitation

The Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from the fuel burning equipment in excess of the amounts 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.

[A.A.C. R18-2-724.C.1]

b. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C.R18-2-724.C.1.

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

4. Opacity

a. Opacity Limitations

The Permittee shall not cause, allow or permit the opacity of any plume or effluent from the fuel burning equipment to exceed 15 percent.

[A.A.C. R18-2-724.J]

b. Monitoring, Recordkeeping and Reporting Requirements

The Permittee shall report all six-minute periods in which the opacity of any plume or effluent from the fuel burning equipment exceeds 15 percent.

[A.A.C. R18-2–724.J]

c. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-724.J.

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

B. Diesel Fuel Burning Equipment

1. Applicability

This Section applies to the acid plant start up boiler #2 (B-700)

2. Operating Requirements

a. The Permittee shall burn only diesel fuel in the acid plant start up boiler.

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

b. *The Permittee shall not operate the 9 MMBtu/hour acid plant start up boiler for more than 200 hours in any rolling 12-month period.*

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

3. Monitoring, Recordkeeping, and Reporting Requirements

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

a. The Permittee shall keep a log of the daily hours of operation of the acid plant start up boiler.

b. At the end of each month, the Permittee shall calculate the total hours of operation of acid plant start up boiler and maintain the rolling 12-month totals of the hours of operation to demonstrate compliance with the limit in Condition VI.B.2.b.

4. Particulate Matter

a. Emission Limitation

(1) The Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from the fuel burning equipment in excess of the amounts 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.

[A.A.C. R18-2-724.C.1]

(2) For purposes of this Section, 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 fuel-burning units on a plant or premises shall be used for determining the maximum allowable amount of particulate matter which may be emitted.

[A.A.C. R18-2-724.B]

b. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C.R18-2-724.C.1.

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

5. Opacity

a. Opacity Limitations

The Permittee shall not cause, allow or permit the opacity of any plume or effluent from the fuel burning equipment to exceed 15 percent.

[A.A.C. R18-2-724.J]

b. Monitoring, Recordkeeping and Reporting Requirements

(1) A certified EPA Reference Method 9 observer shall conduct a monthly survey of visible emissions emanating from the stack of

acid plant start up boiler. If the opacity of the emissions observed appears to exceed the standard, the observer shall conduct a certified EPA Reference Method 9 observation. The Permittee shall keep records of the initial survey and any EPA Reference Method 9 observations performed. These records shall include the emission point observed, location of observer, name of observer, date and time of observation, and the results of the observation.

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

(2) If the observation shows an opacity reading in excess of 15 percent, the Permittee shall initiate appropriate corrective action to reduce the opacity below 15 percent. The Permittee shall keep a record of the corrective action performed.

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

(3) The Permittee shall report all six-minute periods in which the opacity of any plume or effluent from the acid plant start up boiler exceeds 15 percent.

[A.A.C. R18-2–724.J]

c. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with A.A.C. R18-2-724.J.

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

6. Sulfur Dioxide

a. Emission Limitation

(1) The Permittee shall not cause, allow, or permit the emission of sulfur dioxide, caused by combination of fuel, from the diesel burning equipment in excess of 1.0 pounds of sulfur dioxide per million Btu heat input.

[A.A.C. R18-2–724.E]

(2) The Permittee shall not fire high sulfur oil in diesel fuel burning equipment.

[A.A.C. R18-2–724.G]

b. Monitoring, Recordkeeping and Reporting Requirements

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

The Permittee shall keep records of fuel supplier certifications or other documentation including the following information:

(1) The name of the diesel supplier;

(2) The sulfur content of diesel from which the shipment came; and

(3) The method used to determine the sulfur content of the diesel.

c. Permit Shield

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

Compliance with the conditions of this Section shall be deemed compliance with the requirements of A.A.C. R18-2-724.E and G.

VII. COMPRESSION IGNITION (CI) ENGINES SUBJECT TO NSPS IIII

A. Applicability

This Section applies to the diesel-fired emergency generators and the diesel-fired fire pump engines.

B. General Requirements

1. Operating Requirements

a. *The Permittee shall limit the hours of operation for each diesel-fired emergency generator or fire pump to no more that 375 hours in any rolling 12-month period*.

[A.A.C. R 18-2-306.01 and 331.A.3.a]
[Material permit conditions are indicated by underline and italic]

b. The Permittee may operate the CI engines 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.

[40 CFR 60.4211(f)]

c. Maintenance checks and readiness testing of such units is limited to 100 hours per year each. 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 Federal, State, or local standards require maintenance and testing of emergency CI engines beyond 100 hours per year. The Permittee may operate the emergency CI engines for up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. [40 CFR 60.4211(f)]

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

[40 CF 60.4211(f)]

e. *The Permittee shall operate a non-resettable hour meter on each CI engine prior to startup of the engine.*

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

2. Fuel Requirements

a. The Permittee shall only burn diesel fuel in the CI engines.

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

b. The Permittee shall meet the following diesel fuel requirements stated under 40 CFR 80.510(b):

(1) Sulphur content: 15 ppm maximum; and

(2) A minimum cetane index of 40 or a maximum aromatic content of 35 volume percent.

