



State of Utah

GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

Department of
Environmental Quality

Amanda Smith
Executive Director

DIVISION OF AIR QUALITY
Cheryl Heying
Director

10922

Title V Operating Permit

PERMIT NUMBER: 5700006002

DATE OF PERMIT: July 1, 2008

Date of Last Revision: September 24, 2009

This Operating Permit is issued to, and applies to the following:

Name of Permittee:

Westinghouse Electric Company LLC
10,000 West 900 South
Ogden, UT 84404

Permitted Location:

Zirconium/Hafnium Production Plant
10,000 West 900 South
Ogden, UT 84404

UTM coordinates: 397,000 m Easting, 4,568,030 m Northing
SIC code: 3356 (Rolling, Drawing, & Extruding of Nonferrous Metals, Except Copper & Aluminum)

UTAH AIR QUALITY BOARD

By:

Prepared By:

M. Cheryl Heying, Executive Secretary

Brandy Cannon

ENFORCEABLE DATES AND TIMELINES

The following dates or timeframes are referenced in
Section I: General Provisions of this permit.

Annual Certification Due: August 31 of every calendar year that this permit is in force.

Renewal application due: January 1, 2013

Permit expiration date: July 1, 2013

Definition of "prompt": written notification within 14 days.

ABSTRACT

Westinghouse Electric Company, LLC, as Western Zirconium, operates a zirconium metal production and fabrication plant in Weber County, Utah. The zirconium is produced by purifying dissolved zirconium oxychloride crystals through chemical separation that produces zirconium oxide. The zirconium oxide is chlorinated to provide zirconium tetrachloride. Retorting of the zirconium tetrachloride with magnesium in the reduction process produces zirconium metal and magnesium chloride. The zirconium metal is fabricated into plate, bar, wire, trex, and extruded tubeshell products. Western Zirconium is located in a National Ambient Air Quality Standard Attainment Area, and is a major source for emissions of HAPs consisting primarily of chlorine, Hydrochloric Acid (HCl) and Methyl Isobutyl Ketone (MIBK).

OPERATING PERMIT HISTORY

Permit/Activity	Date Issued	Recorded Changes
Title V administrative amendment - enhanced AO (Project #OPP0109220013)	9/24/2009	Changes: Incorporate DAQE-AN0109220018-09, dated 7/20/2009, including addition of a packed tower wet scrubber to control fugitive ammonia emissions from the existing anhydrous ammonia offloading operations and aqueous ammonia storage system, removal of redundant limit on the #7: Paint Spray Booth, and language updates.
Title V renewal application (Project #OPP0109220005)	7/1/2008	Changes: The renewal permit includes DAQE-AN0109220017-08, dated 2/20/2008, which removed: emission unit #1: Sand and Coke Preparation (zircon sand unloading silos, coke unloading silos, sand/coke dryer with baghouse, coke holding silo, zircon sand holding silo, ball mill & milled storage silo with baghouse and enclosed conveying system), emission unit #8.c: Magnesium Separation, and parts of emission unit #3: Feed Make-Up (feed bin with baghouse, de-agglomerator with baghouse, HCl absorber scrubber). The opacity condition on unit #8.c: Magnesium Separation and the flow rate condition for the HCL Absorber Scrubber under unit #3: Feed Make-Up have been removed from the renewal permit. CAM applies to unit 2: Chlorination and unit 3: Feed Make-Up in the renewal permit.
Title V administrative amendment - enhanced AO (Project #OPP0109220012)	3/12/2007	Changes: to incorporate changes approved in DAQE-AN0922015-06, dated 12/20/2006, including the following: removal of the dissolution process and its associated requirements, replacement of a wet scrubber on the bench grinder and removal of its associated PM ₁₀ limit and stack testing requirement, addition of two new hydrochloric acid tanks with emissions directed to an existing caustic scrubber and then to the separation's kiln control system stack, a hafnium oxide production increase, clarification of the equipment included under the separation's kiln control system stack and correction of typographical errors.
Title V administrative amendment by DAQ (Project #OPP0109220003)	6/15/2005	Changes: to correct a typographical error on the bench grinder particulate loading limit.
Title V administrative amendment by DAQ (Project #OPP0109220002)	4/8/2005	Changes: to incorporate changes to the limits for nitric acid emissions as approved in DAQE-AN0922011-04. DAQE-AN0922012-05 was issued during processing of this permit, and references have been updated to reflect this latest approval order, though it did not change anything in this permit.

Title V initial application (Project #OPP0109220001)	1/13/2003	
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Issued under authority of Utah Code Ann. Section 19-2-104 and 19-2-109.1, and in accordance with Utah Administrative Code R307-415 Operating Permit Requirements.

All definitions, terms and abbreviations used in this permit conform to those used in Utah Administrative Code R307-101 and R307-415 (Rules), and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the Rules.

Where a permit condition in Section I, General Provisions, partially recites or summarizes an applicable rule, the full text of the applicable portion of the rule shall govern interpretations of the requirements of the rule. In the case of a conflict between the Rules and the permit terms and conditions of Section II, Special Provisions, the permit terms and conditions of Section II shall govern except as noted in Provision I.M, Permit Shield.

SECTION I: GENERAL PROVISIONS

I.A Federal Enforcement.

All terms and conditions in this permit, including those provisions designed to limit the potential to emit, are enforceable by the EPA and citizens under the Clean Air Act of 1990 (CAA) except those terms and conditions that are specifically designated as "State Requirements". (R307-415-6b)

I.B Permitted Activity(ies).

Except as provided in R307-415-7b(1), the permittee may not operate except in compliance with this permit. (See also Provision I.E, Application Shield)

I.C Duty to Comply.

I.C.1 The permittee must comply with all conditions of the operating permit. Any permit noncompliance constitutes a violation of the Air Conservation Act and is grounds for any of the following: enforcement action; permit termination; revocation and reissuance; modification; or denial of a permit renewal application. (R307-415-6a(6)(a))

I.C.2 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. (R307-415-6a(6)(b))

I.C.3 The permittee shall furnish to the Executive Secretary, within a reasonable time, any information that the Executive Secretary may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Executive Secretary copies of records required to be kept by this permit or, for information claimed to be confidential, the permittee may furnish such records directly to the EPA along with a claim of confidentiality. (R307-415-6a(6)(e))

I.C.4 This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance shall not stay any permit condition, except as provided under R307-415-7f(1) for minor permit modifications. (R307-415-6a(6)(c))

I.D Permit Expiration and Renewal.

