

**CLARK COUNTY**  
**DEPARTMENT OF AIR QUALITY**  
*4701 W Russell Road, Suite 200, Las Vegas, Nevada 89118*  
**Part 70 Operating Permit**  
**Source: 19**  
Issued in accordance with the  
Clark County Air Quality Regulations (AQR)

**ISSUED TO: Titanium Metals Corporation**

**SOURCE LOCATION:**

Titanium Metals Corporation, Henderson Facility  
181 North Water Street  
Henderson, NV 89015  
Las Vegas Valley, Nevada  
Hydrographic Area: 212

**COMPANY ADDRESS:**

Titanium Metals Corporation  
P.O. Box 2128  
Henderson, Nevada 89009

**NATURE OF BUSINESS:**

SIC 3339: Primary Smelting and Refining of Nonferrous Metals, Except Copper and Aluminum  
NAICS 331419: Primary Smelting and Refining of Nonferrous Metals (except Copper and Aluminum)

**RESPONSIBLE OFFICIAL:**

Name: Bruce Graff  
Title: Plant Manager  
Phone: (702) 564-2544  
Fax Number: (702) 565-2689

**Permit Issuance Date: December 23, 2011**  
**Minor Permit Revision: July 27, 2012**

**Expiration Date: December 22, 2016**

**ISSUED BY: CLARK COUNTY DEPARTMENT OF AIR QUALITY**



Tina Gingras  
Control Officer, Clark County DAQ

## EXECUTIVE SUMMARY

Titanium Metals Corporation (TIMET) is a combined titanium sponge and ingot facility located in the BMI Complex near Henderson, Nevada. The location of the source is described as portions of T22S, R62E, Section 12 in Las Vegas Valley, Clark County, Nevada. TIMET is situated in hydrographic area 212 (Las Vegas Valley). Las Vegas Valley is designated as nonattainment area for PM<sub>10</sub> and ozone (regulated through NO<sub>x</sub> and VOC) and is in attainment for all other criteria air pollutants.

TIMET is a major source for CO and a minor source for PM<sub>10</sub>, NO<sub>x</sub>, SO<sub>x</sub>, VOC and HAP. The sponge plant (Chlorination, Magnesium Recovery, and Vacuum Distillation Process (VDP)) has a nameplate capacity of 32 million pounds per year of titanium sponge production. The melt shop utilizes the Vacuum Arc Re-melt (VAR) process for the production of titanium ingots from sponge, scrap, and master alloy additions. TIMET is capable of producing approximately 140 million pounds of titanium tetrachloride (TiCl<sub>4</sub>) and 30 million pounds of titanium ingots per year. This Part 70 Operating Permit (OP) is issued based on the Title V renewal application submitted on November 19, 2008, and the subsequent revisions and supplemental information.

The following table summarizes the source PTE for each regulated air pollutant for all emission units addressed by this Part 70 OP:

<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>VOC</b>	<b>HAP</b>
<b>63.90</b>	<b>56.15</b>	<b>11.29</b>	<b>394.10</b>	<b>85.11</b>	<b>6.93</b>	<b>2.80</b>

The renewed Part 70 Operating Permit (OP) was issued on December 23, 2011. This minor revision of the Part 70 OP is based on the revision application submitted on January 25, 2012 and supplemental information submitted on January 26, 2012.

Pursuant to AQR 12.5, all terms and conditions in Sections I through IV and Attachment 1 in this permit are federally enforceable unless explicitly denoted otherwise.

**TABLE OF CONTENTS**

**I. ACRONYMS.....5**

**II. GENERAL CONDITIONS .....6**

**A. General Requirements.....6**

**B. Modification, Revision, Renewal Requirements .....6**

**C. Reporting/Notifications/Providing Information Requirements.....7**

**D. Compliance Requirements.....8**

**E. Performance Testing Requirements .....10**

**III. EMISSION UNITS AND APPLICABLE REQUIREMENTS.....12**

**A. RAW MATERIAL STORAGE AND HANDLING .....12**

    1. Emission Units .....12

    2. Emission Limitations .....12

    3. Production Limitations .....12

    4. Control Requirements .....13

    5. Monitoring .....13

    6. Testing.....13

    7. Recordkeeping.....13

**B. CHLORINATION PROCESS.....14**

    1. Emission Units .....14

    2. Emission Limitations .....14

    3. Production Limitations .....16

    4. Control Requirements .....16

    5. Monitoring .....17

    6. Testing.....18

    7. Recordkeeping.....19

**C. PURIFICATION PROCESS.....20**

    1. Emission Units .....20

    2. Emission Limitations .....20

    3. Production Limitations .....20

    4. Control Requirements .....20

    5. Monitoring .....21

    6. Testing.....21

    7. Recordkeeping.....21

**D. VACUUM DISTILLATION PROCESS (VDP).....21**

    1. Emission Units .....21

    2. Emission Limitations .....22

    3. Production Limitations .....22

    4. Control Requirements .....22

    5. Monitoring .....23

    6. Testing.....24

    7. Recordkeeping.....24

**E. MAGNESIUM RECOVERY PROCESS.....24**

    1. Emission Units .....24

    2. Emission Limitations .....25

    3. Production Limitations .....26

    4. Control Requirements .....26

    5. Monitoring .....27

    6. Testing.....27

	7.	Recordkeeping.....	27
F.		<b>BLENDING PROCESS.....</b>	<b>28</b>
	1.	Emission Units .....	28
	2.	Emission Limitations .....	28
	3.	Production Limitations .....	28
	4.	Control Requirements .....	28
	5.	Monitoring .....	29
	6.	Testing.....	29
	7.	Recordkeeping.....	29
G.		<b>MELT/RECLAIM PROCESS .....</b>	<b>29</b>
	1.	Emission Units .....	29
	2.	Emission Limitations .....	30
	3.	Production Limitations .....	30
	4.	Control Requirements .....	30
	5.	Monitoring .....	31
	6.	Testing.....	31
	7.	Recordkeeping.....	31
H.		<b>MISCELLANEOUS PROCESSES .....</b>	<b>32</b>
	1.	Emission Units .....	32
	2.	Emission Limitations .....	32
	3.	Production Limitations .....	32
	4.	Control Requirements .....	33
	5.	Monitoring .....	34
	6.	Testing.....	35
	7.	Recordkeeping.....	35
I.		<b>WASTEWATER CONSERVATION FACILITY.....</b>	<b>35</b>
	1.	Emission Units .....	35
	2.	Emission Limitations .....	36
	3.	Production Limitations .....	36
	4.	Control Requirements .....	36
	5.	Monitoring .....	36
	6.	Testing.....	37
	7.	Recordkeeping.....	37
J.		<b>GROUNDWATER REMEDIATION SYSTEM.....</b>	<b>37</b>
	1.	Emission Units .....	37
	2.	Emission Limitations .....	37
	3.	Production Limitations .....	38
	4.	Control Requirements .....	38
	5.	Monitoring .....	38
	6.	Testing.....	38
	7.	Recordkeeping.....	38
IV.		<b>OTHER REQUIREMENTS .....</b>	<b>39</b>
		<b>ATTACHMENT 1 .....</b>	<b>40</b>

## I. ACRONYMS

**Table I-1: List of Acronyms**

<b>Acronym</b>	<b>Term</b>
AQR	Clark County Air Quality Regulations
ACT	Clean Air Act
ATC	Authority to Construct
CAAA	Clean Air Act, as amended
CEMS	Continuous Emissions Monitoring System
CFC	Chlorofluorocarbon
CFR	United States Code of Federal Regulations
CO	Carbon Monoxide
CTG	Combustion Turbine-Generator
DAQ	Clark County Department of Air Quality
DLN	Dry Low-NO <sub>x</sub>
EPA	United States Environmental Protection Agency
EU	Emission Unit
HAP	Hazardous Air Pollutant
HCFC	Hydrochlorofluorocarbon
HHV	Higher Heating Value
HP	Horse Power
kW	kilowatt
LHV	Lower Heating Value
MMBtu	Millions of British Thermal Units
M/N	Model Number
MW	Megawatt
NAICS	North American Industry Classification System
NO <sub>x</sub>	Nitrogen Oxides
NRS	Nevada Revised Statutes
OP	Operating Permit
PM <sub>10</sub>	Particulate Matter less than 10 microns
ppm	Parts per Million
ppmvd	Parts per Million, Volumetric Dry
PTE	Potential to Emit
QA/QC	Quality Assurance/Quality Control
RATA	Relative Accuracy Test Audits
RMP	Risk Management Plan
SCC	Source Classification Codes
scf	Standard Cubic Feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
S/N	Serial Number
SO <sub>x</sub>	Sulfur Oxides
TCS	Toxic Chemical Substance
ULN	Ultra Low-NO <sub>x</sub>
VOC	Volatile Organic Compound

## II. GENERAL CONDITIONS

### A. General Requirements

1. The Permittee must comply with all conditions of the Part 70 Operating Permit. Any permit noncompliance may constitute a violation of the AQRs, Nevada law, and the Act, and is grounds for any of the following: enforcement action; permit termination; revocation and re-issuance; revision; or denial of a permit renewal application. [AQR 12.5.2.6(g)(1)]
2. If any term or condition of this permit becomes invalid as a result of a challenge to a portion of this permit, the other terms and conditions of this permit shall not be affected and shall remain valid. [AQR 12.5.2.6(f)]
3. The Permittee shall pay all permit fees pursuant to AQR Section 18. [AQR 12.5.2.6(h)]
4. The permit does not convey any property rights of any sort, or any exclusive privilege. [AQR 12.5.2.6(g)(4)]
5. The Permittee shall not hinder, obstruct, delay, resist, interfere with, or attempt to interfere with the Control Officer, or any individual to whom authority has been duly delegated for the performance of any duty by the AQR. [AQR 5.1.1]
6. The Permittee shall allow the Control Officer, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to enter the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, to: [AQR 12.5.2.8(b)]
  - a. Have access to and copy any records that must be kept under the conditions of the permit;
  - b. Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
  - c. Sample or monitor substances or parameters for the purpose of assuring compliance with the permit or applicable requirements; and
  - d. Document alleged violations using devices such as cameras or video equipment.
7. The Permittee owning, operating, or in control of any equipment or property who shall cause, permit, or participate in, any violation of the AQR shall be individually and collectively liable to any penalty or punishment imposed by and under the AQR. [AQR 8.1]
8. Any Permittee who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. [AQR 12.5.2.2]

### B. Modification, Revision, Renewal Requirements

1. No person shall begin actual construction of a new Part 70 source, or modify or reconstruct an existing Part 70 source that falls within the preconstruction review applicability criteria, without first obtaining an Authority to Construct Permit from the Control Officer. [AQR 12.4.1.1(a)]
2. The permit may be revised, revoked, reopened and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation, reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [AQR 12.5.2.6(g)(3)]
3. A permit, permit revision, or renewal may be approved only if all of the following conditions have been met: [AQR 12.5.2.10(a)]

- a. The Control Officer has received a complete application for a permit, permit revision, or permit renewal, except that a complete application need not be received before a Part 70 general permit is issued pursuant to Section 12.5.2.20;
  - b. Except for revisions qualifying as administrative or minor permit revisions under Section 12.5.2.13 or paragraphs (a) and (b) of Section 12.5.2.14, the Control Officer has complied with the applicable requirements for public participation in Section 12.5.2.17;
  - c. The Control Officer has complied with the requirements for notifying and responding to EPA and affected states under paragraph (b) of Section 12.5.2.18;
  - d. The conditions of the permit provide for compliance with all applicable requirements and the requirements of Section 12.5; and
  - e. EPA has received a copy of the proposed permit or permit revision and any notices required under paragraphs (a) and (b) of Section 12.5.2.18, and has not objected to issuance of the permit under paragraph (c) of Section 12.5.2.18 within the time period specified therein.
4. The Permittee shall not build, erect, install or use any article, machine, equipment or process, the use of which conceals an emission, which would otherwise constitute a violation of an applicable requirement. *[AQR 80.1 and 40 CFR 60.12]*
  5. No permit revisions 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 the permit. *[AQR 12.5.2.6(i)]*
  6. Permit expiration terminates the Permittee's right to operate unless a timely and complete renewal application has been submitted. *[AQR 12.5.2.11(b)]*
  7. For purposes of permit renewal, a timely application is a complete application that is submitted at least six (6) months and not greater than eighteen (18) months prior to the date of permit expiration. If a source submits a timely application under this provision, it may continue operating under its current Part 70 Operating Permit until final action is taken on its application for a renewed Part 70 Operating Permit. *[AQR 12.5.2.1(a)(2)]*