[40 CFR 60.4207(b)]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.4206, 40 CFR 60.4207(a) and (b), 40 CFR 60.4209(a), 40 CFR 60.4211(a) and (f). [A.A.C. R18-2-325]

C. Emission Limitations and Standards

1. Emergency Generators

The Permittee shall comply with the following emission standards for each emergency diesel generator for the corresponding power rating (kW):

Model Year	Maximum Engine Power	PM	CO	NO_x + NMHC
		Grams per kilowatt-hour		
2007 & later	130≤ kW ≤ 225	0.2	3.5	4.0
	kW≥ 560	0.2	3.5	6.4

[40 CFR 60.4205(b)]

2. Fire pump engines

The Permittee shall comply with the following emissions standards for each fire pump engine for the corresponding engine horsepower (HP):

[40 CFR 60. 4205(c)]

Model Year	Maximum Engine Horsepower	PM	CO	NOx+NMHC
		Grams per horsepower-hour		
Pre-2008	100≤HP<175	0.6	3.7	7.8
Pre-2007	175≤HP<300	0.4	2.6	7.8

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.4205(b), and 40 CFR 60.4205(c).

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

D. Monitoring and Record Keeping Requirements

1. The Permittee shall operate and maintain each CI engine over its entire life according to the manufacturer's emission-related written instructions. A copy of the instructions or procedures shall be kept onsite and made available to ADEQ upon request.

[40 CFR 60.4206, 60.4211(a)]

2. The Permittee shall only change those engine settings that are permitted by the manufacturer.

[40 CFR 60.4211(a)(2)]

3. The Permittee shall meet the requirements of 40 CFR 89, 94/1068, as applicable.

[40 CFR 60.4211(a)(3)]

4. The Permittee shall maintain a copy of engine manufacturer data indicating compliance with the emissions standards, or records of performance test results for each pollutant for a test conducted on a similar engine, or other documentation demonstrating that each engine complies with the applicable standards in this permit. Such documentation shall be made available to ADEQ upon request.

[40 CFR 60.4211(b)]

5. The Permittee shall maintain monthly records of engine operation in hours per month and a rolling 12-month total in hours per year. The records shall include the purpose of operation and the duration of time the engine was operated.

[A.A.C. R 18-2-306.A.3.c]

6. If the Permittee does not install, configure, operate, and maintain the engines and control devices according to the manufacturer's emission-related written instructions, or change emission-related settings in a way that is not permitted by the manufacturer, the Permittee shall demonstrate compliance as follows:
[40 CFR 60.4211(g)]

a. CI engines 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, if the Permittee does not install and configure the engine and control device according to the manufacturer's emission-related written instructions, or change the emission-related settings in a way that is not permitted by the manufacturer, the Permittee shall conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.
[40 CFR 60.4211(g)(1)]

b. CI engines 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 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 an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.
[40 CFR 60.4211(g)(2)]

c. CI engines 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. [40 CFR 60.4211(g)]

3. Permit Shield

Compliance with the conditions of this Part shall be deemed compliance with 40 CFR 60.4211(a), 40 CFR 60.4211(b) and 40 CFR 60.4211(g).

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

VIII. GASOLINE STORAGE AND DISPENSING

A. Applicability

1. This Section applies to the following:

a. Gasoline Dispensing Facilities (GDFs), Storage tanks at the GDFs listed in Equipment List, Attachment "C", associated equipment components in vapor or liquid gasoline service, pressure/vacuum vents on gasoline storage tanks, and equipment necessary to unload product from cargo tanks into storage tanks at GDFs. The equipment used for the refueling of motor vehicles is not covered.

[40 CFR 63.11111 (a), (b), & (c), and 63. 11112(a)]

b. Each gasoline cargo tank during the delivery of product to a GDF.

[40 CFR 63.11111(a)]

2. Definition of Monthly Throughput

Monthly throughput means the total volume of gasoline that is loaded into, or dispensed from, all gasoline storage tanks at each GDF during a month. Monthly throughput is calculated by summing the volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the current day, plus the total volume of gasoline loaded into, or dispensed from, all gasoline storage tanks at each GDF during the previous 364 days, and then dividing that sum by 12.

[40 CFR 63.11132]

B. Operating Requirements

1. The Permittee shall at all times, operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[40 CFR 63.11115(a)]

2. The Permittee shall not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time. Measures to be taken include, but are not limited to, the following:

a. Minimize gasoline spills;

b. Clean up spills as expeditiously as practicable;

c. Cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;

d. Minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators.

[40 CFR 63.11117(a)]

3. Submerged Fill Pipes

[40 CFR 63.11116(b)]

a. The Permittee shall only load gasoline into storage tanks by utilizing submerged fill pipes that are no more than 12 inches from the bottom of the storage tank.

b. If the submerged fill pipes do not meet the specifications specified above, the Permittee shall demonstrate that the liquid level in the tank is always above the entire opening of the fill pipe. Documentation providing such demonstration must be made available for inspection by the Director or Administrator's delegated representative during the course of a site visit.

