# SECTION 4. APPENDICES

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# SECTION 4. APPENDIX A

## Citation Formats and Glossary of Common Terms

### CITATION FORMATS

The following illustrate the formats used in the permit to identify applicable requirements from permits and regulations.

**Old Permit Numbers**

Example: Permit No. AC50-123456 or Permit No. AO50-123456

Where: "AC" identifies the permit as an Air Construction Permit
"AO" identifies the permit as an Air Operation Permit
"123456" identifies the specific permit project number

**New Permit Numbers**

Example: Permit Nos. 099-2222-001-AC, 099-2222-001-AF, 099-2222-001-AO, or 099-2222-001-AV

Where: "099" represents the specific county ID number in which the project is located

"2222" represents the specific facility ID number for that county

"001" identifies the specific permit project number

"AC" identifies the permit as an air construction permit

"AF" identifies the permit as a minor source federally enforceable state operation permit

"AO" identifies the permit as a minor source air operation permit

"AV" identifies the permit as a major Title V air operation permit

**PSD Permit Numbers**

Example: Permit No. PSD-FL-317

Where: "PSD" means issued pursuant to the preconstruction review requirements of the Prevention of Significant Deterioration of Air Quality

"FL" means that the permit was issued by the State of Florida

"317" identifies the specific permit project number

**Florida Administrative Code (F.A.C.)**

Example: [Rule 62-213.205, F.A.C.]

Means: Title 62, Chapter 213, Rule 205 of the Florida Administrative Code

**Code of Federal Regulations (CFR)**

Example: [40 CFR 60.7]