### **C. Reporting/Notifications/Providing Information Requirements**

1. The Permittee shall submit all compliance certifications to the Control Officer. *[AQR 12.5.2.8(e)(4)]*
2. Any application form, report, or compliance certification submitted pursuant to the permit or AQRs shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under AQR 12.5 shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *[AQR 12.5.2.6(l)]*
3. The Permittee shall furnish to the Control Officer, within a reasonable time, any information that the Control Officer may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit, or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Control Officer copies of records required to be kept by the permit or, for information claimed to be confidential, the Permittee may furnish such records directly to the Administrator (USEPA, Region IX) along with a claim of confidentiality. *[AQR 12.5.2.6(g)(5)]*
4. Upon request of the Control Officer, the Permittee shall provide such information or analyses as will disclose the nature, extent, quantity or degree of air contaminants which are or may be discharged by such source, and type or nature of control equipment in use, and the Control Officer may require such disclosures be certified by a professional engineer registered in the state. In addition to such report, the Control Officer may designate an

authorized agent to make an independent study and report as to the nature, extent, quantity or degree of any air contaminants which are or may be discharged from the source. An authorized agent so designated is authorized to inspect any article, machine, equipment, or other contrivance necessary to make the inspection and report. [AQR 4.4]

5. The Permittee shall submit annual emissions inventory reports based on the following: [AQR 18.6.1]
  - a. The annual emissions inventory must be submitted to DAQ by March 31 of each calendar year; and
  - b. The report shall include the emission factors and calculations used to determine the emissions from each permitted emission unit, even when an emission unit is not operated.
6. The Permittee shall make all production, emission and monitoring calculations available to the Control Officer for inspection within 30 days from the end of each month. [AQR 12.5.2.8]
7. The Permittee who has been issued a permit under Section 12.5 shall post such permit in a location which is clearly visible and accessible to the facility's employees and representatives of the department. [AQR 12.5.2.6(m)]

#### **D. Compliance Requirements**

1. The Permittee shall not use as a defense 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. [AQR 12.5.2.6(g)(2)]
2. Any person who violates any provision of AQR, including, but not limited to, any application requirement; any permit condition; any fee or filing requirement; any duty to allow or carry out inspection, entry or monitoring activities or any requirements by DAQ is guilty of a civil offense and shall pay civil penalty levied by the Air Pollution Control Hearing Board and/or the Hearing Officer of not more than \$10,000. Each day of violation constitutes a separate offense. [AQR 9.1]
3. Any person aggrieved by an order issued pursuant to AQR Section 9 is entitled to review as provided in Chapter 233B of NRS. [AQR 9.12]
4. The Permittee of any stationary source or emission unit that fails to demonstrate compliance with the emissions standards or limitations shall submit a compliance plan to the Control Officer pursuant to AQR Section 10. [AQR 10.1]
5. The Permittee shall comply with the requirements of 40 CFR 61, Subpart M, of the National Emission Standard for Asbestos for all demolition and renovation projects. [AQR 13.1(b)(8)]
6. Permittee shall submit compliance certification with terms and conditions contained in the Operating Permit, including emission limitations, standards, or work practices, as follows: [AQR 12.5.2.8(e)]
  - a. the Permittee shall submit compliance certifications annually in writing to the Control Officer (4701 W. Russell Road, Suite 200, Las Vegas, Nevada 89118) and the Administrator at USEPA Region IX (Director, Air and Toxics Divisions, 75 Hawthorne St., San Francisco, CA 94105). A compliance certification for each year will be due on January 30th of the following year;
  - b. annual submission of compliance certification, or more frequently if specified in the applicable requirement or by the Control Officer;
  - c. a means for monitoring the compliance of the source with its emission limitations, standards, and work practices;
  - d. compliance certification shall include all of the following:

- i. the identification of each term or condition of the permit that is the basis of the certification;
  - ii. the identification of the methods or other means used by the owner or operator for determining the compliance status with each term and condition during the certification period;
  - iii. 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;
  - iv. such other facts as the Control Officer may require to determine the compliance status of the source.
7. The Permittee shall report to the Control Officer (4701 W. Russell Road, Suite 200, Las Vegas, Nevada 89118) any upset, breakdown, malfunction, emergency or deviation which cause emissions of regulated air pollutants in excess of any limits set by regulation or by this permit. The report shall be in two parts as specified below: *[AQR 12.5.2.6(d)(4)(B) and AQR 25.6.1]*
    - a. within twenty-four (24) hours of the time the Permittee learns of the event, the report shall be communicated by phone (702) 455-5942, fax (702) 383-9994, or email.
    - b. within seventy-two (72) hours of the notification required by paragraph (a) above, the detailed written report containing the information required by AQR Section 25.6.3 shall be submitted.
  8. The Permittee shall report to the Control Officer deviations that do not result in excess emissions, with the semi-annual reports. Such reports shall include the probable cause of deviations and any corrective actions or preventative measures taken. *[AQR 12.5.2.6(d)(4)(B)]*
  9. Records and data required by this Operating Permit to be maintained by Permittee may, at the Permittee's expense, be audited at any time by a third party selected by the Control Officer. *[AQR 4.4 and AQR 12.5.2.6]*
  10. All records and logs, or a copy thereof, shall be kept on-site for a minimum of five (5) years from the date the measurement was taken or data was entered and shall be made available to DAQ upon request. *[AQR 12.5.2.6(d)]*
  11. The Control Officer reserves the right to require additional reports and reporting to verify compliance with permit conditions, permit requirements, and requirements of applicable federal regulations. *[AQR 12.5.2.6(d)]*

**Table II-1: Summary of Required Submission Dates for Various Reports**

Required Report	Applicable Period	Due Date <sup>1</sup>
Semi-annual Report for 1st Six-Month Period	January, February, March, April, May, June	July 30 each year
Semi-annual Report for 2 <sup>nd</sup> Six-Month Period, Any additional annual records required.	July, August, September, October, November, December	January 30 each year
Annual Compliance Certification Report	Calendar Year	January 30 each year
Annual Emission Inventory Report	Calendar Year	March 31 each year
Notification of Deviations with Excess Emissions	As Required	Within 24 hours of the Permittee learns of the event

Required Report	Applicable Period	Due Date <sup>1</sup>
Report of Deviations with Excess Emissions	As Required	Within 72 hours of the notification
Deviation Report	As Required	Along with semi-annual reports
Performance Testing	As Required	Within 60 days from the end of the test.

<sup>1</sup> If the due date falls on a Saturday, Sunday or a Federal or Nevada holiday, then the submittal is due on the next regularly scheduled business day.

- The Permittee shall make all production, emission and monitoring calculations available to the Control Officer for inspection within 30 days from the end of each month. [AQR 12.5.2.8]

#### E. Monitoring

- The Permittee shall conduct visual emissions checks for visible emissions from each process while in operation. [AQR 12.5.2.6(d)]
- If the Permittee, during the visible emissions check, does not see any plume that, on an instantaneous basis, appears to exceed the opacity standard, then the observer shall keep a record of the name of the observer, the date on which the observation was made, the location, and the results of the observation. [AQR 12.5.2.6(d)]
- If the Permittee sees a plume that, on an instantaneous basis, appears to exceed the opacity standard, the Permittee shall: [AQR 12.5.2.6(d)]
  - take immediate action to correct causes of fugitive/stack emissions that appear to exceed allowable opacity limits; or
  - if practical, have a certified VE observer take an EPA Method 9 observation of the plume and record the results, and take immediate action to correct causes of fugitive emissions in excess of allowable opacity limits in accordance with 40 CFR 60 Appendix A: Reference Method 9.
- Visible emissions checks do not require a certified VE observer, except where visible emissions appear to exceed the allowable opacity limit and exceed 30 seconds in duration, and an EPA Method 9 observation is made to establish it does not exceed the standard. [AQR 12.5.2.6(d)]

#### F. Performance Testing Requirements

- Upon request of the Control Officer, the Permittee shall test or have tests performed to determine the emissions of air contaminants from any source whenever the Control Officer has reason to believe that an emission in excess of that allowed by the DAQ regulations is occurring. The Control Officer may specify testing methods to be used in accordance with good professional practice. The Control Officer may observe the testing. All tests shall be conducted by reputable, qualified personnel. [AQR 4.5]
- Upon request of the Control Officer, the Permittee shall provide necessary holes in stacks or ducts and such other safe and proper sampling and testing facilities, exclusive of instruments and sensing devices, as may be necessary for proper determination of the emission of air contaminants. [AQR 4.6]
- The Permittee shall submit for approval a performance testing protocol which contains testing, reporting, and notification schedules, test protocols, and anticipated test dates to the Control Officer (4701 W. Russell Road, Suite 200, Las Vegas, Nevada 89118) not less than 45 nor more than 90 days prior to the anticipated date of the performance test. [AQR 12.5.2.8]

4. The Permittee shall submit to EPA for approval any alternative test methods that are not already approved by EPA. *[40 CFR 60.8(b)]*
5. The Permittee shall submit a report describing the results of each performance test to the Control Officer within 60 days from the end of the performance test. *[AQR 12.5.2.8]*

### III. EMISSION UNITS AND APPLICABLE REQUIREMENTS

- a. The stationary source covered by this Part 70 OP is defined to consist of the emission units and associated appurtenances summarized in Tables III-A-1, III-B-1, III-C-1, III-D-1, III-E-1, III-F-1, III-G-1, III-H-1, III-I-1, and III-J-1. [AQR 12.5.2.3]

#### A. RAW MATERIAL STORAGE AND HANDLING

##### 1. Emission Units

**Table III-A-1: List of Emission Units (EU) – Raw Material Storage and Handling**

EU	Description	Rating	Make
A01	Coke Rail Car Unloading	15,000 tons/yr	TIMET design
A02	Coke Storage Silo #1	5,000 tons/yr	TIMET design
A03	Coke Storage Silo #2	10,000 tons/yr	TIMET design
A04	Rutile Ore Rail Car Unloading	50,000 tons/yr	TIMET design
A05	Rutile Transfer into Silo #1	12,500 tons/yr	TIMET design
A06	Rutile Transfer into Silo #2	12,500 tons/yr	TIMET design
A07	Rutile Transfer into Silo #3	12,500 tons/yr	TIMET design
A08	Coke/Rutile Transfer into Silo #4	12,500 tons/yr	TIMET design
A09	Rutile Transfer Bins (2) Offloading	50,000 tons/yr	TIMET design

##### 2. Emission Limitations

- a. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-A-2, on a 12-month rolling basis. [NSR ATC/OP 19, Modification 13, (05/08/2006)]

**Table III-A-2: Emission Unit PTE (tons per year) – Raw Materials Storage and Handling**

EU	Throughput	Control	Control Efficiency	PM <sub>10</sub>	PM <sub>2.5</sub>
A01	15,000 tons/year	Enclosure	50%	0.23	0.21
A02	5,000 tons/year	No controls	0%	0.15	0.14
A03	10,000 tons/year	No controls	0%	0.30	0.27
A04	50,000 tons/year	Enclosure	50%	0.75	0.68
A05	12,500 tons/year	Inside Building	90%	0.04	0.04
A06	12,500 tons/year	Inside Building	90%	0.04	0.04
A07	12,500 tons/year	Inside Building	90%	0.04	0.04
A08	12,500 tons/year	Inside Building	90%	0.04	0.04
A09	50,000 tons/year	Inside Building	90%	0.15	0.14

- b. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes. [AQR 26.1.1]

##### 3. Production Limitations

- a. The Permittee shall limit the amount of unloaded and processed rutile ore to 50,000 tons per year on a 12-month rolling basis. [NSR ATC/OP 19, Modification 13 (05/08/2006)]
- b. The Permittee shall limit the amount of petroleum coke unloaded from rail cars to 15,000 tons per year on a 12-month rolling basis. [NSR ATC/OP 19, Modification 13 (05/08/2006)]

#### 4. Control Requirements

- a. The Permittee shall use enclosures during unloading of coke from rail cars (EU: A01) to control particulate emissions. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- b. The Permittee shall maintain and operate railcar unloading of petroleum coke (EU: A01) with enclosures that have a particulate control efficiency of at least 50 percent. *[AQR 12.5.2.6]*
- c. The Permittee shall use enclosures during rail car unloading of rutile ore (EU: A04) to control particulate emissions. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- d. The Permittee shall maintain and operate railcar unloading of rutile ore (EU: A04) with enclosures that have a particulate control efficiency of at least 50 percent. *[AQR 12.5.2.6]*
- e. The Permittee shall perform storage and transfer of rutile ore inside the enclosed building (EUs: A05 through A09) to control particulate emissions to at least 90 percent, at all times the processing equipment is operating. *[AQR 12.5.2.6]*
- f. The Permittee shall take measures to control fugitive dust (e.g. wet, chemical or organic suppression, enclosures, etc.) at material transfer points, stockpiles, truck loading stations and roads throughout the facility in order to continuously comply with the 20 percent opacity limit required by AQR 26.1.1. The Control Officer may at any time (subject to the provisions of the AQR) require additional water sprays or other controls at pertinent locations if an inspection indicates that opacity limits are being exceeded. *[AQR 26.1]*.
- g. The Permittee shall take measures to abate fugitive dust from becoming airborne and to prevent the discharge of visible fugitive dust which extends more than 100 yards from the point of origin or beyond the nearest property line, whichever is less. *[AQR 41]*
- h. The Permittee shall ensure that all trucks, regardless of ownership, loaded with materials with the potential to produce fugitive emissions are properly covered and/or suppressants shall be applied to prevent visible emissions. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

#### 5. Monitoring

- a. The Permittee shall conduct daily visual emissions checks on the process while operating. *[AQR 12.5.2.6(d)]*
- b. The Permittee shall comply with monitoring conditions in Section II.E. *[AQR 12.5.2.6(d)]*
- c. The Permittee shall demonstrate compliance with the amount of rutile ore and coke consumed in the chlorination process through record keeping and reporting. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

#### 6. Testing

- a. No performance testing requirements have been identified for this process. *[AQR 12.5.2.6(d)]*

#### 7. Recordkeeping

- a. The Permittee shall maintain records on site that include, at minimum, the following information *[AQR 12.5.2.6(d)]*:
  - i. sulfur content of each shipment of rutile ore received;
  - ii. sulfur content of each shipment of coke received;
  - iii. records of all inspections, maintenance, and repairs as specified in this document; and
  - iv. monthly calculation of emissions for each emission unit with rolling 12-month totals for each pollutant.