4. If any GDF referenced above increases the monthly throughput over 100,000 gallons per month, the Permittee shall comply with new applicable provisions of Subpart CCCCCC within 3 years of the GDF unit becoming subject to the new requirements.

[40 CFR 63.11113(c)]

5. All gasoline storage tanks shall be equipped with a submerged filling device, or acceptable equivalent, for the control of hydrocarbon emissions.

[A.A.C. R18-2-710.B]

6. All pumps and compressors which handle volatile organic compounds (VOCs) shall be equipped with mechanical seals or other equipment of equal efficiency to prevent the release of organic contaminants into the atmosphere.

[A.A.C. R18-2-710.D]

C. Recordkeeping Requirements

1. The Permittee shall maintain monthly record o the gasoline throughput of each GDF as detailed in Condition VIII.A.2. [A.A.C. R18-2-306.A.3.c]

2. The Permittee shall have records available within 24 hours of request by the Director or Administrator documenting the gasoline throughput.

[40 CFR 63.11117(d)]

3. The Permittee shall, for the gasoline storage tanks, maintain a file of the typical Reid vapor pressure of gasoline stored and of dates of storage. Dates on which the storage vessel is empty shall be shown.

[A.A.C. R18-2-710.E.1]

4. If the gasoline stored has a true vapor pressure greater than 470 mm Hg (9.1 psia), the Permittee shall record the average monthly temperature, and true vapor pressure of gasoline at such temperature.

[A.A.C. R18-2-710.E.2.b]

5. The average monthly storage temperature shall be an arithmetic average calculated for each calendar month, or portion thereof, if storage is for less than a month, from bulk liquid storage temperature determined at least once every seven days.

[A.A.C. R18-2-710.E.3]

6. The true vapor pressure shall be determined by the procedures in American Petroleum Institute Bulletin 2517, amended as of February 1980 (and no future editions), which is incorporated herein by reference and on file with the Office of the Secretary of State. This procedure is dependent upon determination of the storage temperature and the Reid vapor pressure, which requires sampling of the petroleum liquids in the storage vessels. Unless the Director requires in specific cases that the stored petroleum liquid be sampled, the true vapor pressure may be determined by using the average monthly storage temperature and the typical Reid vapor pressure. For those liquids for which certified specifications limiting the Reid vapor pressure exist, the Reid vapor pressure may be used. For other liquids, supporting analytical data must be made available upon request to the Director when typical Reid vapor pressure is used.

[A.A.C. R18-2-710.E.4]

D. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with A.A.C. R18-2-710.B, D, E.1, E.2.b, E.3 and E.4, 40 CFR 63.11111(a), 40 CFR 63.11112(a), 40 CFR 63.11116(a), 40 CFR 63.11116(b), 40 CFR 63.11130 and 40 CFR 63.11132.

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

IX. FUGITIVE DUST SOURCES

This Section applies to open areas, dry washes, riverbeds, roadways, streets, material handling operations, and storage piles.

A. Emission Limitations/Standards

1. The Permittee shall not cause, allow or permit visible emissions from open areas, roadways and streets, storage piles or material handling in excess of 40 percent opacity measured in accordance with the Arizona Testing Manual, Reference Method 9.

[A.A.C. R18-2-612]

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

   a. 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]

   b. 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]

   c. 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 is repaired, constructed, or reconstructed;

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

   d. Keep dust and other particulates to a minimum by employing reasonable precautions, such as wetting, applying dust suppressants, or covering the load when transporting material likely to give rise to airborne dust;

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

   e. Keep dust and other particulates to a minimum by employing reasonable precautions, such as the use of spray bars, wetting agents, dust suppressants, covering the load, and hoods when crushing, handling, or conveying material likely to give rise to airborne dust;

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

   f. The Permittee shall not cause, suffer, allow, or permit organic or inorganic dust producing material to be stacked, piled, or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting, or covering to prevent excessive amounts of particulate matter from becoming airborne.

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

g. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material to the extent reasonable, in accordance with standard industry practice, and in such manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne.

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

h. Any other method as proposed by the Permittee and approved by the Director.

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

3. The Permittee shall comply with the provisions of the approved Dust Control Plan.

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

B. Air Pollution Control Requirements

Haul Roads and Storage Piles

Water, or an equivalent control, shall be used to control visible emissions from haul roads and storage piles.

[A.A.C. R-18-2-306.A.2 and -331.A.3.d]
[Material Permit Condition is indicated by underline and italics]

C. Monitoring and Recordkeeping Requirements

1. The Permittee shall keep records when the reasonable precautions outlined in IX.A.2.a through h are employed.

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

2. Visible Emissions Monitoring

a. A certified Method 9 observer shall conduct a bi-weekly (once every two weeks) visual survey of visible emissions from all fugitive dust sources. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

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

b. If the observer sees a plume that on an instantaneous basis appears to exceed the applicable opacity standard, then the observer shall, if possible, take a six-minute EPA Method 9 observation of the plume.

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

c. If the six-minute opacity of the plume is less than the applicable opacity standard, the observer shall make a record of the following:

(1) Location, date, and time of the observation; and

(2) The results of the Method 9 observation.