I.D.1 This permit is issued for a fixed term of five years and expires on the date shown under "Enforceable Dates and Timelines" at the front of this permit. (R307-415-6a(2))

I.D.2 Application for renewal of this permit is due on or before the date shown under "Enforceable Dates and Timelines" at the front of this permit. An application may be submitted early for any reason. (R307-415-5a(1)(c))

I.D.3 An application for renewal submitted after the due date listed in I.D.2 above shall be accepted for processing, but shall not be considered a timely application and shall not relieve the permittee of any enforcement actions resulting from submitting a late application. (R307-415-5a(5))

I.D.4 Permit expiration terminates the permittee's right to operate unless a timely and complete renewal application is submitted consistent with R307-415-7b (see also Provision I.E, Application Shield) and R307-415-5a(1)(c) (see also Provision I.D.2). (R307-415-7c(2))

I.E **Application Shield.**

If the permittee submits a timely and complete application for renewal, the permittee's failure to have an operating permit will not be a violation of R307-415, until the Executive Secretary takes final action on the permit renewal application. In such case, the terms and conditions of this permit shall remain in force until permit renewal or denial. This protection shall cease to apply if, subsequent to the completeness determination required pursuant to R307-415-7a(3), and as required by R307-415-5a(2), the applicant fails to submit by the deadline specified in writing by the Executive Secretary any additional information identified as being needed to process the application. (R307-415-7b(2))

I.F **Severability.**

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. (R307-415-6a(5))

I.G **Permit Fee.**

I.G.1 The permittee shall pay an annual emission fee to the Executive Secretary consistent with R307-415-9. (R307-415-6a(7))

I.G.2 The emission fee shall be due on October 1 of each calendar year or 45 days after the source receives notice of the amount of the fee, whichever is later. (R307-415-9(4)(a))

I.H **No Property Rights.**

This permit does not convey any property rights of any sort, or any exclusive privilege. (R307-415-6a(6)(d))

I.I **Revision Exception.**

No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit. (R307-415-6a(8))

I.J **Inspection and Entry.**

I.J.1 Upon presentation of credentials and other documents as may be required by law, the permittee shall allow the Executive Secretary or an authorized representative to perform any of the following:

- I.J.1.a Enter upon the permittee's premises where the source is located or emissions related activity is conducted, or where records are kept under the conditions of this permit. (R307-415-6c(2)(a))
- I.J.1.b Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit. (R307-415-6c(2)(b))
- I.J.1.c Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practice, or operation regulated or required under this permit. (R307-415-6c(2)(c))
- I.J.1.d Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with this permit or applicable requirements. (R307-415-6c(2)(d))

I.J.2 Any claims of confidentiality made on the information obtained during an inspection shall be made pursuant to Utah Code Ann. Section 19-1-306. (R307-415-6c(2)(e))

I.K Certification.

Any application form, report, or compliance certification submitted pursuant to this permit shall contain certification as to its truth, accuracy, and completeness, by a responsible official as defined in R307-415-3. 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. (R307-415-5d)

I.L Compliance Certification.

I.L.1 Permittee shall submit to the Executive Secretary an annual compliance certification, certifying compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. This certification shall be submitted no later than the date shown under "Enforceable Dates and Timelines" at the front of this permit, and that date each year following until this permit expires. The certification shall include all the following (permittee may cross-reference this permit or previous reports): (R307-415-6c(5))

I.L.1.a The identification of each term or condition of this permit that is the basis of the certification;

I.L.1.b The identification of the methods or other means used by the permittee for determining the compliance status with each term and condition during the certification period. Such methods and other means shall include, at a minimum, the monitoring and related recordkeeping and reporting requirements in this permit. If necessary, the permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the Act, which prohibits knowingly making a false certification or omitting material information;

I.L.1.c 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 method or means designated in Provision I.L.1.b. The certification shall identify each deviation and take it into account in the compliance certification. The certification shall also identify as possible exceptions to compliance any periods during which compliance is required and in which an excursion or exceedance as defined under 40 CFR Part 64 occurred; and

- I.L.1.d Such other facts as the Executive Secretary may require to determine the compliance status.
- I.L.2 The permittee shall also submit all compliance certifications to the EPA, Region VIII, at the following address or to such other address as may be required by the Executive Secretary: (R307-415-6c(5)(d))

Environmental Protection Agency, Region VIII
Office of Enforcement, Compliance and Environmental Justice
(mail code 8ENF)
1595 Wynkoop Street
Denver, CO 80202-1129

I.M Permit Shield.

- I.M.1 Compliance with the provisions of this permit shall be deemed compliance with any applicable requirements as of the date of this permit, provided that:
- I.M.1.a Such applicable requirements are included and are specifically identified in this permit, or (R307-415-6f(1)(a))
- I.M.1.b Those requirements not applicable to the source are specifically identified and listed in this permit. (R307-415-6f(1)(b))
- I.M.2 Nothing in this permit shall alter or affect any of the following:
- I.M.2.a The emergency provisions of Utah Code Ann. Section 19-1-202 and Section 19-2-112, and the provisions of the CAA Section 303. (R307-415-6f(3)(a))
- I.M.2.b The liability of the owner or operator of the source for any violation of applicable requirements under Utah Code Ann. Section 19-2-107(2)(g) and Section 19-2-110 prior to or at the time of issuance of this permit. (R307-415-6f(3)(b))
- I.M.2.c The applicable requirements of the Acid Rain Program, consistent with the CAA Section 408(a). (R307-415-6f(3)(c))
- I.M.2.d The ability of the Executive Secretary to obtain information from the source under Utah Code Ann. Section 19-2-120, and the ability of the EPA to obtain information from the source under the CAA Section 114. (R307-415-6f(3)(d))

I.N Emergency Provision.

- I.N.1 An "emergency" is any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this 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 preventive maintenance, careless or improper operation, or operator error. (R307-415-6g(1))
- I.N.2 An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the affirmative defense is demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- I.N.2.a An emergency occurred and the permittee can identify the causes of the emergency. (R307-415-6g(3)(a))
- I.N.2.b The permitted facility was at the time being properly operated. (R307-415-6g(3)(b))
- I.N.2.c During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in this permit. (R307-415-6g(3)(c))
- I.N.2.d The permittee submitted notice of the emergency to the Executive Secretary within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirement of Provision I.S.2.c below. (R307-415-6g(3)(d))
- I.N.3 In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof. (R307-415-6g(4))
- I.N.4 This emergency provision is in addition to any emergency or upset provision contained in any other section of this permit. (R307-415-6g(5))

I.O **Operational Flexibility.**

Operational flexibility is governed by R307-415-7d(1).

I.P **Off-permit Changes.**

Off-permit changes are governed by R307-415-7d(2).

I.Q **Administrative Permit Amendments.**

Administrative permit amendments are governed by R307-415-7e.

I.R **Permit Modifications.**

Permit modifications are governed by R307-415-7f.

I.S **Records and Reporting.**

I.S.1 Records.

I.S.1.a The records of all required monitoring data and support information shall be retained by the permittee for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records, all original strip-charts or appropriate recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. (R307-415-6a(3)(b)(ii))

I.S.1.b For all monitoring requirements described in Section II, Special Provisions, the source shall record the following information, where applicable: (R307-415-6a(3)(b)(i))

I.S.1.b.1 The date, place as defined in this permit, and time of sampling or measurement.

