SPECIAL CONDITIONS

Permit Number 48455

## EMISSION STANDARDS

1. This permit covers only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates." Total emissions from these facilities shall not exceed the values stated on the maximum allowable emission rates table. **(12/05)**

## FEDERAL APPLICABILITY

2. This facility shall comply with the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources (NSPS) existing for the Standards of Performance for Metallic Mineral Processing Plants in the Title 40 Code of Federal Regulations (40 CFR) Part 60, Subparts A and LL.

3. This facility shall comply with the EPA regulations on NSPS existing for the Standards of Performance for Calciners and Dryers in Mineral Industries in 40 CFR Part 60, Subparts A and UUU.

4. This facility shall comply with the EPA regulations on NSPS existing for the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units in 40 CFR Part 60, Subparts A and Db.

## FUEL SPECIFICATIONS

5. Fuel for the No. 1 Hydrate Kiln and Nos. 8 and 9 Alumina Kilns shall be pipeline, sweet natural gas containing no more than 5 grains total sulfur and 0.25 grain hydrogen sulfide per 100 dry standard cubic feet. Use of any other fuel will require prior approval of the Executive Director of the Texas Commission on Environmental Quality (TCEQ). **(12/05)**

## OPACITY/VISIBLE EMISSION LIMITATIONS

6. Opacity of particulate matter emissions from fabric and cartridge baghouses listed in the permit shall not exceed 7 percent. Determination of compliance with this requirement shall be made by first observing for visible emissions during normal plant operations. Observations shall be made at least 15 feet and no more than 0.25 miles from the emission point. If visible emissions are observed from the emission point, opacity shall be determined using the U.S. EPA 40 CFR Part 60, Appendix A, Test Method (TM) 9. Contributions from uncombined water vapor shall not be included in determining compliance with this condition. Determination of compliance with this requirement shall be performed and the results recorded quarterly. **(6/10)**

7. Opacity of particulate matter emissions from all other sources listed in the permit shall not exceed 20 percent. Determination of compliance with this requirement shall be made by first observing for visible emissions during normal plant operations. Observations shall be made at least 15 feet and no more than 0.25 miles from the emission point. If visible emissions are observed from the emission point, opacity shall be determined using the U.S. EPA 40 CFR Part 60, Appendix A, TM 9. Contributions from uncombined water vapor shall not be included in determining compliance with this condition. Determination of compliance with this requirement shall be performed and the results recorded quarterly. **(6/10)**

8. There shall be no visible emissions leaving the plant buildings, and no visible fugitive emissions leaving the plant property. Observations for visible emissions shall be performed and recorded quarterly. The visible emissions determination shall be made during normal plant operations. Observations shall be made on the downwind property line for a minimum of six minutes. If visible emissions are observed, an evaluation must be accomplished in accordance with U.S. EPA 40 CFR Part 60, Appendix A, TM 22, using the criteria that visible emissions shall not exceed a cumulative 30 seconds in duration in any six-minute period. If visible emissions exceed the TM 22 criteria, corrective action to eliminate the source of excessive visible emissions shall be taken promptly and documented within 24 business hours of first observing the visible emissions. **(6/10)**

OPERATIONAL LIMITATIONS, WORK PRACTICES, AND PLANT DESIGN

9. Best management practices shall be used during the unloading of bauxite from sea-going vessels. These include (but are not limited to): (1) not unloading during times of high winds (30 miles per hour [mph] gusting for 10 consecutive minute readings as measured by company. Loading and unloading may be resumed when the wind speed drops below 30 mph); (2) treatment of dusty bauxite at the mine site with water and/or chemicals, (3) minimizing fugitive dust generation through operational procedures when transferring bauxite from ship to conveyor belt, and (4) any other plan approved by the TCEQ Corpus Christi Regional Office. Records of the wind speed shall be maintained on-site and made available to the TCEQ Regional Office or any air pollution control agency having jurisdiction.

   The wind measuring device will be located in the loading/unloading area of the plant site with the approval of the TCEQ Corpus Christi Regional Office. This equipment shall be properly installed as per the manufacturer=s recommendation. Cleaning and maintenance of the equipment shall be performed as recommended by the manufacturer and as necessary so that the equipment efficiency can be adequately maintained.