Means: Title 40, Part 60, Section 7

### GLOSSARY OF COMMON TERMS

**° F**: degrees Fahrenheit

**AAQS**: Ambient Air Quality Standard

**acf**: actual cubic feet

**acfm**: actual cubic feet per minute

**ARMS**: Air Resource Management System (DEP database)

**BACT**: best available control technology

**bhp**: brake horsepower

**Btu**: British thermal units

**CAM**: compliance assurance monitoring

**CEMS**: continuous emissions monitoring system

**cfm**: cubic feet per minute

## Citation Formats and Glossary of Common Terms

**CFR**: Code of Federal Regulations

**CAA**: Clean Air Act

**CMS**: continuous monitoring system

**CO**: carbon monoxide

**$CO_2$**: carbon dioxide

**COMS**: continuous opacity monitoring system

**DARM**: Division of Air Resource Management

**DEP**: Department of Environmental Protection

**Department**: Department of Environmental Protection

**dscf**: dry standard cubic feet

**dscfm**: dry standard cubic feet per minute

**EPA**: Environmental Protection Agency

**ESP**: electrostatic precipitator (control system for reducing particulate matter)

**EU**: emissions unit

**F.A.C.**: Florida Administrative Code

**F.A.W.**: Florida Administrative Weekly

**F.D.**: forced draft

**F.S.**: Florida Statutes

**FGD**: flue gas desulfurization

**FGR**: flue gas recirculation

**Fl**: fluoride

**$ft^2$**: square feet

**$ft^3$**: cubic feet

**gpm**: gallons per minute

**gr**: grains

**HAP**: hazardous air pollutant

**Hg**: mercury

**I.D.**: induced draft

**ID**: identification

**kPa**: kilopascals

**lb**: pound

**MACT**: maximum achievable technology

**MMBtu**: million British thermal units

**MSDS**: material safety data sheets

**MW**: megawatt

**NESHAP**: National Emissions Standards for Hazardous Air Pollutants

**$NO_X$**: nitrogen oxides

**NSPS**: New Source Performance Standards

**O&M**: operation and maintenance

**$O_2$**: oxygen

**Pb**: lead

**PM**: particulate matter

**$PM_{10}$**: particulate matter with a mean aerodynamic diameter of 10 microns or less

**ppm**: parts per million

**ppmv**: parts per million by volume

**ppmvd**: parts per million by volume, dry basis

**QA**: quality assurance

**QC**: quality control

**PSD**: prevention of significant deterioration

**psi**: pounds per square inch

**PTE**: potential to emit

**RACT**: reasonably available control technology

**RATA**: relative accuracy test audit

**RBLC**: EPA's RACT/BACT/LAER Clearinghouse

**SAM**: sulfuric acid mist

**scf**: standard cubic feet

**scfm**: standard cubic feet per minute

**SIC**: standard industrial classification code

**SIP**: State Implementation Plan

**SNCR**: selective non-catalytic reduction (control system used for reducing emissions of nitrogen oxides)

**$SO_2$**: sulfur dioxide

**TPD**: tons/day

**TPH**: tons per hour

**TPY**: tons per year

**TRS**: total reduced sulfur

**UTM**: Universal Transverse Mercator coordinate system

**VE**: visible emissions

**VOC**: volatile organic compounds

## SECTION 4. APPENDIX B

## General Conditions

The permittee shall comply with the following general conditions from Rule 62-4.160, F.A.C.

1. The terms, conditions, requirements, limitations and restrictions set forth in this permit, are "permit conditions" and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, F.S. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in subsections 403.987(6) and 403.722(5), F.S., the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations. This permit is not a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in this permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, as required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted to:

   a. Have access to and copy any records that must be kept under conditions of the permit;

   b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and

   c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules. Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

   a. A description of and cause of noncompliance; and

   b. The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is prescribed by Sections 403.111 and 403.73, F.S. Such evidence shall only be used to the extent it is consistent with the Florida Rules of Civil Procedure and appropriate evidentiary rules.

## General Conditions

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance; provided, however, the permittee does not waive any other rights granted by Florida Statutes or Department rules. A reasonable time for compliance with a new or amended surface water quality standard, other than those standards addressed in Rule 62-302.500, F.A.C., shall include a reasonable time to obtain or be denied a mixing zone for the new or amended standard.

11. This permit is transferable only upon Department approval in accordance with Rules 62-4.120 and 62-730.300, F.A.C., as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the Department.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. This permit also constitutes:

    a. Determination of Best Available Control Technology (not applicable);

    b. Determination of Prevention of Significant Deterioration (not applicable); and

    c. Compliance with New Source Performance Standards (not applicable).

14. The permittee shall comply with the following:

    a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

    b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report, or application unless otherwise specified by Department rule.

    c. Records of monitoring information shall include:

        (a) The date, exact place, and time of sampling or measurements;

        (b) The person responsible for performing the sampling or measurements;

        (c) The dates analyses were performed;

        (d) The person responsible for performing the analyses;

        (e) The analytical techniques or methods used;

        (f) The results of such analyses.

15. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.

## Common Conditions

Unless otherwise specified in the permit, the following conditions apply to all emissions units and activities at the facility.

**EMISSIONS AND CONTROLS**

1. Plant Operation - Problems: If temporarily unable to comply with any of the conditions of the permit due to breakdown of equipment or destruction by fire, wind or other cause, the permittee shall immediately notify each Compliance Authority. "Immediately" shall mean the same day, if during a workday (i.e., 8:00 a.m. - 5:00 p.m.), or the first business day after the incident, excluding weekends and holidays. The notification shall include: pertinent information as to the cause of the problem; steps being taken to correct the problem and prevent future recurrence; and, where applicable, the owner's intent toward reconstruction of destroyed facilities. Such notification does not release the permittee from any liability for failure to comply with the conditions of this permit or the regulations. [Rule 62-4.130, F.A.C.]

2. Circumvention: The permittee shall not circumvent the air pollution control equipment or allow the emission of air pollutants without this equipment operating properly. [Rule 62-210.650, F.A.C.]

3. Excess Emissions Allowed: Excess emissions resulting from startup, shutdown or malfunction of any emissions unit shall be permitted providing (1) best operational practices to minimize emissions are adhered to and (2) the duration of excess emissions shall be minimized but in no case exceed 2 hours in any 24-hour period unless specifically authorized by the Department for longer duration. Pursuant to Rule 62-210.700(5), F.A.C., the permit subsection may specify more or less stringent requirements for periods of excess emissions. Rule 62-210-700(Excess Emissions), F.A.C., cannot vary or supersede any federal NSPS or NESHAP provision. [Rule 62-210.700(1), F.A.C.]

4. Excess Emissions Prohibited: Excess emissions caused entirely or in part by poor maintenance, poor operation, or any other equipment or process failure that may reasonably be prevented during startup, shutdown or malfunction shall be prohibited. [Rule 62-210.700(4), F.A.C.]