- I.S.1.b.2 The date analyses were performed.
- I.S.1.b.3 The company or entity that performed the analyses.
- I.S.1.b.4 The analytical techniques or methods used.
- I.S.1.b.5 The results of such analyses.
- I.S.1.b.6 The operating conditions as existing at the time of sampling or measurement.
- I.S.1.c Additional record keeping requirements, if any, are described in Section II, Special Provisions.
- I.S.2 Reports.
- I.S.2.a Monitoring reports shall be submitted to the Executive Secretary every six months, or more frequently if specified in Section II. All instances of deviation from permit requirements shall be clearly identified in the reports. (R307-415-6a(3)(c)(i))
- I.S.2.b All reports submitted pursuant to Provision I.S.2.a shall be certified by a responsible official in accordance with Provision I.K of this permit. (R307-415-6a(3)(c)(i))
- I.S.2.c The Executive Secretary shall be notified promptly of any deviations from permit requirements including those attributable to upset conditions as defined in this permit, the probable cause of such deviations, and any corrective actions or preventative measures taken. Prompt, as used in this condition, shall be defined as written notification within the number of days shown under "Enforceable Dates and Timelines" at the front of this permit. Deviations from permit requirements due to unavoidable breakdowns shall be reported in accordance with the provisions of R307-107. (R307-415-6a(3)(c)(ii))
- I.S.3 Notification Addresses.
- I.S.3.a All reports, notifications, or other submissions required by this permit to be submitted to the Executive Secretary are to be sent to the following address or to such other address as may be required by the Executive Secretary:
- Utah Division of Air Quality
P.O. Box 144820
Salt Lake City, UT 84114-4820
Phone: 801-536-4000
- I.S.3.b All reports, notifications or other submissions required by this permit to be submitted to the EPA should be sent to one of the following addresses or to such other address as may be required by the Executive Secretary:
- For annual compliance certifications:
- Environmental Protection Agency, Region VIII
Office of Enforcement, Compliance and Environmental Justice
(mail code 8ENF)
1595 Wynkoop Street
Denver, CO 80202-1129

For reports, notifications, or other correspondence related to permit modifications, applications, etc.:

Environmental Protection Agency, Region VIII
Office of Partnerships & Regulatory Assistance Air & Radiation Program
(mail code 8P-AR)
1595 Wynkoop Street
Denver, CO 80202-1129
Phone: 303-312-6440

I.T Reopening for Cause.

I.T.1 A permit shall be reopened and revised under any of the following circumstances:

I.T.1.a New applicable requirements become applicable to the permittee and there is a remaining permit term of three or more years. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless the terms and conditions of this permit have been extended pursuant to R307-415-7c(3), application shield. (R307-415-7g(1)(a))

I.T.1.b The Executive Secretary or EPA determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit. (R307-415-7g(1)(c))

I.T.1.c EPA or the Executive Secretary determines that this permit must be revised or revoked to assure compliance with applicable requirements. (R307-415-7g(1)(d))

I.T.1.d Additional applicable requirements are to become effective before the renewal date of this permit and are in conflict with existing permit conditions. (R307-415-7g(1)(e))

I.T.2 Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the Acid Rain Program. Upon approval by EPA, excess emissions offset plans shall be deemed to be incorporated into this permit. (R307-415-7g(1)(b))

I.T.3 Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. (R307-415-7g(2))

I.U Inventory Requirements.

An emission inventory shall be submitted in accordance with the procedures of R307-150, Emission Inventories. (R307-150)

I.V Title IV and Other, More Stringent Requirements

Where an applicable requirement is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, Acid Deposition Control, both provisions shall be incorporated into this permit. (R307-415-6a(1)(b))

SECTION II: SPECIAL PROVISIONS

- II.A **Emission Unit(s) Permitted to Discharge Air Contaminants.**
(R307-415-4(3)(a) and R307-415-4(4))
- II.A.1 **Permitted Source**
Source-wide
- II.A.2 **#12: Baghouses**
Baghouses and Fabric Filters used to control emissions from plant operations.
- II.A.3 **#13: Scrubbers**
Scrubbers used to control emissions from plant operations.
- II.A.4 **#2: Chlorination**
Chlorinator hopper with filter, chlorinator reactors with filter systems, jet fume scrubber and separator, caustic scrubber, and venturi scrubber/separator exhausting to the chlorination system control stack (stack 12).
- II.A.5 **#3: Feed Make-Up**
Gaseous effluent passed through a jet fume scrubber then venturi scrubber prior to exhausting to a stack (stack 100).
- II.A.6 **#4: Misc. Separations Processes**
Zirconium oxide drum area with baghouse; MIBK storage tank; anhydrous ammonia offloading operations and aqueous ammonia storage system both controlled by a packed tower wet scrubber.
- II.A.7 **#4b: Separation's Kiln Control System**
Kiln control system stack with two electrostatic precipitators in series, and a caustic scrubber that control the zirconium oxide kiln, the hafnium oxide kiln, and two hydrochloric (HCl) acid tanks. The zirconium oxide kiln is also controlled by a venturi scrubber and quench tower.
- II.A.8 **#4c: Separation's Thermal Oxidizer**
Thermal oxidizer (fume incinerator) with pre-scrubber.
- II.A.9 **#4d: Separation's Hafnium Kiln**
Hafnium kiln combustion vent.
- II.A.10 **#5: Misc. Reduction Processes**
Pre-evac furnace, magnesium chloride bin & crucible and retort natural gas lances. No unit-specific applicable requirements.
- II.A.11 **#5b: Reduction's Control System Process Stack**
Pad 24 venturi scrubber and pad 88 venturi scrubber used to control emissions from the reduction process.
- II.A.12 **#6: Misc. Fabrication Processes**
Recycle Wheelabrator with a baghouse, Billet Machining Shot blaster with a baghouse, Extrusion System, Room Blaster with a rotoclone, Plate Blaster with a baghouse, Slab Blaster with a baghouse and the Hot Mill Vent.
- II.A.13 **#6a: Fabrication Round, Flat & Specialty Pickle**
Acid pickling operations with a scrubber.

- II.A.14 **#6b: Fabrication Bench Grinder**
Bench Grinder with a wet impeller scrubber.
- II.A.15 **#7: Paint Spray Booth**
Painting spray booth which utilizes dry filters and has a 1.2 MMBtu/hr heater.
- II.A.16 **#8: Miscellaneous/Utilities**
Units consist of: shipping wood shop with a baghouse and Lime Silo. No unit-specific applicable requirements.
- II.A.17 **#8a: Zirconium Sulfate Soda Ash Bin**
Soda ash bin and silo with baghouse.
- II.A.18 **#8b: Fines Oven**
Zirconium/hafnium fines oven with afterburner.
- II.A.19 **#9: Utility Boilers**
Two boilers rated at 16.75 MMBtu/hr each (installed in 1979). No unit-specific applicable requirements.
- II.A.20 **#10: Emergency Generators**
North and South diesel emergency generators. No unit-specific applicable requirements.
- II.A.21 **#11: Fuel Storage Tanks**
Consists of one 4,000-gallon and one 750-gallon diesel storage tank and one 2,000-gallon gasoline storage tank. No unit-specific applicable requirements.

II.B Requirements and Limitations

The following emission limitations, standards, and operational limitations apply to the permitted facility as indicated:

II.B.1 Conditions on permitted source (Source-wide)

II.B.1.a Condition:

Visible emissions shall be no greater than 20 percent opacity unless otherwise specified in this permit. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.1.a.1 Monitoring:

Unless otherwise specified, a visual opacity survey of each affected emission unit shall be performed once each quarter that the unit operates. Permittee is not required to perform surveys on natural gas combustion sources and petroleum storage tanks. The visual opacity survey shall be performed by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If visible emissions other than condensed water vapor are observed from an emission unit, an opacity determination of that emission unit shall be performed by a certified observer within 24 hours of the initial survey. The opacity determination shall be performed in accordance with 40 CFR 60, Appendix A, Method 9.