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

d. If the six-minute opacity of the plume exceeds the applicable opacity standard, then the Permittee shall do the following:

(1) Adjust or repair the controls or equipment to reduce opacity to or below the applicable standard; and

(2) Report it as an excess emission for opacity.

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

D. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-604.A, A.A.C. R18-2-604.B, A.A.C. R18-2-605, A.A.C. R18-2-606, A.A.C. R18-2-607, and A.A.C. R18-2-612.

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

X. MOBILE SOURCES

The requirements of this Section are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.89.

[A.A.C. R18-2-801.A]

A. Emission Limitations/Standards

1. Unless otherwise specified, no mobile source shall emit smoke or dust the opacity of which exceeds 40%.

[A.A.C. R18-2-801.B]

2. Off Road Machinery

a. The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any off-road machinery smoke for any period greater than ten consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-802.A]

b. Off-road machinery shall include trucks, graders, scrapers, rollers, locomotives and other construction and mining machinery not normally driven on a completed public roadway. [A.A.C. R18-2-802.B]

3. Roadway and Site Cleaning Machinery

a. The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40%. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-804.A]

b. In addition to complying with X.A.3.a, the Permittee shall not cause, allow or permit the cleaning of any site, roadway or alley without taking reasonable precautions to prevent particulate matter from becoming airborne. Reasonable precautions may include applying dust suppressants. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means.

[A.A.C. R18-2-804.B]

B. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-801, A.A.C. R18-2-802 and A.A.C. R18-2-804.

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

XI. ABRASIVE BLASTING

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

1. wet blasting,
2. the use of effective enclosures with necessary dust collecting equipment
3. use of slag products, or
4. any other method approved by the director.

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

B. Opacity

The opacity of any plume from abrasive blasting operations shall not be greater than 20%.

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

C. Monitoring and Recordkeeping

Each time an abrasive blasting project is conducted, the Permittee shall record the following:

1. The date the project was conducted.

2. The duration of the project.

3. Type of control measures employed.

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

D. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with the following applicable provision as of the issuance date of this permit: A.A.C. R18-2-726 and -702.B.3.

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

XII. SPRAY PAINTING OPERATIONS

A. Emission Limitations/Standards

1. The Permittee shall not conduct any spray paint 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 shall not:

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

   b. Thin or dilute any architectural coating with a photochemically reactive solvent.

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

3. For purposes of XII.A.2, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20% of its total volume composed of the chemical compounds classified in XII.A.3.a through c below, 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%.

b. A combination of aromatic compounds with 8 or more carbon atoms to the molecule except ethylbenzene – 8%.

c. A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene – 20%.

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 or organic compounds described in XII.A.3.a through c above, 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. Monitoring and Record Keeping

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

a. The date the project was conducted.

b. The duration of the project.

c. Type of control measures employed.

d. Reference to the onsite location of Material Safety Data Sheets for all paints and solvents used in the project.

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

2. The Permittee shall maintain records on site for a minimum of five years.

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

3. Architectural coatings and spot painting projects shall be exempt from the recordkeeping requirements in XII.B.1 and 2 above.

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

C. Permit Shield

Compliance with the conditions of this Section shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-727 and SIP Provision R9-3-527-C.

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

XIII. SPARK IGNITION (SI) ENGINES SUBJECT TO NSPS JJJJ

A. Applicability

This Section applies to the propane-fired emergency generators.

B. General Requirements

1. Operating Requirements

a. *The Permittee shall install and operate a non-resettable hour meter on each SI engine prior to startup of the engine.*

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

b. The Permittee may operate the SI engines 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.

[40 CFR 60.4243(d)]

c. Maintenance checks and readiness testing of such units is limited to 100 hours per year each. 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 Federal, State, or local standards require maintenance and testing of emergency SI engines beyond 100 hours per year. The Permittee may operate the emergency SI engines for up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing.

[40 CFR 60.4243(d)]

d. Operation of the SI engines for other than emergency operation, maintenance and testing, and operation in non-emergency situations for more than 50 hours per year, is prohibited.

[40 CFR 60.4243(d)]

2. Fuel Requirements

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

The Permittee shall only burn only propane in the SI engines.

C. Emission Limitations and Standards

The Permittee shall comply with the following emissions standards for each emergency generator:

[40 CFR 60. 4233(d)]

1. Non-methane hydrocarbons (NMHC) and Nitrogen Oxides (NO_x)

The Permittee shall limit the combined emissions of NMHC and NO_x from the emergency engine to 10 g/ HP-hr.

2. Carbon Monoxide (CO)

[Table 1 to 40 CFR 60 Subpart JJJJ]

The Permittee shall limit the emissions of CO from the emergency engine to 387 g/ HP-hr.

3. The Permittee shall demonstrate compliance with the above emission limitations by:

[40 CFR 60.4243(b)(1)]

a. Utilizing a engine certified to the appropriate standards, and

b. Operating and maintaining the engine and any control devices according to the manufacturer's emission-related written instructions.