- b. The Permittee shall maintain on site and report the following information semi-annually [AQR 12.5.2.6(d)]:
- i. average daily amount of rutile ore processed;
  - ii. average daily amount of coke processed; and
  - iii. calculation of emissions for each emission unit with 12-month rolling totals for each pollutant for the most recent month of the reporting period.
- c. The Permittee shall include for all inspections, logs, visible emission checks, and tests required under monitoring, recordkeeping, and reporting at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). [AQR 12.5.2.6(d)]

## B. CHLORINATION PROCESS

### 1. Emission Units

**Table III-B-1: List of Emission Units (EU) – Chlorination Process**

EU	Description	Rating	Make	Model #	Serial #
B01	Caustic Scrubbing Tower #1 Vent				
B02	Caustic Scrubbing Tower #2 Vent				
B03	Caustic Scrubbing Tower #3 Vent				
B04	Caustic Scrubbing Tower #4 Vent				
B05	Venturi Scrubber Exhaust Stack (2 scrubbers, 4 blowers)	2,970 cfm total	Ducon Oriclone	Type VO, Size 42	N/A
B06a	CO Burner/Boiler exhausting through SO <sub>2</sub> Scrubber	18.5 MMBtu/hr	Clever Brooks	CB700350200	OL102330
B06b	SO <sub>2</sub> Scrubber	N/A	MECS	Dynawave	
B07	Chlorinator Dust Transfer from Dust Legs	600 tons dust/yr per chlorinator	Air Chem Systems	ACSC 2X2	
B09	Natural Gas Steam Boiler	6.7 MMBtu/hr	Kewanee	A3S-200-G11	AN861008
B10	Thermal Oxidizer (alternative control device for CO boiler)	6.0 MMBtu/hr	North American	2942-22-33AW	GS-2953
B11	Chlorinator #81	12 red./day	TIMET design		
B12	Chlorinator #82	12 red./day	TIMET design		
B13	Chlorinator #83	12 red./day	TIMET design		
B14	Chlorinator #84	12 red./day	TIMET design		
B15	Chlorinator #85	12 red./day	TIMET design		
B16	Chlorinator #86	12 red./day	TIMET design		
B17	Chlorinator #87	12 red./day	TIMET design		
B18	Chlorinator #88	12 red./day	TIMET design		
B19	Natural Gas Boiler – Rental Unit	Up to 14.7 MMBtu/hr	Varies	Varies	Varies
B20	Chlorinator Dust Loading in Roll-off Bins controlled by Wet Scrubber	2,000 cfm	Air Chem Systems	ACSC 2X2	
B21	Truck Hauling of Chlorinator Dust Roll-offs in/out of facility	0.5 mile paved			

### 2. Emission Limitations

- a. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-B-2. [NSR ATC/OP 19, Modification 13, (05/08/2006)]

**Table III-B-2: Emission Unit PTE (tons per year) – Chlorination Process**

EU	Conditions	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	HCl	Cl <sub>2</sub>	COS	H <sub>2</sub> SO <sub>4</sub>
B01			100% Emissions vented to EU: B05 except during upset/breakdown resulting in venting at one or more Caustic Towers								
B02											
B03											
B04											
B05			100% Emissions vented to EUs: B06 a,b								
B06a,b		9.81	7.36	8.94	392.5	84.97	0.00	0.39	0.13	0.31	3.75
B07		0.64	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B09		0.22	0.20	1.36	1.40	0.04	0.18	0.00	0.00	0.00	0.00
B10			100% Emissions included in EU: B06a,b								
B11			100% Emissions vented to Caustic Scrubbing Tower #1, Venturi Scrubbers, CO Boiler, and SO <sub>2</sub> Scrubber								
B12											
B13			100% Emissions vented to Caustic Scrubbing Tower #2, Venturi Scrubbers, CO Boiler, and SO <sub>2</sub> Scrubber								
B14											
B15			100% Emissions vented to Caustic Scrubbing Tower #3, Venturi Scrubbers, CO Boiler, and SO <sub>2</sub> Scrubber								
B16											
B17			100% Emissions vented to Caustic Scrubbing Tower #4, Venturi Scrubbers, CO Boiler, and SO <sub>2</sub> Scrubber								
B18											
B19	876 hr/yr	0.06	0.06	0.23	0.03	0.01	0.03	0.00	0.00	0.00	0.00
B20		0.07	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B21	180 VMT/yr	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

- b. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-B-3. *[NSR ATC/OP 19, Modification 13, (05/08/2006)]*

**Table III-B-3: Emission Unit PTE (pounds per hour) – Chlorination Process**

EU	Conditions	NO <sub>x</sub>	CO	SO <sub>x</sub>	HCl	Cl <sub>2</sub>	COS	H <sub>2</sub> SO <sub>4</sub>
B06a,b	1 hour	2.04	900.0	19.40	0.09	0.03	0.07	0.86
B10	1 hour	1.14	0.45	37.42	0.00	0.03	0.07	0.00

- c. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes. *[AQR 26.1.1]*
- d. The Permittee shall limit the controlled CO emissions from normal operation of the Chlorination Process to 900 pounds per hour, or a rolling 24-hour average of 540 pounds per hour or 392.5 tons per year. These limits shall include emissions from the CO boiler (EU: B06a), SO<sub>2</sub> scrubber (EU: B06b) and the thermal oxidizer (EU: B10). *[AQR 12.5.2.6]*
- e. The Permittee shall vent CO boiler off-gas to the SO<sub>2</sub> scrubber (EU: B06b) for SO<sub>2</sub> control. The controlled SO<sub>2</sub> emission from the Chlorination Process shall not exceed 19.40 pounds per hour and 85 tons per year. The annual emission limits indicated in this Part 70 OP include emissions from the CO boiler and the SO<sub>2</sub> scrubber (EUs: B06a and EU: E06b) as well as from the thermal oxidizer (EU: B10). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- f. During the scheduled semi-annual maintenance of the CO boiler and the SO<sub>2</sub> scrubber (EUs: B06a and B06b), the chlorination off-gas shall be diverted to the thermal oxidizer (EU: B10) and the sulfur dioxide emissions from the Chlorination Process shall be limited to 37.42 pounds per hour. This value is based on 48 equivalent reductions per day using 0.8 percent by weight sulfur coke (based on coke feed blended average). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

**Table III-B-4: Upset/Breakdown Uncontrolled Emissions (lbs/hr) – Four Chlorinators Operation**

EU	Conditions	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	HCl	Cl <sub>2</sub>	COS	H <sub>2</sub> SO <sub>4</sub>
B01	1 hour	1.00	0.90	0.00	284.25	0.00	0.00	0.00	0.25	0.48	0.00
B02	1 hour	1.00	0.90	0.00	284.25	0.00	0.00	0.00	0.25	0.48	0.00
B03	1 hour	1.00	0.90	0.00	284.25	0.00	0.00	0.00	0.25	0.48	0.00
B04	1 hour	1.00	0.90	0.00	284.25	0.00	0.00	0.00	0.25	0.48	0.00
B05	1 hour	0.10	0.09	0.00	1,137	0.00	0.00	0.00	1.00	1.92	0.00
B06a	1 hour	0.10	0.09	2.04	12.25	37.42	0.00	0.03	1.00	0.07	0.09
B10	1 hour	0.05	0.04	1.14	0.45	37.42	0.00	0.03	0.03	0.07	0.86

<sup>1</sup> Remedial measures for any upset/breakdown situation shall be in accordance with AQR Section 25.

### 3. Production Limitations

- a. The Permittee shall not operate a rental package boiler that has a rated heat input of more than 14.7 MMBtu/hr (EU: B19). [AQR 12.5.2.6]
- b. The Permittee shall limit the operation of the rental package boiler up to 876 hours per year (EU: B19). [AQR 12.5.2.6]

### 4. Control Requirements

- a. The Permittee shall limit chlorine emissions from the chlorinator process (EUs: B11 through B18) to less than one pound per hour by directing all off gas to a three stage scrubber system. [NSR ATC/OP 19, Modification 13 (05/08/2006)]
- b. During normal operation of the Chlorination Process, the off-gas flow from the chlorinators (EUs: B11 through B18) shall be completely enclosed and/or controlled by seal pots located at the base of each caustic tower. [NSR ATC/OP 19, Modification 13 (05/08/2006)]
- c. The Permittee shall direct all chlorination off-gas to the CO boiler or to the thermal oxidizer (EU: B10) to reduce CO emissions from the chlorination process at least by 90.0 percent. The Permittee, every five years in accordance with testing conditions, shall sample chlorinator off-gas upstream of CO boiler (EU: B06a) and at Scrubber stack (EU: B06b) to verify compliance with this condition. [AQR 12.5.2.6]
- d. The Permittee shall vent all CO boiler off-gas to the SO<sub>2</sub> scrubber (EU: B06b). [AQR 12.5.2.6]
- e. The Permittee shall operate the CO Boiler (EU: B06a) at a minimum temperature of 1,400°F, except during periods of upset, start up or shut down. [NSR ATC/OP 19, Modification 13 (05/08/2006)]
- f. The Permittee shall use a thermal oxidizer (EU: B10) to control CO emissions from the chlorination off-gas when the CO Boiler is bypassed during all periods of scheduled maintenance of the CO boiler. The Permittee shall also use the thermal oxidizer during all upset/breakdowns or malfunctions of the CO boiler whenever practically feasible if the anticipated duration of the event exceeds 4 hours. The resulting emissions shall be calculated using the EU B10 emission factors listed in Table III-B-4 and shall be based on number of chlorinators in operation. [AQR 12.5.2.6]
- g. The Permittee shall operate the thermal oxidizer (EU: B10) at a minimum temperature of 1,400°F, except during periods of upset, start up or shut down. [AQR 12.5.2.6]
- h. If the control devices (CO boiler, SO<sub>2</sub> scrubber, or the thermal oxidizer) are not operating, release of off-gas from the caustic scrubbers (EUs: B01 through B04) or from the venturi scrubber exhaust stack (EU: B05) shall be considered as an upset/breakdown and the Permittee shall immediately take remedial measures. [AQR 25.2.1]