10. Power Boiler Nos. 1, 2, 3, 4, 5, 6, 7, 10, and 11 shall be permanently shut down. **(5/04)**

11. Gas Turbine Generators (Emission Point Nos. [EPNs] 19 and 20) shall be permanently shut down.

12. Kiln No. 9 shall be limited to operating 90 days per calendar year starting with the issuance date of this permit (Permit Number 48455).

    Kiln No. 8 shall be limited to operating a total of 6,764 hours per calendar year. The production of chemical products shall be limited to 4,600 hours per calendar year. The production of Smelter Grade Alumina (SGA) shall be limited to 2,164 hours, or the balance between 6,764 hours and the actual production of chemical products, whichever is greater, per calendar year. A calendar year is defined as January 1st through December 31st of any year. **(11/06)**

13. A fabric filter baghouse designed to meet an outlet grain loading of no more than 0.01 gr/dscf, properly installed and in good working order, shall control PM emissions from the south railroad track, alumina ship loader conveyor tunnel, alumina ship loader conveyor tower, hydrate loading, Lime Silos Nos. 1 and 2, and the Nos. 1 and 2 Lime Slaker (EPNs 30, 31, 34, 35, 53, 100A, 100B, 101, and 102). **(2/10)**

14. Alumina Kiln Nos. 2, 3, 4, 5, 6, and 7 shall be permanently shut down.

15. An electrostatic precipitator (ESP) designed to meet an outlet grain loading of no more than 0.022 grain per dry standard cubic foot (gr/dscf), properly installed and in good working order, shall control PM emissions from Alumina Kiln Nos. 1, 8, and 9. **(2/10)**

16. A dust collector designed to meet an outlet grain loading of no more than 0.01 gr/dscf, properly installed and in good working order, shall control PM emissions from the 90 1-1, 2-1, 2-2, and 3-1 through 3-4 Silos (EPNs 92 through 98). **(2/10)**

17. If significant air pollution emissions and/or nuisance conditions occur, additional controls shall be implemented immediately for that area that this condition is occurring. Actions may include (but are not limited to) reducing production, additional watering in those effected areas, and restricting certain plant operations that are the direct cause of the pollution condition. Records shall be kept on the date the pollution condition occurred, length of time it lasted, and the additional controls taken.

18. All air pollution abatement equipment shall be properly maintained and operated during the operation of these facilities. Cleaning and maintenance of the abatement equipment shall be performed as recommended by the manufacturer and as necessary so that the equipment efficiency can be adequately maintained.

19. All hooding, duct, and collection systems shall be effective in capturing emissions from their associated equipment and in preventing fugitive emissions from escaping. The hooding and duct system shall be maintained free of holes, cracks, and other conditions that would reduce the collection efficiency of the emission capture system.

20. All in-plant roads, parking areas, and other traffic areas shall be sprinkled with water, and/or be treated with effective dust suppressant(s), and/or be paved (with a cohesive hard surface) and cleaned as necessary to maintain compliance with all TCEQ rules and regulations. **(12/05)**

21. Total Bauxite Unloading Operations (EPNs 5F, 15B, and 15F) shall be limited to a maximum throughput of 4,202,000 tons of bauxite during any rolling 12-month period. **(2/10)**

22. Bauxite handling at the Marine Terminal (EPN 5F) and Dock Conveyor shall each be limited to 2,000 tons per hour (tph) until completion of the E-Cranes Nos. 1 and 2 (EPN 5F), the Bauxite Transfer Hoppers Nos. 1 and 2 (EPN 131) and Dock Conveyor (EPN 14F). Upon completion, the facility shall be limited to a total maximum bauxite throughput rate of 2,500 tph at E-Cranes Nos. 1 and 2 (EPN 5F), the Bauxite Transfer Hoppers Nos. 1 and 2 (EPN 131) and Dock Conveyor (EPN 14F). **(2/10)**

23. Upon completion of the Bauxite Transfer Hoppers Nos. 1 and 2 (EPN 131) and new Dock Conveyor (EPN 14F), a mesh screen, properly installed and in good working order, shall be used to reduce PM emissions from bauxite unloading operations. **(2/10)**

24. Upon completion of the Bauxite Transfer Hoppers Nos. 1 and 2 (EPN 131) and new Dock Conveyor (EPN 14F) a fogging water spray system, installed and in good working order, shall control PM emissions during all bauxite unloading operations. **(2/10)**

25. Alumina handling at the Marine Terminal (EPN 91F) shall be limited to 1,200 tph. **(12/05)**

26. The Bauxite Supplemental Unloading Barge and Bulkhead (EPNs 15B and 15F) shall be limited to a maximum unloading rate of 825 tph. **(10/09)**

27. During unloading operations, the Bauxite Supplemental Unloading Barge and Bulkhead (EPNs 15B and 15F) shall employ methods to ensure that the bucket makes contact with the ground/stockpile before releasing its contents. **(4/08)**

28. An environmentally sensitive chemical dust suppressant shall be used to reduce PM emissions from all Jamaican bauxite handling operations and from other bauxite handling operations if the opacity of emissions reaches 15 percent.