5. Excess Emissions - Notification: In case of excess emissions resulting from malfunctions, the permittee shall notify the Compliance Authority in accordance with Rule 62-4.130, F.A.C. A full written report on the malfunctions shall be submitted in a quarterly report, if requested by the Department. [Rule 62-210.700(6), F.A.C.]

6. VOC or OS Emissions: No person shall store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. [Rule 62-296.320(1), F.A.C.]

7. Objectionable Odor Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants, which cause or contribute to an objectionable odor. An "objectionable odor" means any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance. [Rules 62-296.320(2) and 62-210.200(Definitions), F.A.C.]

8. General Visible Emissions: No person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity equal to or greater than 20% opacity. This regulation does not impose a specific testing requirement. [Rule 62-296.320(4)(b)1, F.A.C.]

9. Unconfined Particulate Emissions:

   a. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions.

   b. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter.

   c. Reasonable precautions include the following:

      (1) Paving and maintenance of roads, parking areas and yards.

      (2) Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing.

(3) Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities.

(4) Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne.

(5) Landscaping or planting of vegetation.

(6) Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter.

(7) Confining abrasive blasting where possible.

(8) Enclosure or covering of conveyor systems.

[Rule 62-296.320(4)(c), F.A.C.]

**RECORDS AND REPORTS**

10. Records Retention: All measurements, records, and other data required by this permit shall be documented in a permanent, legible format and retained for at least 3 years following the date on which such measurements, records, or data are recorded, unless otherwise specified by Department rule. Records shall be made available to the Department upon request. [Rule 62-4.160, F.A.C.]

11. Emissions Computation and Reporting:

a. *Applicability*. This rule sets forth required methodologies to be used by the owner or operator of a facility for computing actual emissions, baseline actual emissions, and net emissions increase, as defined at Rule 62-210.200, F.A.C., and for computing emissions for purposes of the reporting requirements of subsection 62-210.370(3) and paragraph 62-212.300(1)(e), F.A.C., or of any permit condition that requires emissions be computed in accordance with this rule. This rule is not intended to establish methodologies for determining compliance with the emission limitations of any air permit. [Rule 62-210.370(1), F.A.C.]

b. *Computation of Emissions*. For any of the purposes set forth in subsection 62-210.370(1), F.A.C., the owner or operator of a facility shall compute emissions in accordance with the requirements set forth in this subsection.

(1) Basic Approach. The owner or operator shall employ, on a pollutant-specific basis, the most accurate of the approaches set forth below to compute the emissions of a pollutant from an emissions unit; provided, however, that nothing in this rule shall be construed to require installation and operation of any continuous emissions monitoring system (CEMS), continuous parameter monitoring system (CPMS), or predictive emissions monitoring system (PEMS) not otherwise required by rule or permit, nor shall anything in this rule be construed to require performance of any stack testing not otherwise required by rule or permit.

(a) If the emissions unit is equipped with a CEMS meeting the requirements of paragraph 62-210.370(2)(b), F.A.C., the owner or operator shall use such CEMS to compute the emissions of the pollutant, unless the owner or operator demonstrates to the department that an alternative approach is more accurate because the CEMS represents still-emerging technology.

(b) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C, but emissions of the pollutant can be computed pursuant to the mass balance methodology of paragraph 62-210.370(2)(c), F.A.C., the owner or operator shall use such methodology, unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

(c) If a CEMS is not available or does not meet the requirements of paragraph 62-210.370(2)(b), F.A.C., and emissions cannot be computed pursuant to the mass balance methodology, the owner or operator shall use an emission factor meeting the requirements of paragraph 62-210.370(2)(d), F.A.C., unless the owner or operator demonstrates to the department that an alternative approach is more accurate.

(2) Continuous Emissions Monitoring System (CEMS).

(a) An owner or operator may use a CEMS to compute emissions of a pollutant for purposes of this rule provided:

1) The CEMS complies with the applicable certification and quality assurance requirements of 40 CFR Part 60, Appendices B and F, or, for an acid rain unit, the certification and quality assurance requirements of 40 CFR Part 75, all adopted by reference at Rule 62-204.800, F.A.C.; or

2) The owner or operator demonstrates that the CEMS otherwise represents the most accurate means of computing emissions for purposes of this rule.