- i. If the CO boiler (EU: B06a) and the thermal oxidizer (EU: B10) break down simultaneously, the Permittee shall include calculated uncontrolled emissions during such upset/breakdown and malfunction situations in the annual emissions calculations. The resulting emissions shall be calculated using EUs B01-B06 emission factors listed in Table III-B-4 and shall be based on the number of chlorinators in operation. *[AQR 12.5.2.6]*
- j. The Permittee shall, during the SO<sub>2</sub> scrubber (EU: B06b) maintenance or breakdown, vent chlorination off-gas through the CO boiler exhaust make-up damper (EU: B06a) or thermal oxidizer (EU: B10). The Permittee shall include calculated uncontrolled emissions during such upset/breakdown and malfunction situations in the annual emissions inventory. The resulting emissions shall be calculated using the emission factors listed in Table III-B-4. *[AQR 12.5.2.6]*
- k. The Permittee shall maintain and operate the Kewanee boiler (EU: B09) with burners that have a manufacturer's maximum emission rate of 30 ppm NO<sub>x</sub> (adjusted to 3% O<sub>2</sub>). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- l. The Permittee shall maintain and operate the Kewanee boiler (EU: B09) with burners that have a manufacturer's maximum emission rate of 100 ppm CO (adjusted to 3% O<sub>2</sub>). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- m. The Permittee shall maintain and operate the rental Package Boiler (EU: B19) to with burners that have a manufacturer's maximum emission rate of 30 ppm NO<sub>x</sub> (adjusted to 3% O<sub>2</sub>). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- n. The Permittee shall maintain and operate the rental Package Boiler (EU: B19) to with burners that have a manufacturer's maximum emission rate of 5 ppm CO (adjusted to 3% O<sub>2</sub>). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- o. The Permittee shall operate the wet scrubber at all times when the chlorinator dust is transferred into the roll-off bins (EU: B20). *[AQR 12.5.2.6]*
- p. The Permittee shall maintain the dust loading operation scrubber as per the manufacturer's specifications (EU: B20). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

## 5. Monitoring

- a. The Permittee shall conduct weekly visual emissions checks on the process while operating. *[AQR 12.5.2.6(d)]*
- b. The Permittee shall comply with monitoring conditions in Section II.E. *[AQR 12.5.2.6(d)]*
- c. The Permittee shall install, calibrate, maintain, operate, and certify CEMS for CO and SO<sub>2</sub> on common exhaust stack of the CO Boiler/SO<sub>2</sub> Scrubber (EUs: B06a and B06b). The CEMS shall include an automated data acquisition and handling system that shall monitor and record at least the following data *[AQR 12.5.2.6(d)]*:
  - i. hourly averages of exhaust gas concentration of CO and SO<sub>2</sub>;
  - ii. exhaust gas flow rate (by direct or indirect methods);
  - iii. hours of operation;
  - iv. hourly, daily and semi-annual accumulated mass emissions of CO and SO<sub>2</sub>; and
  - v. hours of downtime of the CEMS.
- d. The Permittee is required to do a Relative Accuracy Test Audit (RATA) on CEMS for the CO boiler/SO<sub>2</sub> scrubber (EUs: B06a and B06b) to demonstrate compliance with the CEMS requirements on an annual basis. *[AQR 12.5.2.6(d)]*
- e. The Permittee shall evaluate performance of the CO boiler (EU: B06a) by continuous monitoring of the operating temperature of the CO boiler. The Permittee shall demonstrate compliance with

- the minimum operating temperature of 1,400°F, except during periods of upset, startup or shutdown. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- f. The Permittee shall demonstrate compliance with the PM<sub>10</sub> emissions from the chlorination dust loading operation by maintaining records of amount of dust transferred and number of round trips of the disposal truck. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
  - g. The Permittee shall demonstrate compliance with the requirements for use of low sulfur coke and the maximum allowable number of reductions per day, during any scheduled semi-annual maintenance to the CO boiler and SO<sub>2</sub> scrubber, through record keeping and reporting. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
  - h. The Permittee shall monitor the monthly hours of operation of the boiler (EU: B19). *[AQR 12.5.2.6]*
  - i. The Permittee shall monitor the monthly fuel consumption by the boiler (EU: B19). *[40 CFR 60.48c(g)(2)]*
  - j. The Permittee shall verify the fuel gas sulfur content annually. Verifications shall be based on reports or written data from the gas supplier or by sampling and analysis. *[AQR 12.5.2.6(d)]*
  - k. The Permittee shall conduct a burner efficiency test (boiler tune-up) and inspection on the Kewanee boiler (EU: B09). This burner efficiency test is to be conducted in accordance with the manufacturer's recommendations and specifications for good combustion practices. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
  - l. The Permittee shall conduct a burner efficiency test (boiler tune-up) and inspection on the rental package boiler (EU: B19). This burner efficiency test is to be conducted in accordance with the manufacturer's recommendations and specifications for good combustion practices. The Permittee may provide manufacturer's emission guarantees as an alternative method to determine burner efficiency upon prior approval from the Control Officer. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

## 6. Testing

- a. Performance testing is subject to 40 CFR 60 (*as amended*), and the DAQ Guideline on Performance Testing. Performance testing shall be the initial method for determining compliance with emission limitations set forth in this permit. *[AQR 12.5.2.6(d)]*
- b. The Permittee shall demonstrate compliance with the emission limits specified for the Chlorination Process by performance testing the CO boiler (EU: B06a) for NO<sub>x</sub> once every five years. *[NSR ATC/OP 19, Modification 13 (05/08/2006)] Local Only*
- c. The Permittee shall demonstrate compliance with the emission limits specified for the Chlorination Process by performance testing the SO<sub>2</sub> scrubber (EU: B06b) for Cl<sub>2</sub>, HCl, and H<sub>2</sub>SO<sub>4</sub> once every five years. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- d. The Permittee shall demonstrate 90.0% CO emissions reduction by performance testing of the chlorinator off-gas upstream of the CO boiler (EU: B06a) and SO<sub>2</sub> Scrubber stack (EU: B06b) for CO once every five years. *[AQR 12.5.2.6(d)]*
- e. The Permittee shall conduct performance testing for the thermal oxidizer (EU: B10) every five years, to demonstrate compliance with the emission standards for CO, SO<sub>2</sub>, Cl<sub>2</sub>, COS and NO<sub>x</sub>. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

**Table III-B-5: Performance Testing Protocol Requirements**

Test Point	Pollutant	Method
SO <sub>2</sub> Scrubber Exhaust	HCl and Cl <sub>2</sub>	EPA Method 26 or pre-approved equivalent
SO <sub>2</sub> Scrubber Exhaust	H <sub>2</sub> SO <sub>4</sub>	EPA Method 18 or pre-approved equivalent
SO <sub>2</sub> Scrubber Exhaust	CO	EPA Method 10 or pre-approved equivalent

Test Point	Pollutant	Method
CO Boiler Exhaust Scrubber Stack	NO <sub>x</sub>	Chemiluminescence Analyzer (EPA Method 7E) or pre-approved equivalent
Thermal Oxidizer Stack	CO	EPA Method 10 or pre-approved equivalent
Thermal Oxidizer Stack	SO <sub>2</sub>	EPA Method 6 or pre-approved equivalent
Thermal Oxidizer Stack	NO <sub>x</sub>	Chemiluminescence Analyzer (EPA Method 7E) or pre-approved equivalent
Thermal Oxidizer Stack	Cl <sub>2</sub>	EPA Method 26 or pre-approved equivalent
Thermal Oxidizer Stack	COS	EPA Method 15A or pre-approved equivalent
Stack Gas Parameters	-	EPA Methods 1, 2, 3, and 4 or pre-approved equivalent

## 7. Recordkeeping

- a. The Permittee shall maintain records on site that include, at minimum, the following information [AQR 12.5.2.6(d)]:
  - i. the number of reductions, amount of coke and the weighted average sulfur content of coke used during any scheduled semi-annual maintenance of the CO boiler and the SO<sub>2</sub> scrubber (EUs: B06a and B06b);
  - ii. the amount of dust transferred from chlorinator dust cyclones into roll-off bins;
  - iii. CO boiler burner operating temperature monitoring data (EU: B06a);
  - iv. record of maintenance of the CO boiler and the SO<sub>2</sub> scrubber (EUs: B06a and B06b);
  - v. log of control measures applied to paved roads;
  - vi. records of all inspections, maintenance, and repairs as specified in this document;
  - vii. records of the manufacturer's emission guarantees for the rental package boiler that is on-site (EU: B19);
  - viii. monthly calculation of emissions with rolling 12-month totals for each pollutant and emission unit; and
  - ix. records of burner efficiency and performance testing as specified in this permit.
- b. The Permittee shall maintain on site and report the following information semi-annually [AQR 12.5.2.6(d)]:
  - i. average daily hours of operation of the Chlorination Process;
  - ii. average daily hours of operation of the CO boiler (EU: B06a);
  - iii. daily hours of operation of the thermal oxidizer (EU: B10);
    - i. during idle operation; and
    - ii. during off-gas combustion operation.
  - iv. monthly natural gas usage and daily hours of operation for the rental package boiler (EU: B19);
  - v. amount of low sulfur coke (<0.8 % sulfur) consumed during semi-annual preventive maintenance periods;
  - vi. monitoring data produced by the Continuous Emissions Monitoring Systems (CEMS) for SO<sub>2</sub> and CO emissions at the scrubber stack from the CO boiler and the SO<sub>2</sub> scrubber (EUs: B06a and B06b); and
  - vii. calculation of the 12-month rolling emissions total for each pollutant and emission unit for the most recent month of the reporting period.
- c. The Permittee shall include for all inspections, logs, visible emission checks, and tests required under monitoring, recordkeeping, and reporting at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). [AQR 12.5.2.6(d)]

## C. PURIFICATION PROCESS

### 1. Emission Units

**Table III-C-1: List of Emission Units (EU) – Purification Process**

EU	Description	Rating	Make	Model #	Serial #
C01	Purification #2 PVS Scrubber	300 cfm			
C02	Continuous Sludge Holoflite Dryers (2)	N/A	Joy Mfg.	D-2420-6	
C04	Hot Oil Expansion Tank Vent	4,160 ft <sup>3</sup> /yr			
C05	Hot Oil Heater – alternate unit	1.0 MMBtu/hr	American Hydrotherm	Northern American	
C06	Header Blowout Vent	Rupture Disc			
C07	Fugitive (valves, flanges, seals)	0.13 lb/hr TiCl <sub>4</sub>			
M15	Pure TiCl <sub>4</sub> Storage Tanks (10) West	83,000,000 lb/yr			

### 2. Emission Limitations

- a. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-C-2, on a 12-month rolling basis. *[NSR ATC/OP 19, Modification 13, (05/08/2006) and AQR 12.5.2.6]*

**Table III-C-2: Emission Unit PTE (tons per year) – Purification Process**

EU	Rating	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	HCl
C01	300 cfm	5.66	5.09	0.00	0.00	0.00	0.00	0.96
C02	N/A	0.14	0.13	0.00	0.00	0.00	0.00	0.26
C04	4,160 ft <sup>3</sup> /week	0.00	0.00	0.00	0.00	0.00	0.38	0.00
C05	1 MMBtu/hr	0.05	0.05	0.42	0.09	0.01	0.02	0.00
C06	Rupture Disc	0.01	0.01	0.00	0.00	0.00	0.00	0.00
C07	0.13 lb/hr TiCl <sub>4</sub>	0.25	0.23	0.00	0.00	0.00	0.00	0.45
M15	83,000,000 lb/yr	0.01	0.01	0.00	0.00	0.00	0.00	0.00

- b. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-C-3. *[AQR 12.5.2.6]*

**Table III-C-3: Emission Unit PTE (pounds per hour) – Purification Process**

EU	Rating	Conditions	PM <sub>10</sub>	HCl
C01	300 cfm	1 hour	1.30	0.22

- c. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes. *[AQR 26.1.1]*

### 3. Production Limitations

- a. Production limitations have not been identified for this process. *[AQR 12.5.2.6]*

### 4. Control Requirements

- a. The Permittee shall operate PVS scrubber all the times the Purification Operation is performed (EU: C01), except for condition III-C-4-b *[AQR 12.5.2.6]*
- b. The purification process may operate without the PVS scrubber control for short periods of time during maintenance or repair if necessary. The short-term emissions from the

uncontrolled purification operation shall not exceed 1.30 pounds per hour for PM<sub>10</sub> and 0.22 pounds per hour for HCl. The annual emissions from the purification, including the emissions during the uncontrolled operation, shall be limited to the PTE in Table III-C-2. [AQR 12.5.2.6]

**5. Monitoring**

- a. The Permittee shall conduct weekly visual emissions checks on the process while operating. [AQR 12.5.2.6(d)]
- b. The Permittee shall comply with monitoring conditions in Section II.E. [AQR 12.5.2.6(d)]

**6. Testing**

- a. The Permittee shall conduct performance testing on the PVS purification scrubber (EU: C01) to demonstrate compliance with the HCl and PM<sub>10</sub> emission limits. The Permittee shall conduct performance tests once every five years. [NSR ATC/OP 19, Modification 13 (05/08/2006)] Local Only