D. Monitoring and Record Keeping Requirements

1. The Permittee shall operate and maintain each SI engine over its entire life according to the manufacturer's emission-related written instructions. A copy of the instructions or procedures shall be kept onsite and made available to ADEQ upon request. [40 CFR 60.4234]

2. The Permittee shall keep records of the following:

[40 CFR 60.4245(b)]

a. All notifications submitted to comply with this subpart and all documentation supporting any notification.

b. Maintenance conducted on the engine.

c. If the stationary SI internal combustion engine is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR parts 90, 1048, 1054, and 1060, as applicable.

d. 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.

[40 CFR 60.4245(b)]

e. If the stationary SI internal combustion engine is not a certified engine or is a certified engine operating in a non-certified manner and subject to § 60.4243(a)(2), documentation that the engine meets the emission standards.

[40 CFR 60.4245(a)(4)]

XIV. AMMONIUM NITRATE PRILL BINS

A. Applicability

This Section is applicable to the Ammonium Nitrate Prill Bins listed in the Equipment List, Attachment "C".

B. Emission Limitation/Standards

1. The Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any process source subject to the provisions of this Section in total quantities in excess of the amounts calculated by the following equations:

   a. 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:

      $E = 4.10P_{0.67}$

      where:

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

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

      [A.A.C. R18-2-721.B.1.a]

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

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

      Where E and P are defined as above.

      [A.A.C. R18-2-721.B.1.b]

2. For purposes of this Section, the total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

   [A.A.C. R18-2-721.D]

3. The Permittee shall not cause, allow or permit to be emitted into the atmosphere, any plume or effluent from the ammonium nitrate prill bins that exceed 20 percent opacity as measured by EPA Reference Method 9.

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

C. Monitoring and Record Keeping Requirements

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

1. A certified Method 9 observer shall conduct a monthly visual survey of visible emissions from the ammonium nitrate prill bins while they are in operation. The Permittee shall keep a record of the name of the observer, the date on which the observation was made, and the results of the observation.

2. If the observer sees visible emissions that on an instantaneous basis appear to exceed the standard, then the observer shall take a six-minute Method 9 observations of the visible emissions and make a record of the results.

D. **Permit Shield**

Compliance with the conditions of this Section shall be deemed compliance with the following applicable provisions as of the issuance date of this permit: A.A.C. R18-2-702.B.3, -721.B.1, and D.

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

ATTACHMENT "C": EQUIPMENT LIST

Air Quality Control Permit No. 53649 (As amended by Significant Revision #63081) for *Freeport-McMoRan Safford, Inc.*

Equipment	NSPS / NESHAP Subpart	Nominal Capacity	Make	Model	Equipment ID Number	Date of Manufacture
Primary Crushing						
12" Scalping Grizzly	LL	3,400 tph	PDSI	34'6" x 26'6"	2110-GRI 001 Custom Fabricated	2007
12" Scalping Grizzly	LL	3,400 tph	PDSI	34'6" x 26'6"	2110-GRI 002 Custom Fabricated	2007
900-ton Undersize Surge Bin	LL	3,400 tph	PDSI	NA	2110-BIN 001 Custom Fabricated	2007
900-ton Undersize Surge Bin	LL	3,400 tph	PDSI	NA	2110-BIN 002 Custom Fabricated	2007
365-ton Oversize Surge Bin	LL	3,400 tph	PDSI	NA	2110-BIN 003 Custom Fabricated	2007
Vibrating Grizzly Feeder	LL	2,700 tph	Metso	VL14	2110-GRI 003	2007
48" x 60" Jaw Crusher	LL	1,150 tph	Metso	C160	2110-CRJ 001	2006
72" Grizzly Undersize Apron Feeder	LL	3,400 tph	Metso	AF10-72MN-25.96-125HP	2110-FDR 001	2006
72" Grizzly Undersize Apron Feeder	LL	3,400 tph	Metso	AF10-72MN-25.96-125HP	2110-FDR 002	2006
60" Primary Crushing Discharge Conveyor	None	7,650 tph	PDSI	CV60" x 1414 ft.	2120-CON 001 Custom Fabricated	2007
Dust Collector (Baghouse)	LL	25,000 CFM	Filter Technology LTD	288R-10 TR WI	2110-BAG 001	2006
Coarse Ore Stockpile						
72" Coarse Ore Reclaim Apron Feeder	LL	3,400 tph	Metso	AF10-72MN-41-200HP	2130-FDR 001	2006
72" Coarse Ore Reclaim Apron Feeder	LL	3,400 tph	Metso	AF10-72MN-41-200HP	2130-FDR 002	2006
72" Coarse Ore Reclaim Apron Feeder	LL	3,400 tph	Metso	AF10-72MN-41-200HP	2130-FDR 003	2006
60" Coarse Ore Reclaim Conveyor	LL	6,800 tph	PDSI	CV60" x 1034 ft.	2140-CON 001 Custom Fabricated	2007