    Opacity readings shall be taken from a specific location determined to have the highest potential opacity from bauxite handling operations. **(2/10)**

29. During dry conditions, a fogging water spray system shall be employed at the unloading sites associated with the bauxite supplemental unloading barge, bauxite supplemental unloading bulkhead, and Bauxite Supplemental Stockpiles (EPNs 15B, 15F, and 16). **(10/09)**

30. Bauxite Supplemental Stockpiles (EPN 16) shall be limited to a maximum area of 4.8 acres and a maximum height of 45 feet tall. **(10/09)**

31. Loading and reclamation of the Bauxite Supplemental Stockpiles (EPN 16) shall each be limited to a maximum of 600 hours per year. **(10/09)**

32. The use of the Bauxite Supplemental Stockpiles (EPN 16) shall be limited to a total of 365 days following the issuance of this permit. **(10/09)**

33. The permit holder shall continue the ambient air quality monitoring and submit a monthly summary report formatted as established and found in 40 CFR § 60.7(d), FIGURE 1 for the duration of supplemental unloading system operations. Should off-property construction by entities not affiliated with Sherwin Alumina adversely affect monitoring data, the permit holder may request approval to curtail this monitoring by contacting the TCEQ Office of Permitting and Registration, Air Permits Division. **(10/09)**

34. The permit holder is authorized to use the supplemental unloading system until December 31, 2010. **(10/09)**

35. The permit holder shall continue the ambient air quality monitoring and submit a monthly summary report formatted as established and found in 40 CFR § 60.7(d),

FIGURE 1 for six months following full commissioning of the E-Cranes Nos. 1 and 2 (EPN 5F), the Bauxite Transfer Hoppers Nos. 1 and 2 (EPN 131), and new Dock Conveyor (EPN 14F). Should off-property construction by entities not affiliated with Sherwin Alumina adversely affect monitoring data, the permit holder may request approval to curtail this monitoring by contacting the TCEQ Office of Permitting and Registration, Air Permits Division. **(2/10)**

MAINTENANCE, STARTUP, AND SHUTDOWN EVENTS

36. Kiln No. 1 (EPN 32) shall be limited to a total of 9 startup and 9 shutdown events per calendar year. **(6/10)**

37. Kilns Nos. 8 and 9 (EPNs 12 and 29) shall each be limited to a total of 4 startup and 4 shutdown events per calendar year. **(6/10)**

38. Each purge period associated with the startup/shutdown events shall be limited to a maximum duration of 15 minutes with dampers open to a maximum of 50 percent. **(6/10)**

INITIAL DETERMINATION OF COMPLIANCE

39. The holder of this permit shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from No. 8 Rotary Alumina Kiln. The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. **(5/04)**

    A. The appropriate TCEQ Regional Office in the region where the source is located shall be contacted as soon as testing is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting.

    The notice shall include, at a minimum:

    (1) Date for pretest meeting.
    (2) Date sampling will occur.
    (3) Name of firm conducting sampling.
    (4) Type of sampling equipment to be used.
    (5) Method or procedure to be used in sampling.

    Additional information shall be provided upon request.

    The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.

    A written proposed description of any deviation from sampling procedures specified in permit conditions or the TCEQ or EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director must approve any deviation from specified sampling procedures.

    Requests to waive testing for any pollutant specified in B of this condition shall be submitted to the TCEQ Office of Permitting and Registration, Air Permits Division. Test waivers and/or alternate/equivalent procedure proposals for TCEQ required testing and/or New Source Performance

Standards testing which must have the EPA approval shall be submitted to the TCEQ Regional Office.