(b) Stack gas volumetric flow rates used with the CEMS to compute emissions shall be obtained by the most accurate of the following methods as demonstrated by the owner or operator:

1) A calibrated flow meter that records data on a continuous basis, if available; or

2) The average flow rate of all valid stack tests conducted during a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

(c) The owner or operator may use CEMS data in combination with an appropriate f-factor, heat input data, and any other necessary parameters to compute emissions if such method is demonstrated by the owner or operator to be more accurate than using a stack gas volumetric flow rate as set forth at subparagraph 62-210.370(2)(b)2., F.A.C., above.

(3) Mass Balance Calculations.

(a) An owner or operator may use mass balance calculations to compute emissions of a pollutant for purposes of this rule provided the owner or operator:

1) Demonstrates a means of validating the content of the pollutant that is contained in or created by all materials or fuels used in or at the emissions unit; and

2) Assumes that the emissions unit emits all of the pollutant that is contained in or created by any material or fuel used in or at the emissions unit if it cannot otherwise be accounted for in the process or in the capture and destruction of the pollutant by the unit's air pollution control equipment.

(b) Where the vendor of a raw material or fuel which is used in or at the emissions unit publishes a range of pollutant content from such material or fuel, the owner or operator shall use the highest value of the range to compute the emissions, unless the owner or operator demonstrates using site-specific data that another content within the range is more accurate.

(c) In the case of an emissions unit using coatings or solvents, the owner or operator shall document, through purchase receipts, records and sales receipts, the beginning and ending VOC inventories, the amount of VOC purchased during the computational period, and the amount of VOC disposed of in the liquid phase during such period.

(4) Emission Factors.

a. An owner or operator may use an emission factor to compute emissions of a pollutant for purposes of this rule provided the emission factor is based on site-specific data such as stack test data, where available, unless the owner or operator demonstrates to the department that an alternative emission factor is more accurate. An owner or operator using site-specific data to derive an emission factor, or set of factors, shall meet the following requirements.

1) If stack test data are used, the emission factor shall be based on the average emissions per unit of input, output, or gas volume, whichever is appropriate, of all valid stack tests conducted during at least a five-year period encompassing the period over which the emissions are being computed, provided all stack tests used shall represent the same operational and physical configuration of the unit.

2) Multiple emission factors shall be used as necessary to account for variations in emission rate associated with variations in the emissions unit's operating rate or operating conditions during the period over which emissions are computed.

3) The owner or operator shall compute emissions by multiplying the appropriate emission factor by the appropriate input, output or gas volume value for the period over which the emissions are computed. The owner or operator shall not compute emissions by converting an emission factor to pounds per hour and then multiplying by hours of operation, unless the owner or operator demonstrates that such computation is the most accurate method available.

b. If site-specific data are not available to derive an emission factor, the owner or operator may use a published emission factor directly applicable to the process for which emissions are computed. If no directly-applicable emission factor is available, the owner or operator may use a factor based on a similar, but different, process.

(5) Accounting for Emissions During Periods of Missing Data from CEMS, PEMS, or CPMS. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of missing data from CEMS, PEMS, or CPMS using other site-specific data to generate a reasonable estimate of such emissions.

(6) Accounting for Emissions During Periods of Startup and Shutdown. In computing the emissions of a pollutant, the owner or operator shall account for the emissions during periods of startup and shutdown of the emissions unit.

(7) Fugitive Emissions. In computing the emissions of a pollutant from a facility or emissions unit, the owner or operator shall account for the fugitive emissions of the pollutant, to the extent quantifiable, associated with such facility or emissions unit.

(8) Recordkeeping. The owner or operator shall retain a copy of all records used to compute emissions pursuant to this rule for a period of five years from the date on which such emissions information is submitted to the department for any regulatory purpose.

[Rule 62-210.370(2), F.A.C.]

c. *Annual Operating Report for Air Pollutant Emitting Facility*

(1) The Annual Operating Report for Air Pollutant Emitting Facility (DEP Form No. 62-210.900(5)) shall be completed each year for the following facilities:

a. All Title V sources.

b. All synthetic non-Title V sources.

c. All facilities with the potential to emit ten (10) tons per year or more of volatile organic compounds or twenty-five (25) tons per year or more of nitrogen oxides and located in an ozone nonattainment area or ozone air quality maintenance area.

d. All facilities for which an annual operating report is required by rule or permit.