Equipment	NSPS / NESHAP Subpart	Nominal Capacity	Make	Model	Equipment ID Number	Date of Manufacture
Secondary Crushing and Screening						
585-ton Secondary Screen Surge Bin	LL	6,800 tph	PDSI	NA	2230-BIN 001 Custom Fabricated	2007
72” Secondary Screen Belt Feeder	LL	3,400 tph	IEM-BF	V616-72-425-BF	2230-FDR 001	2006
72” Secondary Screen Belt Feeder	LL	3,400 tph	IEM-BF	V616-72-425-BF	2230-FDR 002	2006
12’ x 27’ Secondary Double Deck Banana Screen	LL	3,400 tph	Metso	Nordberg LM 911	2230-SCN 001	2007
12’ x 27’ Secondary Double Deck Banana Screen	LL	3,400 tph	Metso	Nordberg LM 911	2230-SCN 002	2007
60” Secondary Crushing Plant Feed Conveyor	LL	5,000 tph	PDSI	CV60” x 871 ft.	2240-CON 001 Custom Fabricated	2007
3000-ton Secondary Crushing Surge Bin	LL	5,000 tph	PDSI	NA	2210-BIN 001 Custom Fabricated	2007
72” Secondary Crusher Belt Feeder	LL	2,500 tph	IEM-BF	V615-72" x 57'-00'-BF	2210-FDR 001	2006
72” Secondary Crusher Belt Feeder	LL	2,500 tph	IEM-BF	V615-72" x 57'-00'-BF	2210-FDR 002	2006
MP 1000 STD Secondary Crusher	LL	2,500 tph	Metso	MP1000	2210-CRU 001	2006
MP 1250 STD Secondary Crusher	LL	2,500 tph	Metso	MP1250	2210-CRU 002	TBD
60” Secondary Crushing Discharge Conveyor	LL	5,000 tph	PDSI	CV60” x 817 ft.	2220-CON 001 Custom Fabricated	2007
72” Secondary Crushing Transfer Conveyor	LL	5,000 tph	PDSI	CV72” x 50 ft.	2220-CON 002 Custom Fabricated	2007
Dust Collector (Baghouse)	LL	47,000 CFM	Filter Technology LTD	544R-10 TR WI	2210-BAG 003	2006
Dust Collector (Baghouse)	LL	21,000 CFM	Filter Technology LTD	240R-10 TR WI	2210-BAG 001	2006
Tertiary Crushing and Screening						
Tertiary Crushing Plant Feed Conveyor	LL	6,800 tph	PDSI	CV60” x 1031 ft.	2260-CON 001 Custom Fabricated	2007
Tertiary Tripper	LL	6,800 tph	Conveyor Engineering	60662-101	2260-TRP 001	2006

Equipment	NSPS / NESHAP Subpart	Nominal Capacity	Make	Model	Equipment ID Number	Date of Manufacture
4,400 ton Tertiary Crushing Surge Bin	LL	7,400 tph	PDSI	NA	2270-BIN 001 Custom Fabricated	2007
72" Tertiary Crusher Belt Feeder	LL	1,850 tph	IEM-BF	V617-72-436-BF	2270-FDR 001	2006
72" Tertiary Crusher Belt Feeder	LL	1,850 tph	IEM-BF	V617-72-436-BF	2270-FDR 002	2006
72" Tertiary Crusher Belt Feeder	LL	1,850 tph	IEM-BF	V617-72-436-BF	2270-FDR 003	2006
72" Tertiary Crusher Belt Feeder	LL	1,850 tph	IEM-BF	V617-72-436-BF	2270-FDR 004	2006
12' X 27' Tertiary Single Deck Banana Screen	LL	1,850 tph	Metso	Nordberg LM 911	2270-SCN 001	2007
12' X 27' Tertiary Single Deck Banana Screen	LL	1,850 tph	Metso	Nordberg LM 911	2270-SCN 002	2007
12' X 27' Tertiary Single Deck Banana Screen	LL	1,850 tph	Metso	Nordberg LM 911	2270-SCN 003	2007
12' X 27' Tertiary Single Deck Banana Screen	LL	1,850 tph	Metso	Nordberg LM 911	2270-SCN 004	2007
MP 1000 S.H. Tertiary Crusher	LL	800 tph	Metso	MP1000	2270-CRU 001	2006
MP 1000 S.H. Tertiary Crusher	LL	800 tph	Metso	MP1000	2270-CRU 002	2007
MP 1000 S.H. Tertiary Crusher	LL	800 tph	Metso	MP1000	2270-CRU 003	2007
MP 1000 S.H. Tertiary Crusher	LL	800 tph	Metso	MP1000	2270-CRU 004	2007
60" Tertiary Screening Reclaim Conveyor	LL	5,000 tph	PDSI	CV60" x 231 ft.	2270-CON 001 Custom Fabricated	2007
72" Tertiary Screening Transfer Conveyor	LL	5,000 tph	PDSI	CV72" x 30 ft.	2270-CON 002 Custom Fabricated	2007
60" Fine Ore Product Conveyor	LL	6,800 tph	PDSI	CV60" x 586 ft.	2280-CON 001 Custom Fabricated	2007
Dust Collector (Baghouse)	LL	14,000 CFM	Filter Technology LTD	169R-10 TR WI	2210-BAG 004	2006
Dust Collector (Baghouse)	LL	72,000 CFM	Filter Technology LTD	832R-10 TR WI	2210-BAG 002	2006
Dust Collector (Baghouse)	LL	6,000 CFM	Filter Technology LTD	72-10 TR WI	2280-BAG 001	2006