II.B.1.a.2 **Recordkeeping:**

A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is performed, a notation of the determination will be made in the log. All data required by 40 CFR 60, Appendix A, Method 9 shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.1.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.b **Condition:**

At all times, including periods of startup, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate any affected emission units, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. [Origin: DAQE-AN0109220018-09] [R307-401-8(2), R307-401-8(1)(a)(BACT)]

II.B.1.b.1 **Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.1.b.2 **Recordkeeping:**

Permittee shall document activities performed to assure proper operation and maintenance. Records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.1.b.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.1.c **Condition:**

The permittee shall comply with the applicable requirements for servicing of motor vehicle air conditioners pursuant to 40 CFR 82, Subpart B - Servicing of Motor Vehicle Air Conditioners. [Origin: 40 CFR 82] [40 CFR 82.30(b)]

II.B.1.c.1 **Monitoring:**

The permittee shall certify, in the annual compliance statement required in Section I of this permit, its compliance status with the requirements of 40 CFR 82, Subpart B.

II.B.1.c.2 **Recordkeeping:**

All records required in 40 CFR 82, Subpart B shall be maintained consistent with the requirements of Provision S.1 in Section I of this permit.

II.B.1.c.3 **Reporting:**

All reports required in 40 CFR 82, Subpart B shall be submitted as required. There are no additional reporting requirements except as outlined in Section I of this permit.

II.B.1.d **Condition:**

The permittee shall comply with the applicable requirements for recycling and emission reduction for class I and class II refrigerants pursuant to 40 CFR 82, Subpart F - Recycling and Emissions Reduction. [Origin: 40 CFR 82] [40 CFR 82.150(b)]

II.B.1.d.1 **Monitoring:**

The permittee shall certify, in the annual compliance statement required in Section I of this permit, its compliance status with the requirements of 40 CFR 82, Subpart F.

II.B.1.d.2 **Recordkeeping:**

All records required in 40 CFR 82, Subpart F shall be maintained consistent with the requirements of Provision S.1 in Section I of this permit.

II.B.1.d.3 **Reporting:**

All reports required in 40 CFR 82, Subpart F shall be submitted as required. There are no additional reporting requirements except as outlined in Section I of this permit.

II.B.2 **Conditions on #12: Baghouses**

II.B.2.a **Condition:**

Visible emissions shall be no greater than 10 percent opacity, for all baghouse exhausts, unless otherwise noted. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.2.a.1 **Monitoring:**

A visual survey of each affected emission unit shall be performed once each quarter that the unit operates, by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.2.a.2 **Recordkeeping:**

A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is performed, a notation of the determination will be made in the log. All data required by 40 CFR 60, Appendix A, Method 9 shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.2.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.3 **Conditions on #13: Scrubbers**

II.B.3.a **Condition:**

Visible emissions shall be no greater than 15 percent opacity, for all scrubber exhausts, unless otherwise noted. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.3.a.1 **Monitoring:**

A visual survey of each affected emission unit shall be performed once each quarter that the unit operates, by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. The individual is not required to be a certified visible emissions observer (VEO). If any visible emissions are observed, an opacity determination of that emission unit shall be performed by a certified VEO in accordance with 40 CFR 60, Appendix A, Method 9 within 24 hours of the initial observation.

II.B.3.a.2 **Recordkeeping:**

A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is performed, a notation of the determination will be made in the log. All data required by 40 CFR 60, Appendix A, Method 9 shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.3.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.4 **Conditions on #2: Chlorination**

II.B.4.a **Condition:**

Emissions of PM₁₀ shall be no greater than 6.64 pounds per hour from the chlorination area venturi. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.4.a.1 **Monitoring:**

- a) Stack testing shall be performed as specified below:
 - (1) Frequency. Emissions shall be tested every two (2) years. The source may also be directed to test at any time by the Executive Secretary.
 - (2) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.
 - (3) Methods.
 - (a) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.
 - (b) For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a. Method 202 shall be used to measure condensible particulate matter.
 - (c) For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, or 5e as appropriate. The back half condensibles shall also be tested using a method specified by the Executive Secretary. All particulate captured

- shall be considered PM₁₀.
- (d) The back half condensibles shall not be used for compliance demonstration but shall be used for inventory purposes.
 - (4) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.
 - (5) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years based on a 30-day average.
- b) Pressure drop across the venturi scrubber shall be used as an indicator to provide reasonable assurance of compliance with the PM₁₀ emission limitation as specified below.
- (1) Measurement Approach: The permittee shall measure the pressure drop across the venturi scrubber using a differential pressure transducer.
 - (2) Indicator Range: An excursion is defined as a 24-hour average differential pressure below 17 inches of water gauge. Excursions trigger an inspection, corrective action, and a reporting requirement.
 - (3) Performance Criteria:
 - (a) Data Representativeness: The transducer monitors the static pressures upstream and downstream of the scrubber's venturi throat to determine pressure differential. It shall be accurate to within +/- one inch water gauge.
 - (b) QA/QC Practices and Criteria: The transducer shall be calibrated according to the manufacturer's recommendations or at least annually. The transducer shall be compared to an electronic calibration tester quarterly.
 - (c) Monitoring Frequency: Pressure drop across the scrubber shall be measured once every 15 minutes.
 - (d) Data Collection Procedure: Pressure drop measurements across the venturi scrubber shall be collected and recorded at least once every 15 minutes. Hourly average pressure drop values shall be used to calculate the 24-hour average for comparison to the indicator range.
 - (e) Averaging Period: 24-hour.
 - c) During subsequent stack tests required in a) above, the permittee shall acquire new test data to evaluate or update the indicator range and excursion level for the indicator. Any resultant changes to the monitoring shall be addressed in accordance with 40 CFR 64.7(e).

II.B.4.a.2

Recordkeeping:

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit. The permittee shall maintain records of test data from the most recent stack test and any calculations used to evaluate or revise the indicator range and excursion level.

In addition to the recordkeeping requirement described in Provision I.S.1 of this permit, the permittee shall maintain a file of the occurrence and duration of any excursion, corrective actions taken, and any other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. (40 CFR 64.9(b))

II.B.4.a.3

Reporting:

In addition to the reporting requirements in Provision I.S.2 of this permit,

- (a) Monitoring reports shall include, at a minimum, the following information, as applicable:
 - (i) Summary information on the number, duration and cause (including unknown cause, if

- applicable) of excursions or exceedances, as applicable, and the corrective actions taken; (40 CFR 64.9(a)(2)(i))
- (ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). (40 CFR 64.9(a)(2)(ii))
- (b) The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. Reports shall include test data and any calculations used to evaluate or revise the indicator range and excursion level.

II.B.5 Conditions on #3: Feed Make-Up

II.B.5.a Condition:

Emissions of Hydrochloric acid (Hydrogen chloride) shall be no greater than 0.33 pounds per hour and 19.0 ppm_{dv} from the feed make-up stack (stack 100). [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.5.a.1 Monitoring:

- a) Stack testing shall be performed as specified below:
 - (1) Frequency. Emissions shall be tested every two (2) years. The source may also be directed to test at any time by the Executive Secretary.
 - (2) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.
 - (3) Methods.
 - (a) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.
 - (b) 40 CFR 60, Appendix A, Method 26 or 26A or alternate test method approved by the Executive Secretary shall be used to determine the pollution emission rate.
 - (c) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.
 - (4) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.
 - (5) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years based on a 30-day average.
- b) Pressure drop across the venturi scrubber shall be used as an indicator to provide reasonable assurance of compliance with the HCl emission limitation as specified below.
 - (1) Measurement Approach: The permittee shall measure the pressure drop across the venturi scrubber using a differential pressure transducer.
 - (2) Indicator Range: An excursion is defined as a 24-hour average differential pressure below 7 inches of water gauge. Excursions trigger an inspection, corrective action, and a reporting requirement.
 - (3) Performance Criteria:
 - (a) Data Representativeness: The transducer monitors the static pressures upstream and downstream of the scrubber's venturi throat to determine pressure differential. It shall be accurate to within +/- one inch water gauge.
 - (b) QA/QC Practices and Criteria: The transducer shall be calibrated according to the manufacturer's recommendations or at least annually. The transducer shall be compared to an electronic calibration tester quarterly.