(2) Notwithstanding paragraph 62-210.370(3)(a), F.A.C., no annual operating report shall be required for any facility operating under an air general permit.

(3) The annual operating report shall be submitted to the appropriate Department of Environmental Protection (DEP) division, district or DEP-approved local air pollution control program office by April 1 of the following year. If the report is submitted using the Department's electronic annual operating report software, there is no requirement to submit a copy to any DEP or local air program office.

(4) Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C., for purposes of the annual operating report.

(5) Facility Relocation. Unless otherwise provided by rule or more stringent permit condition, the owner or operator of a relocatable facility must submit a Facility Relocation Notification Form (DEP Form No. 62-210.900(6)) to the Department at least 30 days prior to the relocation. A separate form shall be submitted for each facility in the case of the relocation of multiple facilities which are jointly owned or operated.

[Rule 62-210.370(3), F.A.C.]

## Common Testing Requirements

Unless otherwise specified in the permit, the following testing requirements apply to all emissions units at the facility.

**COMPLIANCE TESTING REQUIREMENTS**

1. Operating Rate During Testing: Testing of emissions shall be conducted with the emissions unit operating at permitted capacity. If it is impractical to test at permitted capacity, an emissions unit may be tested at less than the maximum permitted capacity; in this case, subsequent emissions unit operation is limited to 110 percent of the test rate until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 consecutive days for the purpose of additional compliance testing to regain the authority to operate at the permitted capacity. Permitted capacity is defined as 90 to 100 percent of the maximum operation rate allowed by the permit. [Rule 62-297.310(2), F.A.C.]

2. Applicable Test Procedures - Opacity Compliance Tests: When either EPA Method 9 or DEP Method 9 is specified as the applicable opacity test method, the required minimum period of observation for a compliance test shall be sixty (60) minutes for emissions units which emit or have the potential to emit 100 tons per year or more of particulate matter, and thirty (30) minutes for emissions units which have potential emissions less than 100 tons per year of particulate matter and are not subject to a multiple-valued opacity standard. The opacity test observation period shall include the period during which the highest opacity emissions can reasonably be expected to occur. Exceptions to these requirements are as follows:

   a. For batch, cyclical processes, or other operations which are normally completed within less than the minimum observation period and do not recur within that time, the period of observation shall be equal to the duration of the batch cycle or operation completion time.

   b. The observation period for special opacity tests that are conducted to provide data to establish a surrogate standard pursuant to Rule 62-297.310(5)(k), F.A.C., Waiver of Compliance Test Requirements, shall be established as necessary to properly establish the relationship between a proposed surrogate standard and an existing mass emission limiting standard.

   c. The minimum observation period for opacity tests conducted by employees or agents of the Department to verify the day-to-day continuing compliance of a unit or activity with an applicable opacity standard shall be twelve minutes.

   [Rule 62-297.310(4), F.A.C.]

3. Determination of Process Variables:

   a. *Required Equipment*. The owner or operator of an emissions unit for which compliance tests are required shall install, operate, and maintain equipment or instruments necessary to determine process variables, such as process weight input or heat input, when such data are needed in conjunction with emissions data to determine the compliance of the emissions unit with applicable emission limiting standards.

   b. *Accuracy of Equipment*. Equipment or instruments used to directly or indirectly determine process variables, including devices such as belt scales, weight hoppers, flow meters, and tank scales, shall be calibrated and adjusted to indicate the true value of the parameter being measured with sufficient accuracy to allow the applicable process variable to be determined within 10% of its true value.

   [Rule 62-297.310(5), F.A.C.]

4. Frequency of Compliance Tests: The following provisions apply only to those emissions units that are subject to an emissions limiting standard for which compliance testing is required.

   a. *General Compliance Testing*.

      1. The owner or operator of a new or modified emissions unit that is subject to an emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining an operation permit for such emissions unit.