**7. Recordkeeping**

- a. The Permittee shall maintain records on site that include, at minimum, the following information [AQR 12.5.2.6(d)]:
  - i. records of all inspections, maintenance, and repairs as specified in this document;
  - ii. records of performance testing; and
  - iii. monthly calculation of emissions for each emission unit with rolling 12-month totals for each pollutant.
- b. The Permittee shall maintain on site and report the following information semi-annually [AQR 12.5.2.6(d)]:
  - i. hours of operation of the purification scrubber (EU: C01); and
  - ii. calculation for each emission unit of the 12-month rolling emissions total for each pollutant for the most recent month of the reporting period.
- c. The Permittee shall include for all inspections, logs, visible emission checks, and tests required under monitoring, recordkeeping, and reporting at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). [AQR 12.5.2.6(d)]

**D. VACUUM DISTILLATION PROCESS (VDP)**

**1. Emission Units**

**Table III-D-1: List of Emission Units (EU) – Vacuum Distillation Process (VDP)**

EU	Description	Rating	Make	Model #	Serial #
E01	VDP Scrubber	20 furnaces	MECS		
E02	General Arc Welding	10,000 lbs electrodes			
E03	Emergency Generator - Engine	1,290 hp	Mitsubishi	S12N-PTA	10950
	Emergency Generator - Genset	825 kW	Marathon Electric	574RSL403BWW	YB3877293
E04	Diesel Storage Tank	1,600 gallons	Mark Steel Corp.		TK1-DO
E05a	VDP Cooling Tower - East	4,800 gpm	Phoenix	2FT-20.2/24.7-50-P5	

EU	Description	Rating	Make	Model #	Serial #
E05b	VDP Cooling Tower - West	7,000 gpm	Evapco	24-924B	
E06	VDP Fugitives Emissions from 42 Furnaces	16,000 tons sponge/yr	N/A		
E07	Electric Sponge Dryer	3,800 acfm	General Kinematics		
	Sponge Dryer Cyclone		Airecon	12-1	L-5817
M16	Pure TiCl <sub>4</sub> Storage Tanks, J-1, J-5 Area - Wet Scrubber	100 acfm at 2.5 psig	Advanced Air Technologies	Orion	051091

## 2. Emission Limitations

- a. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-D-2, on a 12-month rolling basis. *[NSR ATC/OP 19, Modification 13, (05/08/2006)]*

**Table III-D-2: Emission Unit PTE (tons per year) – Vacuum Distillation Process**

EU	Rating	Conditions	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	HCl	Cl <sub>2</sub>
E01	20 furnaces		2.54	2.16	0.00	0.00	0.00	0.00	0.66	0.35
E02	10,000 lbs electrodes	10.3 lb/1,000 lb	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00
E03	1,290 hp	500 hr/yr	0.01	0.01	0.15	0.03	0.02	0.01	0.00	0.00
E04	1,600 gallons	4,000 gal/yr	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
E05a	4,800 gpm		0.12	0.11	0.00	0.00	0.00	0.00	0.00	0.00
E05b	7000 gpm		0.18	0.16	0.00	0.00	0.00	0.00	0.00	0.00
E06	42 stations		23.30	20.97	0.00	0.00	0.00	0.00	0.14	0.00
E07	3,800 acfm	3,120 hr/yr	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
M16	83,000,000 lb/yr		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00

- b. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes. *[AQR 26.1.1]*

## 3. Production Limitations

- a. The Permittee shall limit amount of vacuum distilled titanium sponge to 16,000 tons per year (EU: E06). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- b. The Permittee shall limit throughput of the diesel storage tank to 4,000 gallons per year (EU: E04). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- c. The Permittee shall limit operation of the electric sponge dryer to 3,120 hours per year (EU: E07). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- d. The Permittee shall limit operation of the diesel emergency generator to 100 hours per year for testing and maintenance purposes (EU: E03). *[40 CFR 63, Subpart ZZZZ]*

## 4. Control Requirements

- a. The Permittee shall operate the VDP scrubber (EU: E01) in conjunction with the VDP operation. The VDP may operate without scrubber control for short periods of time during maintenance or repair if necessary. The short-term emissions from the uncontrolled VDP operation shall not exceed 0.58 pounds per hour for PM<sub>10</sub>, 0.30 pounds per hour for HCl and 0.16 pounds per hour for Cl<sub>2</sub>. However, the annual emissions from the VDP, including the

- emissions during the uncontrolled operation, shall be limited to the PTE in Table III-D-2. [AQR 12.5.2.6]
- b. The Permittee shall operate the dry cyclone scrubber at all the times the General Kinematics electric sponge dryer is in operation (EU: E07). [NSR ATC/OP 19, Modification 13 (05/08/2006)]
  - c. The Permittee shall maintain and operate the dry cyclone scrubber (EU: E07) with a PM<sub>10</sub> control efficiency of at least 72.0 percent in accordance with the manufacturer's specifications. [NSR ATC/OP 19, Modification 13 (05/08/2006)]
  - d. The Permittee shall only combust diesel fuel in each engine with a maximum sulfur content of 500 ppm and either a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume (EU: E03). [40 CFR 63, Subpart ZZZZ]
  - e. After May 3, 2013, the Permittee shall maintain emergency generator (EU: E03) as follows, unless the manufacturer's specifications are more stringent: [40 CFR 63, Subpart ZZZZ]
    - i. Change oil and filter every 500 hours of operation or annually, whichever comes first;
    - ii. Inspect air cleaners every 1,000 hours of operation or annually, whichever comes first; and
    - iii. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
  - f. The Permittee shall operate the cooling towers (EUs: E05a and E05b) with drift eliminators that have a manufacturer's maximum drift rate of 0.001 percent.
  - g. The Permittee shall limit the total dissolved solids (TDS) concentration in the cooling tower process water (EUs: E05a and E05b) so the TDS concentration shall not exceed 2,500 ppm.
  - h. The Permittee shall operate and maintain all cooling towers in accordance with the manufacturer's specifications. No chromium-containing compounds shall be used for water treatment. [40 CFR 63, Subpart Q]

## 5. Monitoring

- a. The Permittee shall conduct weekly visual emissions checks on the process while operating. [AQR 12.5.2.6(d)]
- b. The Permittee shall comply with monitoring conditions in Section II.E. [AQR 12.5.2.6(d)]
- c. The Permittee shall demonstrate compliance with the Cl<sub>2</sub>, HCl and PM<sub>10</sub> emission limits specified for the VDP by monitoring of the VDP scrubber (EU: E01). Monitoring of VDP scrubber shall be performed as per the parameters outlined in Table III-D-4. [NSR ATC/OP 19, Modification 13 (05/08/2006)]
- d. The Permittee shall monitor the TDS in the cooling tower circulating water at least monthly. The Permittee shall use the conductivity measurements for TDS monitoring or equivalent method approved in advance by the Control Officer. [AQR 12.5.2.6(d)]
- e. The Permittee shall obtain certification of the sulfur content of diesel fuel from the supplier. [AQR 12.5.2.6(d)]

**Table III-D-4: Monitoring Parameters for VDP Scrubber**

Parameter	Equipment	Operating Range	Control Limits
Scrubber Solution pH AI-1108	Glass membrane electrode	0-14 pH	>6.0 pH
Inlet Pressure to the Blower PI-1105	Pressure sensor and transmitter	0 - (-75") WC	<-25" WC
Scrubber Inlet Pressure PI-1101	Pressure sensor and transmitter	0 - (-50") WC	<-15" WC
Upper Jet Flow Rate FI-1112	Concentric square edge orifice and pressure transmitter	0 – 800 GPM	>400 GPM

Parameter	Equipment	Operating Range	Control Limits
Lower Jet Flow Rate FI-1110	Concentric square edge orifice and pressure transmitter	0 – 800 GPM	>400 GPM

## 6. Testing

- a. No performance testing requirements have been identified for this process. The compliance is demonstrated through continuous monitoring of the operational parameters of the VDP scrubber. [AQR 12.5.2.6(d)]

## 7. Recordkeeping

- a. The Permittee shall maintain records on site that include, at minimum, the following information [AQR 12.5.2.6(d)]:
- records of all inspections, maintenance, and repairs as specified in this document;
  - sulfur content and cetane index or aromatic content of diesel fuel used in the diesel engine;
  - monthly TDS test results of the cooling tower;
  - monthly calculation of emissions for each emission unit with rolling 12-month totals for each pollutant; and
  - weekly VDP Scrubber critical monitoring parameters listed in Table III-D-4.
- b. The Permittee shall maintain on site and report the following information semi-annually [AQR 12.5.2.6(d)]:
- hours of operation of the VDP scrubber (EU: E01);
  - monthly amount of titanium sponge produced;
  - monthly hours of operation of VDP;
  - hours of operation of emergency generator for testing and maintenance purposes and for emergency situations (EU: E03); and
  - calculation for each emission unit of the 12-month rolling emissions total for each pollutant for the most recent month of the reporting period.
- c. The Permittee shall include for all inspections, logs, visible emission checks, and tests required under monitoring, recordkeeping, and reporting at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). [AQR 12.5.2.6(d)]

## E. MAGNESIUM RECOVERY PROCESS

### 1. Emission Units

**Table III-E-1: List of Emission Units (EU) – Magnesium Recovery Process**

EU	Description	Rating	Make	Model #	Serial #
G01	Emergency Chlorine Scrubber	780 lbs Cl <sub>2</sub> /upset	US Filter		
G03	Magnesium Recovery Fugitives	36.64 lbs/day			
G04a	Sulfuric Acid Tank West	7,500 gal			
G04b	Sulfuric Acid Tank North	2,100 gal			
G09a	Cooling Tower #1	750 gpm	Delta Cooling Tower Co.	T-250i	
G09b	Cooling Tower #2	750 gpm	Delta Cooling Tower Co.	T-250i	
G09c	Cooling Tower #3	750 gpm	Delta Cooling Tower Co.	T-250i	

EU	Description	Rating	Make	Model #	Serial #
G09d	Cooling Tower #4	750 gpm	Delta Cooling Tower Co.	T-250i	
G10	Diesel Generator for Emergency Scrubber - Engine	87 hp	Caterpillar	3054	4ZK02183
	Diesel Generator for Emergency Scrubber - Genset	50 kW	Generac	94A04770-S	2016244
G12a	Cooling Tower #1	220 gpm	Delta CT Co.	DT-150	64808
G12b	Cooling Tower #2	220 gpm	Delta CT Co.	DT-150	64808
G12c	Cooling Tower #3	220 gpm	Delta CT Co.	DT-150	64808
G12d	Cooling Tower #4	220 gpm	Delta CT Co.	DT-150	64808
G12e	Cooling Tower #5	220 gpm	Delta CT Co.	DT-150	64808
G12f	Cooling Tower #6	220 gpm	Delta CT Co.	DT-150	64808
G12g	Cooling Tower #7	220 gpm	Delta CT Co.	DT-150	64808
G12h	Cooling Tower #8	220 gpm	Delta CT Co.	DT-150	TBD
G12	Cooling Tower #1 (New)	220 gpm	Delta CT Co.	DT-150	TBD
G13	Cooling Tower #2 (New)	220 gpm	Delta CT Co.	DT-150	TBD
G14	Cooling Tower #3 (New)	220 gpm	Delta CT Co.	DT-150	TBD
G15	Cooling Tower #4 (New)	220 gpm	Delta CT Co.	DT-150	TBD
G16	Cooling Tower #5 (New)	220 gpm	Delta CT Co.	DT-150	TBD
G17	Cooling Tower #6 (New)	220 gpm	Delta CT Co.	DT-150	TBD
G18	Cooling Tower #7 (New)	220 gpm	Delta CT Co.	DT-150	TBD
G19	Cooling Tower #8 (New)	220 gpm	Delta CT Co.	DT-150	TBD

## 2. Emission Limitations

- a. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-E-2, on a 12-month rolling basis. [NSR ATC/OP 19, Modification 13, (05/08/2006)]

**Table III-E-2: Emission Unit PTE (tons per year) – Magnesium Recovery Process**

EU	Rating	Conditions	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	Cl <sub>2</sub>	H <sub>2</sub> SO <sub>4</sub>
G01	780 lbs Cl <sub>2</sub>	1 event/day	0.00	0.00	0.00	0.00	0.00	0.00	1.45	0.00
G03	36.64 lbs/day		6.70	6.03	0.00	0.00	0.00	0.00	0.00	0.00
G04a,b	9,600 gal	600,000 lbs/yr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
G09a	750 gpm		0.10	0.09	0.00	0.00	0.00	0.00	0.00	0.00
G09b	750 gpm		0.10	0.09	0.00	0.00	0.00	0.00	0.00	0.00
G09c	750 gpm		0.10	0.09	0.00	0.00	0.00	0.00	0.00	0.00
G09d	750 gpm		0.10	0.09	0.00	0.00	0.00	0.00	0.00	0.00
G10	87 hp	500 hr/yr	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00
G12a	220 gpm		0.57	0.51	0.00	0.00	0.00	0.00	0.00	0.00
G12b	220 gpm		0.57	0.51	0.00	0.00	0.00	0.00	0.00	0.00
G12c	220 gpm		0.57	0.51	0.00	0.00	0.00	0.00	0.00	0.00
G12d	220 gpm		0.57	0.51	0.00	0.00	0.00	0.00	0.00	0.00
G12e	220 gpm		0.57	0.51	0.00	0.00	0.00	0.00	0.00	0.00
G12f	220 gpm		0.57	0.51	0.00	0.00	0.00	0.00	0.00	0.00
G12g	220 gpm		0.57	0.51	0.00	0.00	0.00	0.00	0.00	0.00
G12h	220 gpm		0.57	0.51	0.00	0.00	0.00	0.00	0.00	0.00
G12	220 gpm		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
G13	220 gpm		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
G14	220 gpm		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
G15	220 gpm		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
G16	220 gpm		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
G17	220 gpm		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00