- (c) Monitoring Frequency: Pressure drop across the scrubber shall be measured continuously.
 - (d) Data Collection Procedure: Pressure drop measurements across the venturi scrubber shall be collected and recorded at least once every 15 minutes. Hourly average pressure drop values shall be used to calculate the 24-hour average for comparison to the indicator range.
 - (e) Averaging Period: 24-hour.
- c) During subsequent stack tests required in a) above, the permittee shall acquire new test data to evaluate or update the indicator range and excursion level for the indicator. Any resultant changes to the monitoring shall be addressed in accordance with 40 CFR 64.7(e).

II.B.5.a.2

Recordkeeping:

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit. The permittee shall maintain records of test data from the most recent stack test and any calculations used to evaluate or revise the indicator range and excursion level.

In addition to the recordkeeping requirement described in Provision I.S.1 of this permit, the permittee shall maintain a file of the occurrence and duration of any excursion, corrective actions taken, and any other supporting information required to be maintained under 40 CFR 64 (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Instead of paper records, the permittee may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements. (40 CFR 64.9(b))

II.B.5.a.3

Reporting:

In addition to the reporting requirements in Provision I.S.2 of this permit,

- (a) Monitoring reports shall include, at a minimum, the following information, as applicable:
 - (i) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken; (40 CFR 64.9(a)(2)(i))
 - (ii) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable). (40 CFR 64.9(a)(2)(ii))
- (b) The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. Reports shall include test data and any calculations used to evaluate or revise the indicator range and excursion level.

II.B.5.b

Condition:

Visible emissions shall be no greater than 5 percent opacity from fugitive and point sources associated with the Feed Make-up Process or control facilities. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.5.b.1

Monitoring:

A visual survey of the affected emission unit shall be performed once each quarter that the unit operates. The survey shall be conducted by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9 or 58 FR 61640 Method 203A. The individual is not required to be a certified visual observer. If visible emissions other than condensed water vapor are observed from an emission point, an opacity determination of that emission point shall be performed by a certified observer within 24 hours of the initial visual emission observation. The

opacity determination shall be performed in accordance with 40 CFR 60, Appendix A, Method 9 or 58 FR 61640 Method 203A using a 6-minute averaging time.

II.B.5.b.2 Recordkeeping:

A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is indicated, a notation of the determination will be made in the log. All data required by Method 203A and Method 9 shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.5.b.3 Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.5.c Condition:

Scrubbing liquid flow shall be no less than 200 gpm for more than 5 minutes in any 60-minute period, except during start-up and shut-down, to the jet fume scrubber while the Feed Make-Up unit is operated. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.5.c.1 Monitoring:

The permittee shall install, calibrate, maintain and operate a monitoring device for the measurement of the scrubbing liquid flow rate to the scrubber. Except for periods of calibration and maintenance, the monitoring device shall continuously measure the scrubbing liquid flow rate. The monitoring device must be accurate to within plus or minus 5% of the design scrubber liquid flow rate and must be calibrated in accordance with manufacturer's instructions on an annual basis.

II.B.5.c.2 Recordkeeping:

Continuous recording of the monitoring device is not required. A record of the flow shall be made on a weekly basis while the unit is in operation. If the flow is less than the stated limit above during a weekly reading, except during start-up and shut-down, within 24 hours the permittee shall record the flow each minute for a 60 minute period to verify compliance. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.5.c.3 Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.5.d Condition:

Change in pressure of the gas stream shall be no less than 6 inches w.g. for more than 5 minutes in any 60-minute period, except during start-up and shut-down, through the venturi scrubber while the Feed Make-Up unit is operated. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.5.d.1 Monitoring:

The permittee shall install, calibrate, maintain and operate a monitoring device for the measurement of the change in pressure of the gas stream through the scrubber. Except for periods of calibration and maintenance, the monitoring shall continuously measure the change in pressure of the gas stream. The monitoring device must be accurate to within plus or minus one inch water gauge and must be calibrated in accordance with the manufacturer's instructions on an

annual basis.

II.B.5.d.2 **Recordkeeping:**

Continuous recording of the monitoring device is not required. A record of the pressure drop shall be made on a weekly basis while unit is in operation. If the pressure drop is less than the stated limit above, except during start-up or shut-down, during a weekly reading, within 24 hours the permittee shall record the pressure drop each minute for a 60 minute period. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.5.d.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.6 **Conditions on #4: Misc. Separations Processes**

II.B.6.a **Condition:**

The permittee shall notify the Executive Secretary in writing when the installation of new equipment in the affected unit has been completed and is operational, as an initial compliance inspection is required. To ensure proper credit when notifying the Executive Secretary, send your correspondence to the Executive Secretary, attn: Compliance Section.

If installation has not been completed by January 20, 2011, the Executive Secretary shall be notified in writing on the status of the installation. At that time, the Executive Secretary shall require documentation of the continuous installation of the operation and may revoke construction approval in accordance with R307-401-18, UAC. [Origin: R307-401-18, DAQE-AN0109220018-09] [R307-401-18, R307-401-8(1)(a)(BACT)]

II.B.6.a.1 **Monitoring:**

Records required for this permit condition will serve as monitoring.

II.B.6.a.2 **Recordkeeping:**

As applicable, the permittee shall maintain a copy of each notification required by this permit condition in accordance with Provision I.S.1 of this permit.

II.B.6.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.7 **Conditions on #4b: Separation's Kiln Control System**

II.B.7.a **Condition:**

Emissions of SO₂ shall be no greater than 0.267 pounds per hour. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.7.a.1 **Monitoring:**

Stack testing shall be performed as specified below:

- (a) Frequency. Emissions shall be tested every two (2) years. The source may also be directed to test at any time by the Executive Secretary.

- (b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.
- (c) Methods.
 - (1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.
 - (2) 40 CFR 60, Appendix A, Method 6, 6A, 6B, or 6C shall be used to determine the pollutant emission rate.
 - (3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.
- (d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.
- (e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years based on a 30-day average.

II.B.7.a.2 **Recordkeeping:**

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.7.a.3 **Reporting:**

The results of stack testing shall be submitted to the Executive Secretary within 60 days of completion of the testing. Reports shall clearly identify results as compared to permit limits and indicate compliance status. There are no additional reporting requirements for this provision except those specified in Section I of this permit.

II.B.8 **Conditions on #4c: Separation's Thermal Oxidizer**

II.B.8.a **Condition:**

Operating temperature shall be no less than 1400 degrees F for more than 5 minutes in any 60-minute period, except during periods of startup and shut-down, when the part of the Separations Process that is controlled by the Thermal Oxidizer is in operation. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.8.a.1 **Monitoring:**

The permittee shall install, calibrate, maintain and operate monitoring device for the measurement of the temperature in the thermal oxidizer. Except for periods of calibration and maintenance, the monitoring device shall continuously measure the temperature. The monitoring device must be accurate to within plus or minus 25 degrees F and must be calibrated in accordance with manufacturer's instructions on an annual basis.