Equipment	NSPS / NESHAP Subpart	Nominal Capacity	Make	Model	Equipment ID Number	Date of Manufacture
Fine Ore and Agglomeration Handling						
60” Agglomeration Feed Conveyor	LL	3,900 tph	PDSI	CV 60” x 156 ft	2330 CON-001	2007
8,100–ton Fine Ore Surge Bin	LL	6,800 tph	PDSI	NA	2310-BIN 001 Custom Fabricated	2007
72” Agglomeration Drum Feeder	LL	3,900 tph	IEM	V618-72-60-DF	2310-FDR 001	2006
72” Agglomeration Drum Feeder	LL	3,900 tph	IEM	V618-72-60-DF	2310-FDR 002	2006
60” Agglomeration Feed Conveyor	LL	3,900 tph	PDSI	CV60” x 156 ft.	2320-CON 001 Custom Fabricated	2007
60” Agglomeration Feed Conveyor	LL	3,900 tph	PDSI	CV60” x 156 ft.	2330-CON 002 Custom Fabricated	2007
15’ x 45’ Agglomeration Drum	None	3,400 tph	Feeco	15’ x 45’	2340-AGG 001	2006
15’ x 45’ Agglomeration Drum	None	3,400 tph	Feeco	15’ x 45’	2340-AGG 002	2006
Bin Vent Dust Collector (Baghouse)	LL	6,000 CFM	Filter Technology LTD	72R-10 TR WI	2310-BAG 002	2006
Dust Collector (Baghouse)	LL	20,000 CFM	Filter Technology LTD	240R-10 TR WI	2310-BAG 001	2006
Agglomeration Discharge and Heap Leach Conveyors						
72” Agglomeration Discharge Conveyor	LL	6,800 tph	PDSI	72” x variable up to 3,000 ft.	2350 CON-001	2007
60” Overland Conveyor	LL	6,800 tph	FMSI	60” x variable up to 7,400 ft.	2360 CON-001	2012
60” Overland Mobile Tripper Car	LL	6,800 tph	PDSI	60” x 70 ft	2360 TRP-001	2007
72” Ramp Portable Conveyor	LL	6,800 tph	PDSI	CV72” x 250 ft.	2410-CON 001 Custom Fabricated	2007
72” Ramp Portable Conveyor	LL	6,800 tph	PDSI	CV72” x 250 ft.	2410-CON 002 Custom Fabricated	2007
72” Ramp Portable Conveyor	LL	6,800 tph	PDSI	CV72” x 250 ft.	2410-CON 003 Custom Fabricated	2007
72” Ramp Portable Conveyor	LL	6,800 tph	PDSI	CV72” x 250 ft.	2410-CON 004 Custom Fabricated	2007
72” Ramp Portable Conveyor	LL	6,800 tph	PDSI	CV72” x 250 ft.	2410-CON 005 Custom Fabricated	2007

Equipment	NSPS / NESHAP Subpart	Nominal Capacity	Make	Model	Equipment ID Number	Date of Manufacture
72” Ramp Portable Conveyor	LL	6,800 tph	PDSI	CV72” x 250 ft.	2410-CON 006 Custom Fabricated	2007
72” Super Portable Conveyor	LL	6,800 tph	PDSI	CV72” x 250 ft.	2420-CON 001 Custom Fabricated	2007
72” Super Portable Conveyor	LL	6,800 tph	PDSI	CV72” x 250 ft.	2420-CON 002 Custom Fabricated	2007
72” Super Portable Conveyor	LL	6,800 tph	PDSI	CV72” x 250 ft.	2420-CON 003 Custom Fabricated	2007
72” Super Portable Conveyor	LL	6,800 tph	PDSI	CV72” x 250 ft.	2420-CON 004 Custom Fabricated	2007
72” Horizontal Feed Conveyor	LL	6,800 tph	PDSI	CV72” x 108 ft.	2430-CON 001 Custom Fabricated	2007
72” Horizontal Conveyor	LL	6,800 tph	PDSI	CV72” x 277 ft.	2440-CON 001 Custom Fabricated	2007
72” Radial Stacker	LL	6,800 tph	TNT	72” x 194’to220’	2450-STA 001	2007
72” Stationary Tripper Car	LL	6,800 tph	PDSI	72”	2350 TRP-001	2007
60” Overland Transfer Conveyor	None	6,850 tph	FMSI	60” x 1,200 ft.	2370 CON-001	2013
60” Overland Tripper Conveyor	None	6,850 tph	PDSI	60” x variable upto 7,808 ft	2380 CON-001	2007
60” Overland Mobile Tripper Car	None	6,850 tph	PDSI	60”	2380 TRP-001	2007
Solvent Extraction Equipment						
E 1 Extraction Mixer/ Settler	None	7,592 ft^2	PDSI	Custom Fabricated	4110-MXS 001	2007
E 2 Extraction Mixer/ Settler	None	7,592 ft^2	PDSI	Custom Fabricated	4110-MXS 002	2007
E 3 Extraction Mixer/ Settler	None	7,592 ft^2	PDSI	Custom Fabricated	4110-MXS 003	2007
S 1 Strip Settler	None	7,592 ft^2	PDSI	Custom Fabricated	4110-MXS 004	2007
E 4 Extraction Mixer/ Settler	None	7,592 ft^2	FMSI	Custom Fabricated	4110-MXS 005	2013
E 5 Extraction Mixer/ Settler	None	7,592 ft^2	FMSI	Custom Fabricated	4110-MXS 006	2013
Electrowinning Equipment						
Electrowinning Tankhouse	None	125,000 tpy	PDSI	Custom Fabricated	EWTANK Custom Fabricated	2007