EU	Rating	Conditions	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	Cl <sub>2</sub>	H <sub>2</sub> SO <sub>4</sub>
G18	220 gpm		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
G19	220 gpm		0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00

- b. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes. *[AQR 26.1.1]*

### 3. Production Limitations

- a. The Permittee should not operate cooling towers (EUs: G12a-h) after commencement of operation of the new cooling towers (EUs: G12 through G19).
- b. The Permittee shall limit the operation of the emergency generator (EU: G10) for testing and maintenance purposes to 100 hours per year. The Permittee may operate the emergency generator up to 50 hours per year for nonemergency situations, but those hours count towards the 100 hours provided for testing and maintenance. The 50 hours per year for nonemergency situations cannot be used for peak shavings or to generate income for the facility. *[40 CFR 63.6640]*

### 4. Control Requirements

- a. The Permittee shall operate and maintain the emergency chlorine scrubber (EU: G01) to a control efficiency of at least 99.0 percent. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- b. The Permittee shall only combust diesel fuel in each engine with a maximum sulfur content of 500 ppm and either a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume (EU: G10). *[40 CFR 63, Subpart ZZZZ]*
- c. After May 3, 2013, the Permittee shall maintain generator (EU: G10) as follows, unless the manufacturer's specifications are more stringent: *[40 CFR 63.6595]*
- i. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;
  - ii. Inspect air cleaners every 1,000 hours of operation or annually, whichever comes first; and
  - iii. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
- d. The Permittee shall operate and maintain the diesel generator in accordance with the manufacturer's specifications. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- e. The Permittee shall operate the cooling towers (EUs: G09a-d) with drift eliminators that maintain the drift rate at or below 0.005 percent of the circulating water flow rate.
- f. The Permittee shall operate the cooling towers (EUs: G12a-h) with drift eliminators that have a manufacturer's maximum drift rate of 0.1 percent.
- g. The Permittee shall operate the cooling towers (EUs: G12 through G19) with drift eliminators that have a manufacturer's maximum drift rate of 0.001 percent.
- h. The Permittee shall limit the total dissolved solids (TDS) concentration in the cooling tower process water (EUs: G09a-d, G012a-h, and G12 through G19) so the TDS concentration shall not exceed 2,500 ppm.
- i. The Permittee shall operate and maintain all cooling towers in accordance with the manufacturer's specifications. No chromium-containing compounds shall be used for water treatment. *[40 CFR 63, Subpart Q]*

## 5. Monitoring

- a. The Permittee shall conduct weekly visual emissions checks on the process while operating. [AQR 12.5.2.6(d)]
- b. The Permittee shall comply with monitoring conditions in Section II.E. [AQR 12.5.2.6(d)]
- c. The Permittee shall monitor the TDS in the cooling tower circulating water at least monthly. The Permittee shall use the conductivity measurements for TDS monitoring or equivalent or equivalent method approved in advance by the Control Officer. [AQR 12.5.2.6(d)]
- d. The Permittee shall operate emergency generator (EU: G10) with a non-resettable hour meter and monitor the duration of operation for testing, maintenance and non-emergency operation, and separately for emergencies. The nature of the emergency leading to emergency operation shall be documented. [AQR 12.1.4.1(d)]
- e. The Permittee shall monitor the sulfur content, and cetane index or aromatic content of the fuel burned in the emergency generator by retaining a copy of vendor fuel specifications (EU: G10). [AQR 12.1.4.1(d)]

## 6. Testing

- a. No performance testing requirements have been identified for this process. [AQR 12.5.2.6(d)]

## 7. Recordkeeping

- a. The Permittee shall maintain records on site that include, at minimum, the following information [AQR 12.5.2.6(d)]:
  - i. records of the sulfur content and cetane index or aromatic content of diesel fuel used in the diesel engines;
  - ii. monthly TDS test results of the cooling towers,
  - iii. monthly throughput of sulfuric acid;
  - iv. monthly calculation of emissions for each emission unit with rolling 12-month totals for each pollutant; and
  - v. a record of all inspections, maintenance, and repairs as specified in this document.
- b. The Permittee shall maintain on site and report the following information semi-annually [AQR 12.5.2.6(d)]:
  - i. hours of operation of the chlorine scrubber in actual emergency situations (EU: G01);
  - ii. hours of operation of the diesel generator (EU: G10); and
  - iii. calculation for each emission unit of the 12-month rolling emissions total for each pollutant for the most recent month of the reporting period.
- c. The Permittee shall include for all inspections, logs, visible emission checks, and tests required under monitoring, recordkeeping, and reporting at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). [AQR 12.5.2.6(d)]

**F. BLENDING PROCESS**

**1. Emission Units**

**Table III-F-1: List of Emission Units (EU) – Blending Process**

EU	Description	Rating	Make	Model #	Serial #
H01	Sponge Blending System #1 – South Wall Unit 12	15,000 lb/hr	Ducon	Type SDW, size 10	
H02	Sponge Blending System #2 - South Wall Unit 12	15,000 lb/hr	Ducon	Type SDW, size 10	
H03	Sponge Blending System #3 – South Wall Unit 12	15,000 lb/hr	Ducon	Type SDW, size 10	
H04	Sponge Blending System #4 – South Wall Unit 12	15,000 lb/hr	Ducon	Type SDW, size 10	
H05	Splitter System – North Wall Unit 12	15,000 lb/hr	Ducon	Type SDW, size 10	
H06	Blending Sampler Dust Collector – North Wall Unit 12	15,000 lb/hr	Ducon	Type SDW, size 10	
H07	Sponge Blending System #7 – East Wall Unit 12	15,000 lb/hr	Murphy Rogers	MRC 985-D	1541

**2. Emission Limitations**

- a. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-F-2, on a 12-month rolling basis. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

**Table III-F-2: Emission Unit PTE (tons per year) – Blending Process**

EU	Blender Limit	Control	PM <sub>10</sub>	PM <sub>2.5</sub>
H01	15,000 lb/hr	99.0 %	0.30	0.27
H02	15,000 lb/hr	99.0 %	0.30	0.27
H03	15,000 lb/hr	99.0 %	0.30	0.27
H04	15,000 lb/hr	99.0 %	0.30	0.27
H05	15,000 lb/hr	99.0 %	0.30	0.27
H06	15,000 lb/hr	99.0 %	0.30	0.27
H07	15,000 lb/hr	99.0 %	0.30	0.27

- b. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes. *[AQR 26.1.1]*

**3. Production Limitations**

- a. The Permittee shall limit throughput of each dry cyclone dust collector of the sponge blending system to 15,000 pounds per hour (EUs: H01 through H07). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

**4. Control Requirements**

- a. The Permittee shall operate dry cyclones at all the times the sponge blending operation is performed (EUs: H01 through H07). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- b. The Permittee shall operate and maintain all cyclones on the sponge blending operation (EUs: H01 through, H07) such that they have a particulate control efficiency of at least 99.0 percent.

*[NSR ATC/OP 19, Modification 13 (05/08/2006) and NSR ATC/OP 19, Modification 14 (06/22/2009)]*

- c. The Permittee shall maintain all cyclones per the manufacturer's specifications (EUs: H01 through H07). *[NSR ATC/OP 19, Modification 13 (05/08/2006) and NSR ATC/OP 19, Modification 14 (06/22/2009)]*

**5. Monitoring**

- a. The Permittee shall conduct weekly visual emissions checks on the process while operating. *[AQR 12.5.2.6(d)]*
- b. The Permittee shall comply with monitoring conditions in Section II.E. *[AQR 12.5.2.6(d)]*

**6. Testing**

- a. No performance testing requirements have been identified for this process. *[AQR 12.5.2.6(d)]*

**7. Recordkeeping**

- a. The Permittee shall maintain records on site that include, at minimum, the following information *[AQR 12.5.2.6(d)]*:
  - i. records of all inspections, maintenance, and repairs as specified in this document;
  - ii. duration of upset/breakdown or malfunction, if any, and a report on remedial actions taken during each incidence; and
  - iii. monthly calculation for each emission unit of emissions with rolling 12-month totals for each pollutant.
- b. The Permittee shall maintain on site and report the following information semi-annually *[AQR 12.5.2.6(d)]*:
  - i. hours of operation of the dry cyclones (EUs: H01 through H07);
  - ii. daily average amount of sponge processed in the sponge blending system; and
  - iii. calculation for each emission unit of the 12-month rolling emissions total for each pollutant for the most recent month of the reporting period.
- c. The Permittee shall include for all inspections, logs, visible emission checks, and tests required under monitoring, recordkeeping, and reporting at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). *[AQR 12.5.2.6(d)]*

**G. MELT/RECLAIM PROCESS**

**1. Emission Units**

**Table III-G-1: List of Emission Units (EU) – Melt/Reclaim Process**

EU	Description	Rating	Make	Model #	Serial #
I01	Blending Press & Weld 'Press Cyclone' - North	10 lb/shift	Ducon		
I02	Blending Press & Weld 'Splitter Cyclone' - South	10 lb/shift	Ducon		
J01	Primary Melt Vacuum Pump and SEV System/12 points	8 stations	Cumberland Vacuum	908-337	
J02	Secondary Melt Vacuum Pump and SEV System - 8 points	10 stations	Kiney Vacuum Division	MT800	

EU	Description	Rating	Make	Model #	Serial #
I01	Blending Press & Weld 'Press Cyclone' - North	10 lb/shift	Ducon		
I02	Blending Press & Weld 'Splitter Cyclone' - South	10 lb/shift	Ducon		
K01	Ingot Preparation D-8 Building - Torch Cutting Baghouse	4 ingots/hr	American Air Filter	Model C, size 1296	AT-60005
L02	Scrap & Reclaim Wheelabrator, FF-8 Building – South Baghouse	14,000 lbs/hr	Wheelabrator Frye	A130289	
L03	Scrap & Reclaim Torch Cutting, FF-8 Building – North Baghouse	24 batches/day	Wheelabrator Frye	A130289	

## 2. Emission Limitations

- a. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-G-2, on a 12-month rolling basis. *[NSR ATC/OP 19, Modification 13, (05/08/2006)]*

**Table III-G-2: Emission Unit PTE (tons per year) – Melt/Reclaim Process**

EU	Rating	Control	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC
I01	10 lb/shift	99.0 %	0.88	0.79	0.00	0.00	0.00	0.00
I02	10 lb/shift	99.0 %	0.88	0.79	0.00	0.00	0.00	0.00
J01	8 stations		0.83	0.75	0.00	0.00	0.00	0.00
J02	10 stations		0.83	0.75	0.00	0.00	0.00	0.00
K01	4 ingots/hr	99.0 %	0.02	0.02	0.00	0.00	0.00	0.00
L02	14,000 lbs/hr	99.0 %	0.60	0.54	0.00	0.00	0.00	0.00
L03	24 batches/day	99.0 %	0.04	0.04	0.00	0.00	0.00	0.00

- b. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes. *[AQR 26.1.1]*

## 3. Production Limitations

- a. The Permittee shall limit torch cutting to 4 ingots per hour (EU: K01). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- b. The Permittee shall limit scrap and reclaim wheelabrator operation to 14,000 lbs of scrap per hour (EU: L02). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

## 4. Control Requirements

- a. The Permittee shall operate the baghouse at all the times the ingot torch cutting operation is performed (EU: K01). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- b. The Permittee shall maintain and operate the baghouse on the ingot cutting operation (EU: K01) such that it has a particulate control efficiency of at least 99.0 percent. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- c. The Permittee shall operate the baghouse at all the times the scrap and reclaim operation is performed (EU: L02). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- d. The Permittee shall maintain and operate the baghouse on the wheelabrator (EU: L02) such that it has a particulate control efficiency of at least 99.0 percent. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