II.B.8.a.2 **Recordkeeping:**

Continuous recording of the monitoring device is not required. A record of the temperature shall be made on a weekly basis while the unit is in operation. If the temperature is less than the stated limit during a weekly reading, except during start-up and shut-down, within 24 hours the permittee shall record the temperature each minute for a 60 minute period to verify compliance. All records shall be maintained in accordance with Provision I.S.1 of this permit.

- II.B.8.a.3 **Reporting:**
- There are no reporting requirements for this provision except those specified in Section I of this permit.
- II.B.9 **Conditions on #4d: Separation's Hafnium Kiln**
- II.B.9.a **Condition:**
- Production of hafnium oxide shall be no greater than 70 tons per rolling 12-month total. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]
- II.B.9.a.1 **Monitoring:**
- While in operation, production shall be recorded daily in an operations log. Monthly production shall be determined on a rolling 12-month total. Based on the first day of each month, a new 12-month total shall be calculated using data from the previous 12 months. Monthly calculations shall be made no later than 20 days after the end of each calendar month using operations logs or records.
- II.B.9.a.2 **Recordkeeping:**
- Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.
- II.B.9.a.3 **Reporting:**
- There are no reporting requirements for this provision except those specified in Section I of this permit.
- II.B.10 **Conditions on #5b: Reduction's Control System Process Stack**
- II.B.10.a **Condition:**
- The offgas from the reduction process Pad 24 venturi scrubbing system shall be routed to the reduction process Pad 88 venturi scrubber during upset conditions, if the 15% opacity limitation is going to be exceeded. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]
- II.B.10.a.1 **Monitoring:**
- Records required for this permit condition will serve as monitoring.
- II.B.10.a.2 **Recordkeeping:**
- Permittee shall record any incident that the Pad 24 scrubber offgas was routed to the Pad 88 scrubber due to a likely exceedance of the opacity limitation in the Pad 24 scrubber. All records shall be kept in accordance with Provision I.S.1. of this permit.
- II.B.10.a.3 **Reporting:**
- There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.10.b Condition:

Change in pressure of the gas stream shall be no less than 20 inches w.g. for the Pad 24 scrubber for more than 5 minutes in any 60-minute period, except during start-up and shut-down of the operation of the processes being scrubbed by Pad 24 scrubber. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.10.b.1 Monitoring:

The permittee shall install, calibrate, maintain and operate a monitoring device for the measurement of the change in pressure of the gas stream through the scrubber. Except for periods of calibration and maintenance, the monitoring shall continuously measure the change in pressure of the gas stream. The monitoring device must be accurate to within plus or minus one inch water gauge and must be calibrated in accordance with the manufacturer's instructions on an annual basis.

II.B.10.b.2 Recordkeeping:

Continuous recording of the monitoring device is not required. A record of the pressure drop shall be made on a weekly basis while unit is in operation. If the pressure drop is less than the stated limit above, except during start-up or shut-down, during a weekly reading, within 24 hours the permittee shall record the pressure drop each minute for a 60 minute period. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.10.b.3 Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.10.c Condition:

Scrubbing liquid flow shall be no less than 15 gpm for the Pad 24 scrubber for more than 5 minutes in any 60-minute period, except during start-up and shut-down of the operation of the processes being scrubbed. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.10.c.1 Monitoring:

The permittee shall install, calibrate, maintain and operate a monitoring device for the measurement of the scrubbing liquid flow rate to the scrubber. Except for periods of calibration and maintenance, the monitoring device shall continuously measure the scrubbing liquid flow rate. The monitoring device must be accurate to within plus or minus 5% of the design scrubber liquid flow rate and must be calibrated in accordance with manufacturer's instructions on an annual basis.

II.B.10.c.2 Recordkeeping:

Continuous recording of the monitoring device is not required. A record of the flow shall be made on a weekly basis while the unit is in operation. If the flow is less than the stated limit above during a weekly reading, except during start-up and shut-down, within 24 hours the permittee shall record the flow each minute for a 60 minute period. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.10.c.3 Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.10.d Condition:

Change in pressure of the gas stream shall be no less than 22 inches w.g. for the Pad 88 scrubber for more than 5 minutes in any 60-minute period, except during start-up and shut-down of the operation of the processes being scrubbed by Pad 88 scrubber. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.10.d.1 Monitoring:

The permittee shall install, calibrate, maintain and operate a monitoring device for the measurement of the change in pressure of the gas stream through the scrubber. Except for periods of calibration and maintenance, the monitoring shall continuously measure the change in pressure of the gas stream. The monitoring device must be accurate to within plus or minus one inch water gauge and must be calibrated in accordance with the manufacturer's instructions on an annual basis.

II.B.10.d.2 Recordkeeping:

Continuous recording of the monitoring device is not required. A record of the pressure drop shall be made on a weekly basis while unit is in operation. If the pressure drop is less than the stated limit above, except during start-up or shut-down, during a weekly reading, within 24 hours the permittee shall record the pressure drop each minute for a 60 minute period. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.10.d.3 Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.10.e Condition:

Scrubbing liquid flow shall be no less than 60 gpm for the Pad 88 scrubber for more than 5 minutes in any 60-minute period, except during start-up and shut-down of the operation of the processes being scrubbed. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.10.e.1 Monitoring:

The permittee shall install, calibrate, maintain and operate a monitoring device for the measurement of the scrubbing liquid flow rate to the scrubber. Except for periods of calibration and maintenance, the monitoring device shall continuously measure the scrubbing liquid flow rate. The monitoring device must be accurate to within plus or minus 5% of the design scrubber liquid flow rate and must be calibrated in accordance with manufacturer's instructions on an annual basis.

II.B.10.e.2 Recordkeeping:

Continuous recording of the monitoring device is not required. A record of the flow shall be made on a weekly basis while the unit is in operation. If the flow is less than the stated limit above during a weekly reading, except during start-up and shut-down, within 24 hours the permittee shall record the flow each minute for a 60 minute period. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.10.e.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.11

Conditions on #6: Misc. Fabrication Processes

II.B.11.a

Condition:

Hours of operation shall be no greater than 8 hours per day and no more than 2,080 hours per rolling 12-month total for sandblasting operations in the blast room. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.11.a.1

Monitoring:

Operating hours shall be recorded using a meter or operations log. Hours shall be recorded at least once a day when the equipment operates. Monthly hours of operation shall be determined on a rolling 12-month total. Based on the first day of each month, a new 12-month total shall be calculated using data from the previous 12 months. Monthly calculations shall be made no later than 20 days after the end of each calendar month using operations logs or records.