      2. The owner or operator of an emissions unit that is subject to any emission limiting standard shall conduct a compliance test that demonstrates compliance with the applicable emission limiting standard prior to obtaining a renewed operation permit. Emissions units that are required to conduct an annual compliance test may submit the most recent annual compliance test to satisfy the requirements of this provision. In renewing an air

operation permit pursuant to sub-subparagraph 62-210.300(2)(a)3.b., c., or d., F.A.C., the Department shall not require submission of emission compliance test results for any emissions unit that, during the year prior to renewal:

(a) Did not operate; or

(b) In the case of a fuel burning emissions unit, burned liquid and/or solid fuel for a total of no more than 400 hours,

3. During each federal fiscal year (October 1 – September 30), unless otherwise specified by rule, order, or permit, the owner or operator of each emissions unit shall have a formal compliance test conducted for visible emissions, if there is an applicable standard.

4. The owner or operator shall notify the Department, at least 15 days prior to the date on which each formal compliance test is to begin, of the date, time, and place of each such test, and the test contact person who will be responsible for coordinating and having such test conducted for the owner or operator.

b. *Special Compliance Tests*. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standard contained in a Department rule or in a permit issued pursuant to those rules is being violated, it shall require the owner or operator of the emissions unit to conduct compliance tests which identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department.

[Rule 62-297.310(7), F.A.C.]

**RECORDS AND REPORTS**

5. Test Reports: The owner or operator of an emissions unit for which a compliance test is required shall file a report with the Department on the results of each such test. The required test report shall be filed with the Department as soon as practical but no later than 45 days after the last sampling run of each test is completed. The test report shall provide sufficient detail on the emissions unit tested and the test procedures used to allow the Department to determine if the test was properly conducted and the test results properly computed. As a minimum, the test report shall provide the following information.

a. The type, location, and designation of the emissions unit tested.

b. The facility at which the emissions unit is located.

c. The owner or operator of the emissions unit.

d. The normal type and amount of fuels used and materials processed, and the types and amounts of fuels used and material processed during each test run.

e. The means, raw data and computations used to determine the amount of fuels used and materials processed, if necessary to determine compliance with an applicable emission limiting standard.

f. The date, starting time and end time of the observation.

g. The test procedures used.

h. The names of individuals who furnished the process variable data, conducted the test, and prepared the report.

i. The applicable emission standard and the resulting maximum allowable emission rate for the emissions unit plus the test result in the same form and unit of measure.

j. A certification that, to the knowledge of the owner or his authorized agent, all data submitted are true and correct. The owner or his authorized agent shall certify that all data required and provided to the person conducting the test are true and correct to his knowledge.

[Rule 62-297.310(8), F.A.C]

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HSW

# KAISER ALUMINUM & CHEMICAL CORPORATION OPERATION AND MAINTENANCE MANUAL for DRYING COLUMN OPERATION Mulberry, Florida

Prepared for:

Kaiser Aluminum & Chemical Corp.

February 1998

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HSW

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## 1.0 INTRODUCTION

In accordance with rule 62-296.700(6) Florida Administrative Code (F.A.C.), an operation and maintenance (O & M) plan is being submitted for Kaiser Aluminum & Chemical Corporation's (Kaiser) drying column permit application.

Kaiser produces solid sodium fluorosilicate and potassium fluorosilicate by means of a liquid phase reaction between fluosilicic acid and sodium compounds or potassium compounds. The product is transferred from the reactors to settling tanks and then to the drying column. Dry product is transferred to the baghouse hopper and is then bagged. Figure 1 is a process flow diagram for the sodium and potassium fluorosilicate production.

The following plan addresses the control system used to treat the emission from the drying column operation.

## 2.0 PROCESS DESCRIPTION

During the drying column process, wet sodium fluorosilicate or potassium fluorosilicate from the vacuum filter is conveyed into a heated air stream for rapid drying. The dry product and air exhaust from the drying column discharge into a process cyclone for separation. The dry product exits the bottom of the cyclone and the air exhaust exits the top of the cyclone. Most of the air is recirculated to the drying column via the air heater. A small portion of the air (i.e., excess makeup air, combustion air) is transferred to a process venturi scrubber and then to the wet scrubber. The gas stream leaving the wet scrubber is vented to the atmosphere through a circular duct. Scrubbing water used in the venturi scrubber and the wet scrubber is sent to the scrubber sump and is recycled and used in the reaction tanks. Figure 2 is a process flow diagram for the drying column process.