- e. The Permittee shall maintain an effective seal around the baghouses and the pressure drop across each baghouse shall be maintained within the limits specified by the manufacturer (EUs: K01, L02, and L03). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- f. The Permittee shall operate baghouse at all the times the scrap and reclaim torch cutting operation is performed (EU: L03). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- g. The Permittee shall maintain and operate the baghouse on the torch cutting reclaim operation (EU: L03) such that it has a particulate control efficiency of at least 99.0 percent. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

## **5. Monitoring**

- a. The Permittee shall conduct weekly visual emissions checks on the process while operating. *[AQR 12.5.2.6(d)]*
- b. The Permittee shall comply with monitoring conditions in Section II.E. *[AQR 12.5.2.6(d)]*
- c. The Permittee shall conduct daily monitoring of the pressure drop across each baghouse cell with the installation and operation of a pressure differential (Magnehelic) gauge per manufacturer's specifications. *[AQR 12.5.2.6(d)]*
- d. The Permittee shall visually inspect the baghouse interior at least monthly for air leaks. Defective baghouse compartments shall be sealed off and repairs completed within 5 working days of the discovery of the malfunction. Should the malfunction cause the baghouse to be ineffective in controlling particulate emissions, the processing of material shall cease until such repairs to the baghouse are completed. *[AQR 12.5.2.6(d)]*
- e. The Permittee shall have a standard operating procedures (SOP) manual for baghouses. The procedures specified in the preventive maintenance documents shall, at a minimum, include a preventative maintenance schedule that is consistent with the baghouse manufacturer's instructions for routine and long-term maintenance. *[AQR 12.5.2.6(d)]*
- f. The Permittee shall conduct weekly visual observations of baghouse and/or stack discharges to verify that visible emissions are not present in excess of allowable opacity limits. If they are, the Permittee shall cease operations producing the emissions until the problem is corrected. *[AQR 12.5.2.6(d)]*

## **6. Testing**

- a. No performance testing requirements have been identified for this process. *[AQR 12.5.2.6(d)]*

## **7. Recordkeeping**

- a. The Permittee shall maintain on site the following information *[AQR 12.5.2.6(d)]*:
  - i. weekly visual inspection of baghouses for fugitive emissions (EUs: K01, L02 and L03); and
  - ii. monthly inspection and maintenance log of baghouses (EUs: K01, L02 and L03).
- b. The Permittee shall maintain on site and report the following information semi-annually: *[AQR 12.5.2.6(d)]*
  - i. calculation for each emission unit of the 12-month rolling emissions total for each pollutant for the most recent month of the reporting period.
- c. The Permittee shall include for all inspections, logs, visible emission checks, and tests required under monitoring, recordkeeping, and reporting at least the date and time, the name of the

person performing the action, the results or findings, and the type of corrective action taken (if required). [AQR 12.5.2.6(d)]

## H. MISCELLANEOUS PROCESSES

### 1. Emission Units

**Table III-H-1: List of Emission Units (EU) – Miscellaneous Processes**

EU	Description	Rating	Make	Model #	Serial #
M01	Unit 7 Wheelabrator Baghouse	30 tons abrasive/yr	US Filter	A14-2515, 2516	
M03	Technical Laboratory Blasting Unit	15 hrs/week			
M04	Outdoor Abrasive Blast Area	180 tons abrasive/yr	Donaldson Torit	44-50	TBD
M07	Above Ground Gasoline Storage Tank	500 gallons			
M08	Above Ground Diesel Storage Tank	500 gallons			
M13	Paint Shop	1,750 gallons			
M14	Cooling Tower (west of WCF)	4,500 gpm	BAC- Pritchard	4392-2	
M17	Emergency Generator - Engine	51 hp	John Deere	A2400T-Gen	TBD
W04	Alpha Ditch Emergency Generator - Engine	35 hp	John Deere	4024TF818	OG6024

### 2. Emission Limitations

- a. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-H-2, on a 12-month rolling basis. [NSR ATC/OP 19, Modification 13, (05/08/2006)]

**Table III-H-2: Emission Unit PTE (tons per year) – Miscellaneous Processes**

EU	Rating	Control	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC
M01	30 tons abrasive/yr	99.0 %	0.21	0.19	0.00	0.00	0.00	0.00
M03	15 hrs/week	99.0 %	0.04	0.04	0.00	0.00	0.00	0.00
M04	180 tons abrasive/yr	45.0 %	0.69	0.79	0.00	0.00	0.00	0.00
M07	10,000 gal/yr		0.00	0.00	0.00	0.00	0.00	0.52
M08	50,000 gal/yr		0.00	0.00	0.00	0.00	0.00	0.08
M13	1,750 gal		0.00	0.00	0.00	0.00	0.00	5.26
M14	4,500 gpm		0.12	0.11	0.00	0.00	0.00	0.00
M17	51 hp		0.01	0.01	0.09	0.03	0.03	0.03
W04	35 hp		0.01	0.01	0.08	0.01	0.02	0.01

- b. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes. [AQR 26.1.1]

### 3. Production Limitations

- a. The Permittee shall limit operation of technical lab blasting unit to 15 hours per week (EU: M03). [NSR ATC/OP 19, Modification 13 (05/08/2006)]
- b. The Permittee shall limit usage of the abrasives in the shot blast area to 180 tons per year (EU: M04). [NSR ATC/OP 19, Modification 13 (05/08/2006)]
- c. The Permittee shall limit throughput of the gasoline storage tank up to 10,000 gallons per year (EU: M07). [NSR ATC/OP 19, Modification 13 (05/08/2006)]

- d. The Permittee shall limit throughput of the diesel storage tank up to 50,000 gallons per year (EU: M08). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- e. The Permittee shall not allow the consumption of VOC or HAP containing paint strippers, paints, basecoats, primers, reducers, thinners, solvents, etc., to exceed neither 175 gallons per month nor 1,750 gallons per year, based on a weighted average VOC content of 6.0 pounds per gallon and a HAP content that is based on 47 percent of the VOC content. The Permittee may alter the VOC/HAP content and usage in gallons such that the allowable emissions are not exceeded. *[AQR 12.5.2.6]*
- f. The Permittee shall limit the operation of the diesel emergency generators for testing and maintenance purposes to 100 hours per year (EUs: M17 and W04). The Permittee may operate the emergency generator up to 50 hours per year for nonemergency situations, but those hours count towards the 100 hours provided for testing and maintenance. The 50 hours per year for nonemergency situations cannot be used for peak shavings or to generate income for the facility. *[40 CFR 60.4211(e)]*

#### 4. Control Requirements

- a. The Permittee shall operate the Unit 7 Wheelabrator baghouse at all the times the shot blasting operations are performed (EU: M01). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- b. The Permittee shall operate and maintain the baghouse on the shot blasting operations (EU: M01) such that it has a particulate control efficiency of at least 99.0 percent. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- c. The Permittee shall maintain an effective seal around the Wheelabrator baghouse and the pressure drop across baghouse shall be maintained within the limits specified by the manufacturer (EU: M01). *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- d. The Permittee shall operate the Outdoor Abrasive Blast Area dust collector at all the times the blasting operations are performed (EU: M04). *[AQR 12.5.2.6]*
- e. The Permittee shall operate and maintain the dust collector on the outdoor blasting operations (EU: M04) in accordance with the manufacturer's specifications. *[AQR 12.5.2.6]*
- f. The Permittee must not allow gasoline to be handled in a manner that would result in vapor releases to the atmosphere for extended periods of time (EU: M07). Measures to be taken include, but are not limited to, the following *[40 CFR 63.11116]*:
  - i. minimize gasoline spills;
  - ii. clean up spills as expeditiously as practicable;
  - iii. cover all open gasoline containers and all gasoline storage tank fill-pipes with a gasketed seal when not in use;
  - iv. minimize gasoline sent to open waste collection systems that collect and transport gasoline to reclamation and recycling devices, such as oil/water separators; and
  - v. the Permittee shall have records documenting gasoline throughput within 24 hours of a request of the Control Officer.
- g. The Permittee shall apply all coatings using a HVLP gun. (EU: M13). *[AQR 12.5.2.6]*
- h. The Permittee shall not allow open containers to be used for storage or disposal of VOC or HAP-containing cloth or paper (excluding masking tape) used for surface preparation and cleanup. *[AQR 12.5.2.6]*
- i. No person shall cause, suffer or allow the discharge from any source whatsoever such quantities of air contaminants or other material which cause a nuisance, such as overspray

or excessive odors from the spray painting operation or associated operations. [AQR 40 and AQR 43]

- j. The Permittee shall ensure all containers with VOC or HAP-containing-products remain securely closed, except during product transfer. Containers shall be inspected regularly for leakage, and the contents of any leaking container must be immediately transferred to an appropriately labeled container that has been specifically designed for storage of the compound. [AQR 12.5.2.6]
- k. The Permittee shall operate the cooling tower (EU: M14) with drift eliminators that have a manufacturer's maximum drift rate of 0.001 percent. [AQR 12.5.2.6]
- l. The Permittee shall limit the total dissolved solids (TDS) concentration in the cooling tower process water (EU: M14) so the TDS concentration shall not exceed 2,500 ppm. [AQR 12.5.2.6]
- m. The Permittee shall operate the generator with turbocharger and direct injection (EU: W04). [NSR ATC/OP 19, Modification 16 05/08/2006]
- n. The Permittee shall operate and maintain the generator in accordance with the manufacturer's specifications. [NSR ATC/OP 19, Modification 16 05/08/2006]
- o. The Permittee shall use only diesel fuel with maximum sulfur content of 15 ppm and either a minimum cetane index of 40 or a maximum aromatic content of 35 percent by volume in the diesel engines (EUs: M17 and W04). [40 CFR 60.4207(b)]

## 5. Monitoring

- a. The Permittee shall conduct weekly visual emissions checks on the process while operating. [AQR 12.5.2.6(d)]
- b. The Permittee shall comply with monitoring conditions in Section II.E. [AQR 12.5.2.6(d)]
- c. The Permittee shall conduct daily monitoring of the pressure drop across each baghouse cell with the installation and operation of a pressure differential (Magnehelic) gauge per manufacturer's specifications. [AQR 12.5.2.6(d)]
- d. The Permittee shall visually inspect the baghouse interior at least monthly for air leaks. Defective baghouse compartments shall be sealed off and repairs completed within 5 working days of the discovery of the malfunction. Should the malfunction cause the baghouse to be ineffective in controlling particulate emissions, the processing of material shall cease until such repairs to the baghouse are completed. [AQR 12.5.2.6(d)]
- e. The Permittee shall have a standard operating procedures (SOP) manual for baghouses. The procedures specified in the manual for maintenance shall, at a minimum, include a preventative maintenance schedule that is consistent with the baghouse manufacturer's instructions for routine and long-term maintenance. [AQR 12.5.2.6(d)]
- f. The Permittee shall conduct weekly visual observations of baghouse and/or stack discharges to verify that visible emissions are not present in excess of allowable opacity limits. If they are, the Permittee shall cease operations producing the emissions until the problem is corrected. [AQR 12.5.2.6(d)]
- g. The Permittee shall operate each emergency generator (EUs: M17 and W04) with a non-resettable hour meter and monitor the duration of operation for testing, maintenance and non-emergency operation, and separately for emergencies. The nature of the emergency leading to emergency operation shall be documented. [AQR 12.1.4.1(d)]
- h. The Permittee shall monitor the sulfur content, and cetane index or aromatic content of the fuel burned in the emergency generators by retaining a copy of vendor fuel specifications (EUs: M17 and W04). [AQR 12.1.4.1(d)]

- i. The Permittee shall monitor the TDS in the cooling tower circulating water at least monthly. The Permittee shall use the conductivity measurements for TDS monitoring or equivalent method approved in advance by the Control Officer. [AQR 12.5.2.6(d)]
- j. The Permittee shall maintain records demonstrating the VOC and HAP content of each VOC or HAP containing compound. The records shall be kept on-site and made available to the Control Officer upon request. [AQR 12.5.2.6(d)]

**6. Testing**

- a. No performance testing requirements have been identified for this process. [AQR 12.5.2.6(d)]