II.B.11.a.2

Recordkeeping:

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.11.a.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.11.b

Condition:

Fugitive emission shall be no greater than 10 percent opacity for fugitives associated with the blast room. [Origin: DAQE-AN0109220018-09] [R307-206, R307-401-8(1)(a)(BACT)]

II.B.11.b.1

Monitoring:

- (a) A visual survey of the affected emission unit shall be performed once each quarter that the unit operates. The survey shall be conducted by an individual trained on the observation procedures of 58 FR 61640 Method 203A. The individual is not required to be a certified visual observer. If visible emissions other than condensed water vapor are observed from an emission point, an opacity determination of that emission point shall be performed by a certified observer within 24 hours of the initial visual emission observation. The opacity determination shall be performed in accordance with 58 FR 61640 Method 203A using a 6-minute averaging time.
- (b) Visible emissions from unconfined blasting shall be measured at the densest point of the emission after a major portion of the spent abrasive has fallen out, at a point not less than five feet nor more than twenty-five feet from the impact surface from any single abrasive blasting nozzle.
- (c) An unconfined blasting operation that uses multiple nozzles shall be considered a single source unless it can be demonstrated by the permittee that each nozzle, measured separately, meets the emission and performance standards provided in R307-206-2 through 4.
- (d) Visible emissions from confined blasting shall be measured at the densest point after the air contaminant leaves the enclosure.

II.B.11.b.2

Recordkeeping:

A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is indicated, a notation of the determination will be made in the log. All data required by 58 FR 61640 Method 203A shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.11.b.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.12

Conditions on #6a: Fabrication Round, Flat & Specialty Pickle

II.B.12.a

Condition:

Emissions of nitric acid (HNO₃) shall not exceed 0.62 lb/hr and 2.9 mg/m³ from the S-8 Pickling acid scrubber. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.12.a.1

Monitoring:

Stack testing shall be performed as specified below:

- (a) Frequency. Emissions shall be tested every two (2) years. The source may also be directed to test at any time by the Executive Secretary.
- (b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.
- (c) Methods.
 - (1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.
 - (2) An appropriate test method shall be used to determine the pollutant concentration. The test method shall be submitted for approval prior to testing or may be assigned by the Executive Secretary.
 - (3) 40 CFR 60, Appendix A, Method 2 shall be used to determine the volumetric flow rate.
- (d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.
- (e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

II.B.12.a.2

Recordkeeping:

Results of all stack testing shall be recorded and maintained in accordance with the associated test method and Provision S.1 in Section I of this permit.

II.B.12.a.3

Reporting:

In addition to the reporting requirements of Section I of this permit, the permittee shall submit the results of the stack tests to the Executive Secretary within 60 days of completion of the testing. Results shall clearly identify test results as compared to permit limits and indicate compliance status.

II.B.13 **Conditions on #6b: Fabrication Bench Grinder**

II.B.13.a **Condition:**

Visible emissions shall be no greater than 10 percent opacity, from the grinding bench or fugitive emissions from sources associated with the grinding bench. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.13.a.1 **Monitoring:**

A visual survey of the affected emission unit shall be performed once each quarter that the unit operates. The survey shall be conducted by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9 or 58 FR 61640 Method 203A. The individual is not required to be a certified visual observer. If visible emissions other than condensed water vapor are observed from an emission point, an opacity determination of that emission point shall be performed by a certified observer within 24 hours of the initial visual emission observation. The opacity determination shall be performed in accordance with 40 CFR 60, Appendix A, Method 9 or 58 FR 61640 Method 203A using a 6-minute averaging time.

II.B.13.a.2 **Recordkeeping:**

A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is indicated, a notation of the determination will be made in the log. All data required by 40 CFR 60, Appendix A, Method 9 or 58 FR 61640 Method 203A shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.13.a.3 **Reporting:**

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.13.b **Condition:**

Change in pressure of the gas stream through the bench grinder scrubber shall be no less than 7.7 inches w.g. for more than 5 minutes in any 60-minute period, except during start-up and shut-down of the bench grinder. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.13.b.1 **Monitoring:**

The permittee shall install, calibrate, maintain and operate a monitoring device for the measurement of the change in pressure of the gas stream through the scrubber. Except for periods of calibration and maintenance, the monitoring shall continuously measure the change in pressure of the gas stream. The monitoring device must be accurate to within plus or minus one inch water gauge and must be calibrated in accordance with the manufacturer's instructions on an annual basis.

II.B.13.b.2 **Recordkeeping:**

Continuous recording of the monitoring device is not required. A record of the pressure drop shall be made on a weekly basis while unit is in operation. If the pressure drop is less than the stated limit above, except during start-up or shut-down, during a weekly reading, within 24 hours the permittee shall record the pressure drop each minute for a 60 minute period. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.13.b.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.14

Conditions on #7: Paint Spray Booth

II.B.14.a

Condition:

Emissions of VOC shall be no greater than 2.94 tons per rolling 12-month total from the paint booth and paint booth associated operations. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.14.a.1

Monitoring:

Emissions of VOCs from the paint booth shall be determined by maintaining a record of VOC-containing materials used each month. By the first day of each month, a new 12-month total shall be calculated using data from the previous 12 months. Monthly calculations shall be made no later than 20 days after the end of each calendar month.

II.B.14.a.2

Recordkeeping:

Records shall include the following data for each item used:

1. Name of the VOC emitting material, such as: paint, adhesive, solvent, thinner, reducers, chemicals, compounds, toxics, isocyanates, etc;
2. Quantity of VOC-containing materials used (gallons);
3. Density of VOC-containing materials used (pounds per gallon);
4. Percent by weight of all VOCs in each material.
5. The total quantity of VOCs used each month shall be the sum of the VOC usage calculated for each material by the following procedure:

$$\text{VOC usage (lbs)} = [\% \text{ VOC by Weight}/100] \times [\text{Density (lb/gal)}] \times [\text{Quantity Consumed (gal)}]$$

$$\text{VOC usage (tons)} = \text{VOC usage (lbs)} / 2000$$

The quantity of VOC reclaimed for the month shall be similarly quantified and subtracted from the quantities calculated in step (5), to provide the monthly total VOC emissions. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.14.a.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.14.b

Condition:

Visible emission shall be no greater than 10 percent opacity for the spray booth and air heater as well as any fugitive sources associated with the heater. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.14.b.1

Monitoring:

A visual survey of the affected emission unit shall be performed once each quarter that the unit operates. The survey shall be conducted by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9 or 58 FR 61640 Method 203A. The individual is not required to be a certified visual observer. If visible emissions other than condensed water vapor are observed from an emission point, an opacity determination of that emission point shall be

performed by a certified observer within 24 hours of the initial visual emission observation. The opacity determination shall be performed in accordance with 40 CFR 60, Appendix A, Method 9 or 58 FR 61640 Method 203A using a 6-minute averaging time.

II.B.14.b.2 Recordkeeping:

A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is indicated, a notation of the determination will be made in the log. All data required by Method 203A and Method 9 shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.14.b.3 Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.14.c Condition:

The permittee shall use only natural gas or propane as a primary fuel in the paint booth heater. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.14.c.1 Monitoring:

Records required for this permit condition will serve as monitoring.

II.B.14.c.2 Recordkeeping:

Records shall be kept for any period that a fuel other than natural gas or propane is used. These records shall be recorded in a log that is kept in a readily accessible location onsite. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.14.c.3 Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.14.d Condition:

Consumption of fiberglass resin shall be no greater than 60 gallons per rolling 12-month total. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.14.d.1 Monitoring:

Compliance with the limitation shall be demonstrated through a rolling 12-month total. Based on the first day of each month, a new 12-month total shall be calculated using data from the previous 12 months. Monthly calculations shall be made no later than 20 days after the end of each calendar month.