B. Air contaminants emitted from the No. 8 Rotary Alumina Kiln to be tested for include (but are not limited to) total PM equal to or less than 10 microns in diameter ($PM_{10}$), $NO_x$, and hydrogen fluoride. **(5/04)**

C. Sampling shall occur within 90 days after issuance of the permit and at such times as may be required by the Executive Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office. Additional time to comply with the applicable requirements of 40 CFR Part 60 and 40 CFR Part 61 requires the EPA approval and requests shall be submitted to the TCEQ Regional Office.

D. The kiln(s) shall operate at maximum production rates during stack emission testing. Primary operating parameters that enable determination of production rates shall be monitored and recorded during the stack test. These parameters are to be determined at the pretest meeting. If the plant is unable to operate at maximum rates during testing, then future production rates may be limited to the rates established during testing. Additional stack testing may be required when higher production rates are achieved.

E. Two copies of the final sampling report shall be forwarded to the TCEQ within 45 days after sampling is completed. Sampling reports shall comply with the attached provisions of Chapter 14 of the TCEQ Sampling Procedures Manual. The reports shall be distributed as follows: **(2/10)**

One copy to the TCEQ Corpus Christi Regional Office.
One copy to the TCEQ Office of Permitting and Registration, Air Permits Division.

40. Within 45 days of being informed by the Executive Director of the TCEQ that the staff has documented visible emissions from any of the baghouse collectors located on the conveyor system exceeding 5 percent averaged over six consecutive minutes, the holder of this permit shall schedule stack sampling for the affected source(s) and schedule a pretest meeting with the TCEQ Regional Office. Exception to this requirement includes times of startup and shutdown.

CONTINUOUS DETERMINATION OF COMPLIANCE

41. The holder of this permit shall install, calibrate, and maintain continuous emission

monitoring instruments to continuously monitor and record emissions of opacity from each of the Alumina Kilns Nos. 1, 8, and 9 stacks. The continuous emission monitors shall meet the performance specifications, pass the field tests, and meet the installation requirements and the data analysis and reporting requirements specified in Performance Specification No. 1, 40 CFR Part 60, Appendix B. The monitors shall be zeroed and spanned daily and corrective action taken when the instrument drift exceeds the amounts specified in 40 CFR Part 60, Appendix B. The monitoring data shall be maintained by the source for a period of two years and shall be made available to the TCEQ Executive Director or designated representative upon request. The data from the continuous emission monitors may be used to determine compliance with the conditions of this permit. The continuous emission monitors required by the permit shall be subject to all future quality assurance requirements as they are published in the TCEQ Sampling Procedures Manual.

RECORDKEEPING REQUIREMENTS

42. The holder of this permit shall maintain daily records of units in service. This should include (but not be limited to) the number of hours per day each piece of equipment kiln is operated.

    These records shall be maintained for a period of three years and made available at the request of personnel from the TCEQ.

43. Hours of operation for Alumina Kiln No. 8 shall be kept for the production of Smelter Grade Alumina and chemical products. These records shall be maintained for three calendar years. A calendar year is defined as January 1st through December 31st for any year. **(5/04)**

44. The wind charts shall be maintained for a two-year period. All maintenance records on calibration, repairs, and downtime shall be kept for a two-year period and made available upon request to the TCEQ Regional Office or any air pollution control agency having jurisdiction. Compliance with restrictions on the unloading of bauxite will be determined from these records.

45. The following records shall be maintained on-site for a rolling 24-month period and made available upon request to representatives of the TCEQ or any air pollution control agency having jurisdiction: **(6/10)**

    A. Daily opacity readings from the marine unloading terminal and dock conveyor;

B. Annual hours of operation of the marine unloading terminal and dock conveyor on a rolling 12-month basis;

C. Hourly alumina production and alumina loading (in tons);

D. Annual alumina production and alumina loading (in tons) based on a rolling 12-month basis;

E. Fuel consumption recorded in cubic feet of natural gas;

F. Hourly bauxite unloading and handling (in tons);

G. Annual bauxite unloading (in tons) on a rolling 12-month basis;

H. Fugitive emissions opacity during handling operations for non-Jamaican bauxite;

I. Use of the chemical dust suppressant during bauxite handling operations; and

J. The monthly ambient air quality monitoring reports for the duration of monitoring operations as established in this permit;

K. Quarterly observations for visible emissions and/or opacity determinations;

L. Quarterly observations for visible emissions from the plant buildings;

M. Annual startup and shutdown events;

N. Time duration of purge periods associated with startup and shutdown events; and

O. Damper positions during purge periods associated with startup and shutdown events (in percentage open).

Dated June 1, 2010