**7. Recordkeeping**

- a. The Permittee shall maintain records on site that include, at minimum, the following information [AQR 12.5.2.6(d)]:
  - i. a records of the sulfur content and cetane index or aromatic content of diesel fuel used in the diesel engine;
  - ii. records of all inspections, maintenance, and repairs as specified in this document;
  - iii. MSDS or records demonstrating the VOC and HAP content for each compound;
  - iv. total monthly consumption (in gallons) of each VOC containing compound (paint strippers, paints, basecoats, primers, reducers, thinners, solvents, etc.) shall be made available to DAQ upon request; and
  - v. monthly calculation for each emission unit of emissions with rolling 12-month totals for each pollutant.
- b. The Permittee shall maintain on site and report the following information semi-annually [AQR 12.5.2.6(d)]:
  - i. weekly visual inspection of baghouses for fugitive emissions (EU: M01);
  - ii. monthly inspection and maintenance log of baghouses (EU: M01);
  - iii. hours of operation of the diesel generators (EUs: M17 and W04);
  - iv. monthly and 12-month rolling total of gasoline throughput. [40 CFR 63.11116(b)]; and
  - v. calculation for each emission unit of the 12-month rolling emissions total for each pollutant for the most recent month of the reporting period.
- c. The Permittee shall include for all inspections, logs, visible emission checks, and tests required under monitoring, recordkeeping, and reporting at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). [AQR 12.5.2.6(d)]

**I. WASTEWATER CONSERVATION FACILITY**

**1. Emission Units**

**Table III-I-1: List of Emission Units (EU) – Wastewater Conservation Facility (WCF)**

EU	Description	Rating	Make	Model #	Serial #
W01	Wastewater Neutralization	130 gal/min			
W02	WCF Chlorine Scrubber	1,800 cfm	Viron International	VCB-1112-BD-FRP-9-CW45-SHP-TEFC-PREM-460-3-60	12764
W03	Wastewater Clarification/Filtration	130 gal/min			

## 2. Emission Limitations

- a. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-I-2, on a 12-month rolling basis. *[NSR ATC/OP 19, Modification 13, (05/08/2006)]*

**Table III-I-2: Emission Unit PTE (tons per year) – Wastewater Conservation Facility (WCF)**

EU	Rating	Control	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC	Cl <sub>2</sub>
W01	130 gal/min	100.0 %	0.00	0.00	0.00	0.00	0.00	0.00	0.01
W02	1,800 ft <sup>3</sup> /min	99.95 %	0.00	0.00	0.00	0.00	0.00	0.00	0.01
W03	130 gal/min	100.0 %	0.00	0.00	0.00	0.00	0.00	0.00	0.01

- b. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes. *[AQR 26.1.1]*

## 3. Production Limitations

- a. There are no restrictions on operating hours of wastewater conservation facility. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

## 4. Control Requirements

- a. The Permittee shall not release or direct the wastewater from the neutralization process to the clarifier until the effluent has been stabilized so that the concentration of Cl<sub>2</sub> is below 0.50 ppm. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- b. The Permittee shall operate the chlorine scrubber (EU: W02) so that wastewater stabilization is established and Cl<sub>2</sub> concentrations are reduced to a level below 0.50 ppm. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- c. The Permittee shall operate the chlorine scrubber (EU: W02) according to the manufacturer specifications in order to maintain an operating efficiency at no less than 99.95% for the removal of Cl<sub>2</sub>. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- d. The Permittee shall demonstrate compliance with the Cl<sub>2</sub> emission limit from the Wastewater Conservation Facility (WCF) by submitting the chlorine scrubber's manufacturer certification of 99.95% efficiency to the Control Officer and monitoring the inlet Cl<sub>2</sub> concentrations of the chlorine scrubber (EU: W02) during upset/breakdown or malfunction conditions. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

## 5. Monitoring

- a. The Permittee shall place sensor(s) in the wastewater neutralization plant to continually detect concentrations of Cl<sub>2</sub> that result from the processing of wastewater. At a Cl<sub>2</sub> concentration of 0.50 ppm, the chlorine scrubber (EU: W02) will be automatically activated and receive all Cl<sub>2</sub> emissions that have the potential to escape to atmosphere. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*
- b. The Permittee shall install a monitoring device at the inlet of the chlorine scrubber (EU: W02) to record Cl<sub>2</sub> concentrations entering the scrubber during its operation. *[NSR ATC/OP 19, Modification 13 (05/08/2006)]*

**6. Testing**

- a. No performance testing requirements have been identified for this process. [AQR 12.5.2.6(d)]

**7. Recordkeeping**

- a. The Permittee shall maintain records on site that include, at minimum, the following information [AQR 12.5.2.6(d)]:
  - i. records of all inspections, maintenance, and repairs as specified in this document; and
  - ii. monthly calculation for each emission unit of emissions with rolling 12-month totals for each pollutant.
- b. The Permittee shall maintain on site and report the following information semi-annually [AQR 12.5.2.6(d)]:
  - i. Cl<sub>2</sub> concentrations at the inlet and outlet of the chlorine scrubber during upset/breakdown or malfunction conditions in the wastewater neutralization process (EU: W02);
  - ii. calculation for each emission unit of the 12-month rolling emissions total for each pollutant for the most recent month of the reporting period; and
  - iii. duration upset/breakdown or malfunction, if any, and a report on remedial actions taken during each incidence (EU: W02).
- c. The Permittee shall include for all inspections, logs, visible emission checks, and tests required under monitoring, recordkeeping, and reporting at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). [AQR 12.5.2.6(d)]

**J. GROUNDWATER REMEDIATION SYSTEM**

**1. Emission Units**

**Table III-J-1: List of Emission Units (EU) – Groundwater Remediation System**

EU	Description	Rating	Make	Model #	Serial #
GW01	Groundwater Remediation System, 8-tray air stripping unit	100 gpm, 850 cfm flow rate	QED	EZ-16	

**2. Emission Limitations**

- a. The Permittee shall not allow actual emissions from the individual emission units to exceed the calculated PTE listed in Table III-J-2, on a 12-month rolling basis. [NSR ATC/OP 19, Modification 16, (11/03/2009)]

**Table III-J-2: Emission Unit PTE (tons per year) – Groundwater Remediation System**

EU	Rating	PM <sub>10</sub>	PM <sub>2.5</sub>	NO <sub>x</sub>	CO	SO <sub>x</sub>	VOC
GW01	100 gpm	0.00	0.00	0.00	0.00	0.00	0.37

- b. The Permittee shall not discharge into the atmosphere, from any emission unit, any air contaminant in excess of an average of 20 percent opacity for a period of more than 6 consecutive minutes. [AQR 26.1.1]

**3. Production Limitations**

- a. There are no production limits on operation of the air stripper (EU: GW01). *[NSR ATC/OP 19, Modification 16 (11/03/2009)]*

**4. Control Requirements**

- a. Emission controls are not required for this emission unit. *[NSR ATC/OP 19, Modification 16 (11/03/2009)]*

**5. Monitoring**

- a. The Permittee shall install a non-resettable hour meter on the air stripper unit (EU: GW01). The Permittee will use the data from the meter along with flow and analytical results to calculate quarterly emissions. *[NSR ATC/OP 19, Modification 16 (11/03/2009)]*
- b. The Permittee shall monitor the air stripper emissions (EU: GW01) by conducting analyses using EPA approved standard methods. A protocol of the test methodologies and of the quality assurance and quality control shall be located at the testing laboratory and be available at the request of the Control Officer. Test methods shall be in accordance with methods listed in 40 CFR. *[NSR ATC/OP 19, Modification 16 (11/03/2009)]*
- c. The Permittee shall analyze inlet water stream (influent) for the constituents listed in Table III-J-4: *[NSR ATC/OP 19, Modification 16 (11/03/2009)]*

**Table III-J-4: List of Monitored VOCs and HAPs.**

Chemical Name	CAS Number	Class	Analytical Group
1,4-Dioxane	123911	HAP	SVOA
Phenol	108952	HAP	SVOA
Total Organic Carbon (TOC)	----	VOC	TOC
Diesel-Range Organics	----	VOC	TPH
Gasoline-Range Organics	----	VOC	TPH
Chloroform	67663	HAP	VOA
1,1,2,2,-Tetrachloroethene	79345	HAP	VOA

- d. The Permittee shall analyze the inlet water stream (influent) of the air stripper quarterly (EU: GW01). The more frequent analytical schedule may be requested by the Control Officer. *[NSR ATC/OP 19, Modification 16 (11/03/2009)]*
- e. The Permittee shall use the analytical results to determine compliance with the emissions limitations in Table III-J-2. *[NSR ATC/OP 19, Modification 16 (11/03/2009)]*

**6. Testing**

- a. No performance testing requirements have been identified for this process. *[AQR 12.5.2.6(d)]*

**7. Recordkeeping**

- a. The Permittee shall maintain records on site that include, at minimum, the following information *[AQR 12.5.2.6(d)]*:
  - i. semi-annual records of total hours of operation of the air stripper (EU: GW01);

- ii. records of air stripper water streams test results for: 1,4-dioxane, phenol, total organic carbon (TOC), diesel-range organics (TPH), gasoline-range organics (TPH), chloroform, and tetrachloroethylene;
  - iii. monthly calculation for each emission unit of emissions with rolling 12-month totals for each pollutant; and
  - iv. a record of all inspections, maintenance, and repairs as specified in this document.
- b. The Permittee shall maintain on site and report semi-annual estimation of VOC and HAP emissions and with rolling 12-month total of VOC and HAP emissions. *[AQR 12.5.2.6(d)]*
  - c. The Permittee shall include for all inspections, logs, visible emission checks, and tests required under monitoring, recordkeeping, and reporting at least the date and time, the name of the person performing the action, the results or findings, and the type of corrective action taken (if required). *[AQR 12.5.2.6(d)]*

#### **IV. OTHER REQUIREMENTS**

- 1. Should this stationary source, as defined in 40 CFR 68.3, become subject to the accidental release prevention regulations in Part 68, then the Permittee shall submit an RMP by the date specified in Section 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 CFR 70 or 71. *[AQR 12.5.2.6(d)]*
- 2. The Permittee shall not use, sell, or offer for sale any fluid as a substitute material for any motor vehicle, residential, commercial, or industrial air conditioning system, refrigerator freezer unit, or other cooling or heating device designated to use a CFC or HCFC compound as a working fluid, unless such fluid has been approved for sale in such use by the Administrator. The Permittee shall keep record of all paperwork relevant to the applicable requirements of 40 CFR 82 on site. *[40 CFR 82]*
- 3. Pursuant to AQR Sections 40 and 43, no person shall cause, suffer or allow the discharge from any source whatsoever such quantities of air contaminants or other material which cause a nuisance. *[AQR 40 and AQR 43]*
- 4. The Permittee must comply with all of the control requirements listed herein. If there is an inconsistency between standards or requirements, the most stringent standard or requirement shall apply. *[AQR 4]*

## ATTACHMENT 1

### APPLICABLE REGULATIONS

#### REQUIREMENTS SPECIFICALLY IDENTIFIED AS APPLICABLE:

1. NRS, Chapter 445B.
2. Applicable AQR Sections:

Citation	Title
AQR Section 0	Definitions
AQR Section 4	Control Officer
AQR Section 5	Interference with Control Officer
AQR Section 8	Persons Liable for Penalties – Punishment: Defense
AQR Section 9	Civil Penalties
AQR Section 10	Compliance Schedule
AQR Section 11	Ambient Air Quality Standards
AQR Section 12.4	Authority to Construct Application and Permit Requirements for Part 70 Sources
AQR Section 12.5	Part 70 Operating Permit Requirements
AQR Section 13	National Emission Standards for Hazardous Pollutants
AQR Section 14	New Source Performance Standards
AQR Section 18	Permit and Technical Service Fees
AQR Section 24	Sampling and Testing - Records and Reports
AQR Section 25	Upset/Breakdown, Malfunctions
AQR Section 26	Emissions of Visible Air Contaminants
AQR Section 40	Prohibition of Nuisance Conditions
AQR Section 41	Fugitive Dust
AQR Section 42	Open Burning
AQR Section 43	Odors in the Ambient Air
AQR Section 60	Evaporation and Leakage
AQR Section 70	Emergency Procedures
AQR Section 80	Circumvention

3. CAAA, Authority: 42 U.S.C. § 7401, et seq.
4. Applicable 40 CFR Subsections:

Citation	Title
40 CFR 52.21	Prevention of Significant Deterioration (PSD)
40 CFR 52.1470	SIP Rules
40 CFR 60, Subpart A	Standards of Performance for New Stationary Sources (NSPS) – General Provisions
40 CFR 60	Appendix A, Method 9 or equivalent, (Opacity)
40 CFR 60, Subpart Dc	Standards of Performance for Small Industrial – Commercial – Institutional Steam Generating Units
40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
40 CFR 63, Subpart Q	Standards of Performance for Industrial Cooling Towers
40 CFR 63, Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.
40 CFR 63, Subpart CCCCC	National Emission Standards for Hazardous Air Pollutants for Gasoline Dispensing Facilities
40 CFR 68	Risk Management Program
40 CFR 70	Federally Mandated Operating Permits
40 CFR 82	Protection of Stratospheric Ozone