# 3.0 INSPECTION AND MAINTENANCE INFORMATION

## 3.1 CYCLONE SEPARATOR

### 3.1.1 Specifications

The design specifications for the cyclone separator can be found in Table 1 below. In the event of cyclone separator replacement, use of equipment with equal or better performance will be utilized.

Table 1. Cyclone Separator Design Specifications

| | |
|---|---|
| Current Model Installed | No. 6 |
| Current Manufacturer | C-E Raymond (now ABB Raymond) |
| Design Flow Rate | 8,100 cfm |
| Design Efficiency | 95-97% |

Note: These design specifications are to be used as guidelines only and should not be construed as minimum or maximum conditions. Actual operating conditions may vary to accommodate production requirements.

### 3.1.2 Inspection and Maintenance

1. Visually inspect the unit monthly.

## 3.2 VENTURI SCRUBBER

### 3.2.1 Specifications and Operating Parameters

The specifications and operating parameters for the venturi scrubber can be found in Table 2 below. In the event of venturi scrubber replacement, use of equipment with equal or better performance will be utilized.

Table 2. Venturi Scrubber Specifications and Operating Parameters

| | |
|---|---|
| Current Model Installed | #4 Venturi (modified design) |
| Current Manufacturer | Sly Incorporated |
| Scrubber Water Flow Rate | 50 to 55 gpm |
| Pressure Drop | 10 to 18 inches WG |
| Efficiency | 98.5% (total for combined scrubbers) |

Note: The venturi scrubber shall operate in accordance with these parameters. The operating parameters are based on process readings measured during the November 20, 1997 compliance test. Operating parameters may be changed by demonstrating, in a compliance test, that emissions do not exceed the permit limit using alternative operating parameters. Acceptance of the compliance test by the Department will automatically amend the permit to the new operating parameters.

### 3.2.2 Inspection and Maintenance

Daily

1. Monitor pressure drop across the venturi scrubber and maintain at the operating levels shown in Table 2. Record pressure drop in the plant quality control (QC) log.

2. Monitor the water flow rate going to the venturi scrubber and maintain at the operating levels shown in Table 2. Record the water flow rate in the plant QC log.

3. If discrepancies exist, follow the appropriate procedures for QC log activities.

Monthly

1. Check the spray nozzles in the venturi scrubber and clean or replace if necessary.
2. Check the bottom of the venturi scrubber and clean if necessary.
3. Check the venturi damper blades for excessive wear or material build-up, and clean or repair if necessary.

## 3.3 WET SCRUBBER

### 3.3.1 Specifications and Operating Parameters

The specifications and operating parameters for the wet scrubber can be found in Table 3 below. In the event of wet scrubber replacement, use of equipment with equal or better performance will be utilized.

Table 3. Wet Scrubber Design Specifications and Operating Parameters

| | |
|---|---|
| Current Model Installed | #145 Impinjet (modified design) |
| Current Manufacturer | Sly Incorporated |
| Scrubber Water Flow Rate | 25 to 30 gpm at 5 to 6 psig |
| Pressure Drop | 0.5 to 3.5 inches WG |
| Efficiency | 98.5% (total for combined scrubbers) |

Note: The wet scrubber shall operate in accordance with these parameters. The operating parameters are based on process readings measured during the November 20, 1997 compliance test. Operating parameters may be changed by demonstrating, in a compliance test, that emissions do not exceed the permit limit using alternative operating parameters. Acceptance of the compliance test by the Department will automatically amend the permit to the new operating parameters.

### 3.3.2 Inspection and Maintenance

Daily

1. Monitor pressure drop across the wet scrubber and maintain at the operating levels shown in Table 3. Record pressure drop in the plant quality control (QC) log.

2. Monitor scrubber water pressure and flow rate and maintain at the operating levels shown in Table 3. Record the water pressure and the flow rate in the plant QC log.

3. If discrepancies exist, follow the appropriate procedures for QC log activities.

Monthly

1. Inspect the screen in the wet scrubber and change-out or clean if necessary.

FIGURE 3
PROCESS FLOW DIAGRAM
Kaiser Aluminum & Chemical Corp.

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**FIGURE 2**
**DRYING COLUMN**
**PROCESS FLOW DIAGRAM**

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