II.B.14.d.2 Recordkeeping:

Daily consumption or usage records shall be maintained for all periods of operation. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.14.d.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.15

Conditions on #8a: Zirconium Sulfate Soda Ash Bin

II.B.15.a

Condition:

Hours of operation shall be no greater than 52 hours per rolling 12-month period and throughput shall not exceed 6.0 tons per rolling 24-hour period. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.15.a.1

Monitoring:

When operating, throughput and hours shall be recorded in an operations log. Throughput shall be monitored on a 24-hour basis. 24-hour totals, defined as midnight to midnight, shall be determined by noon for the previous day of operation. Monthly hours of operation shall be determined on a rolling 12-month total. Based on the first day of each month, a new 12-month total shall be calculated using data from the previous 12 months. Monthly calculations shall be made no later than 20 days after the end of each calendar month using logs.

II.B.15.a.2

Recordkeeping:

Results of monitoring shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.15.a.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.16

Conditions on #8b: Fines Oven

II.B.16.a

Condition:

Production of zirconium/hafnium fines shall be no greater than 500 pounds per one-hour period, based on a 24 hour average, and 210 tons per rolling 12-month total. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.16.a.1

Monitoring:

While in operation, production shall be recorded in an operations log. Production shall be recorded for each 24-hour period. A 24-hour period shall be defined as midnight to midnight. Hourly production shall be calculated by dividing the 24-hour total by 24. Hourly production shall be determined by noon each day for the previous day of operation. Monthly production shall be determined on a rolling 12-month total. Based on the first day of each month, a new 12-month total shall be calculated using data from the previous 12 months. Monthly calculations shall be made no later than 20 days after the end of each calendar month using the logs.

II.B.16.a.2

Recordkeeping:

An operator's log shall be maintained which shall include the results of the monitoring required. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.16.a.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.16.b

Condition:

Visible emissions shall be no greater than 10 percent opacity, from the fines oven or fugitive emissions from sources associated with the oven. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.16.b.1

Monitoring:

A visual survey of the affected emission unit shall be performed once each quarter that the unit operates. The survey shall be conducted by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9 or 58 FR 61640 Method 203A. The individual is not required to be a certified visual observer. If visible emissions other than condensed water vapor are observed from an emission point, an opacity determination of that emission point shall be performed by a certified observer within 24 hours of the initial visual emission observation. The opacity determination shall be performed in accordance with 40 CFR 60, Appendix A, Method 9 or 58 FR 61640 Method 203A using a 6-minute averaging time.

II.B.16.b.2

Recordkeeping:

A log of the visual opacity survey(s) shall be maintained in accordance with Provision I.S.1 of this permit. If an opacity determination is indicated, a notation of the determination will be made in the log. All data required by 40 CFR 60, Appendix A, Method 9 or 58 FR 61640 Method 203A shall also be maintained in accordance with Provision I.S.1 of this permit.

II.B.16.b.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.B.16.c

Condition:

The permittee shall use only natural gas or propane as a primary fuel for the fines oven. [Origin: DAQE-AN0109220018-09] [R307-401-8(1)(a)(BACT)]

II.B.16.c.1

Monitoring:

Records required for this permit condition will serve as monitoring.

II.B.16.c.2

Recordkeeping:

Records shall be kept for any period that a fuel other than natural gas or propane is used. These records shall be recorded in a log that is kept in a readily accessible location onsite. All records shall be maintained in accordance with Provision I.S.1 of this permit.

II.B.16.c.3

Reporting:

There are no reporting requirements for this provision except those specified in Section I of this permit.

II.C **Emissions Trading**
 (R307-415-6a(10))

Not applicable to this source.

II.D **Alternative Operating Scenarios.**
 (R307-415-6a(9))

Not applicable to this source.

SECTION III: PERMIT SHIELD

A permit shield was not granted for any specific requirements.

SECTION IV: ACID RAIN PROVISIONS

This source is not subject to Title IV. This section is not applicable.

REVIEWER COMMENTS

This operating permit incorporates all applicable requirements contained in the following documents:

Incorporates	DAQE-AN0109220018-09 dated July 20, 2009
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1. Comment on an item originating in 40 CFR 64 regarding Permitted Source
CAM applicability: 40 CFR 64 applies to unit 2: Chlorination and unit 3: Feed Make-Up. CAM requirements are included in Conditions II.B.4.a and II.B.5.a. [2/13/2008] [Last updated July 28, 2009]

2. Comment on an item originating in historical approval order regarding Permitted Source
MACT applicability: AO Condition #13 in DAQE-AN0922011-04 stated that the RICE (63 ZZZZ) and Boiler (63 DDDDD) MACTs apply to this source. The source has reviewed the MACTs and made the following determinations:

DDDDD: WZ has two boilers and two process heaters that are potentially subject to this MACT. All four units are fired solely on gaseous fuel. The process heaters are less than 10 MMBtu/hr each. The boilers are classified as firetube boilers. In accordance with 63.7506(c)(3), there are no notifications or other requirements for this subpart or subpart A.

ZZZZ: The source has two reciprocating stationary diesel engines rated greater than 500 bhp, but they meet the definition of "existing emergency stationary RICE". In accordance with 63.6590(b)(3), these units do not have to meet the requirements of this MACT, subpart A, or initial notification requirements.

Based on this, the MACT language was deleted from DAQE-AN0922012-05. Although it references prior approval orders, this comment remains in the permit for informational purposes. [12/27/2006] [Last updated July 28, 2009]

3. Comment on an item originating in 40 CFR 60.110b regarding #11: Fuel Storage Tanks
Petroleum storage tanks are not subject to NSPS Subpart Kb: The fuel storage tanks are not subject to NSPS Subpart Kb due to their size (less than 10,566 gal.) [Note: under revisions to Kb in 2004, this comment is no longer strictly relevant, but remains as an informational item.] [1/5/2005] [Last updated July 28, 2009]

4. Comment on an item originating in DAQE-AN01090220018-09 regarding #4: Misc. Separations Processes
Opacity and notification requirements: The packed tower wet scrubber, added to control fugitive ammonia emissions from the anhydrous ammonia offloading operations and aqueous ammonia storage system, is subject to the opacity limit for scrubbers in condition II.B.3.a and the notification requirement in II.B.6.a. [5/28/2009] [Last updated July 28, 2009]

5. Comment on an item originating in this permit regarding #4b: Separation's Kiln Control System
Removal of installation notice requirement: The permittee has confirmed that installation was completed in a letter dated September 8, 2008 and received by DAQ on September 10, 2008. The installation notice requirement, condition II.B.6.b in the 7/1/2008 operating permit, has been removed. [May 28, 2009] [Last updated July 28, 2009]

6. Comment on an item originating in DAQE-AN01090220018-09 regarding #4c: Separation's Thermal Oxidizer
Temperature limit for Thermal Oxidizer: The source has indicated that some processes in the separation process could stay operational while the thermal oxidizer was not in service. Additionally, these processes would not release emissions. Therefore, the condition indicates that the operating temperature of the thermal oxidizer must be maintained while separation processes controlled by the thermal oxidizer are in operation. The temperature is not required to be maintained in the thermal oxidizer if there are no processes, which are controlled by the thermal oxidizer, in operation within the separations system. [4/1/2005] [Last updated July 28, 2009]

7. Comment on an item originating in DAQE-AN01090220018-09 regarding #7: Paint Spray Booth Removal of consumption limit: The referenced approval order removed the paint and thinner consumption limit on the affected emission unit because it was redundant to the VOC limit. It has also been removed from the operating permit. [May 28, 2009] [Last updated July 28, 2009]