Equipment	NSPS / NESHAP Subpart	Nominal Capacity	Make	Model	Equipment ID Number	Date of Manufacture
Propane Hot Water Heater	None	9.7 MMBtu/hr	Cleaver-Brooks	CB(LE)	1-4220-HEX-010	2007
Propane Hot Water Heater	None	9.7 MMBtu/hr	Cleaver-Brooks	CB(LE)	1-4220-HEX-011	2007
Gasoline Storage Tank	CCCCCC	4,000 gallons	TYCO Enterprise	UL 142	TNK-201	2006
Gasoline Storage Tank	CCCCCC	2,000 gallons	TBD	TBD	TNK-203	2015
Auxiliary Equipment						
Emergency Generator (diesel) for Raffinate Pump	IIII	1,500 kW	Caterpillar	3512C	3310-GEN 001	2007
Emergency Generator (diesel) for Raffinate Pump	IIII	1,500 kW	Caterpillar	3512C	3310-GEN 002	2007
Emergency Generator (diesel) for South Raffinate Pump	IIII	1,500 kW	Caterpillar	3512C	3310-GEN 003	2007
Emergency Generator (diesel) for South Raffinate Pump	IIII	1,500 kW	Caterpillar	3512C	3310-GEN 004	2007
Emergency Generator – Propane	JJJJ	35 kW	TBD	TBD	3310-GEN 006	2008
Administration Emergency Generator (diesel)	IIII	177 kW	Kohler	150ROZJD	3310-GEN-005	2008
Fire Water Pump (diesel)	IIII	149 hp	Cummins	CFP59-F20	8310-PMP 008	2007
Fire Water Pump (diesel)	IIII	288 hp	Cummins	CFP83-F40	8310-PMP 011	2007
Site 1 Emergency Generator	JJJJ	80 Hp	Cummins	GGHE	3310-GEN-007	2012
Site 2 Emergency Generator	JJJJ	80 Hp	Cummins	GGHE	3310-GEN-008	2012
Emergency Generator (Diesel) for SX/EW Plant	IIII	16.6 kW	Cummins	C15 D6	3310-GEN-011	2007
Prill Bin 1	No	25 Ton/hr	Bradley Metals Company Inc.	NA	BIN01	NA

Equipment	NSPS / NESHAP Subpart	Nominal Capacity	Make	Model	Equipment ID Number	Date of Manufacture
Prill Bin 2	No	25 Ton/hr	Bradley Metals Company Inc.	NA	BIN02	NA
Prill Bin 3	No	25 Ton/hr	Bradley Metals Company Inc.	NA	BIN03	NA
Acid Plant						
Sulphur Furnace Propane Pre-Heater Burner	None	68.4 MMBtu/hr	Zeeco USA, LLC	GBI-60	S-600	2010
Sulphur Furnace Propane Startup Boiler	None	5.23 MMBtu/hr	Clayton Industries Sigma Fire	SFG-125M-1	B-600	2010
Sulphur Furnace Temporary Diesel Start up Boiler #2		9 MMBtu/hr	TBD	TBD	B-700	TBD
Sulphuric Acid Plant	H	1350 tpd	MECS	MEN F033	SA-1	2010
Acid Plant Cooling Tower	None	28,500 gpm	Midwest Towers	CFT4236-2006-04	CT-201	2010
Caustic Scrubber	H	60,000 scfm Process Gas	Dynawave	RO5333-M-165A	SC-9000	2010
Portable Crushing and Screening Plant						
Triple Deck Screen Feeder	Non-NSPS	664 tph	Elrus	48X20 VGF	PC_MATLD	2008
Triple Deck Screen	LL	1,103 tph	Terex Cedar Rapids	TSH7203-38	PC_TRI_SCN	2007
Portable Crusher	LL	439 tph	Sandvik	CH440-MC/B/MC-40/32/36/4 4:2	PC_CRH	2008
Conveyor Belt #1	LL	439 tph	Superior	F36X60ST KP	PC_CB1	2008
Conveyor Belt #2	Non-NSPS	439 tph	Superior	F36X40ST KP	PC_CB2	2008
Conveyor Belt #3	Non-NSPS	199 tph	Superior	36X100 CFC	PC_CB3	2008
Stacker #4	Non-NSPS	333 tph	Superior	F36X80 PRSC	PC_SCB4	2008
Stacker #5	Non-NSPS	330 tph	Superior	F	PC_SCB5	2008