

# **Utah State Implementation Plan**

## **Emission Limits and Operating Practices**

### **Section IX, Part H**

Adopted by the Air Quality Board  
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## IX.H EMISSION LIMITS AND OPERATING PRACTICES

(Adopted 24 September 1990 and updated June 28, 1991; February 27, 1997; July 3, 2002; and July 6, 2005.)

### IX.H.1 General Requirements.

The terms and conditions of this Subsection IX.H.1 shall apply to all sources subsequently addressed in Subsection IX.H.2 and 3. Should any inconsistencies exist between these two subsections, the source-specific conditions listed in IX.H.2 and 3 shall take precedence.

- a. Stack testing to show compliance with the emission limitations for the sources in this appendix shall be performed in accordance with 40 CFR 60, Appendix A; 40 CFR 51 Appendix M; and R307-305-5. The back half condensibles are required for inventory purposes. The following test methods shall be used for the indicated air contaminants:

- (1) PM<sub>10</sub> For stacks in which no liquid drops are present, the following methods shall be used: 40 CFR 51, Appendix M, Methods 201 or 201a plus the back half condensibles using Method 202, or other appropriate EPA approved reference method.

For stacks in which liquid drops are present, methods to eliminate the liquid drops should be explored. If no reasonable method to eliminate the drops exists, then the following methods shall be used: 40 CFR 60, Appendix A, Method 5, 5a, 5d, 5e, plus back half condensibles using method 202, or other appropriate EPA approved reference method. All particulate captured in the back half shall be considered PM<sub>10</sub>.

The PM<sub>10</sub> captured in the front half shall be considered for compliance purposes.

- (2) SO<sub>2</sub> Appendix A, Method 6, 6A, 6B or 6C
- (3) NO<sub>x</sub> Appendix A, Method 7, 7A, 7B, 7C, 7D or 7E
- (4) Sample Location Appendix A, Method 1
- (5) Volumetric Flow Rate Appendix A, Method 2
- (6) Calculations To determine mass emission rates, the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors to give the results in the specified units of the emission limitation.

Notification of the test date shall be provided at least 30 days prior to the test. A pretest conference shall be held if directed by the Executive Secretary. The emission point shall be designed to conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approvable access shall be provided to the test location. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years.

- b. Compliance with the annual limitations shall be determined based on a rolling 12-month total. By the last day of each month a new 12-month total shall be calculated using data from the previous 12 months.
- c. Any information used to determine compliance shall be recorded for all periods when the plant is in operation, and such records shall be kept for a minimum of five years. Any or all of these records shall be made available to the Executive Secretary upon request.
- d. All installations and facilities authorized by this regulation shall be adequately and properly maintained.
- e. The definitions contained in R307-101-2, Definitions, apply to Section IX, Part H.
- f. Visible emissions shall be as follows except as otherwise designated in specific source subsections:
  - \* baghouse applications shall not exceed 10% opacity;
  - \* scrubber and ESP applications shall not exceed 15% opacity;
  - \* combustion sources without control facilities shall not exceed 10% opacity;
  - \* fugitive emissions shall not exceed 15% opacity; and
  - \* fugitive dust and all other sources shall not exceed 20% opacity.
- g. Opacity observations of emissions from stationary sources shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. For intermittent sources and mobile sources opacity observations shall be conducted using procedures similar to Method 9, but the requirement for observations to be made at 15-second intervals over a six minute period shall not apply.
- h. All unpaved roads and other unpaved operational areas that are used by mobile equipment shall be water sprayed and/or chemically treated to control fugitive dust. Treatment shall be of sufficient frequency and quantity to maintain the surface material in a damp or moist condition, unless the ambient temperature is below freezing. The opacity shall not exceed 20% during all times. If chemical treatment other than magnesium chloride is to be used, the plan must be approved by the executive secretary. Records of water and/or chemical treatment shall be kept for all periods when the plant is in operation. The records shall include the following items:
  - A. Date;
  - B. Number of treatments made, dilution ratio, and quantity;
  - C. Rainfall received, if any, and approximate amount; and
  - D. Time of day treatments were made.

Records of treatment shall be made available to the executive secretary upon request and shall include a period of two years ending with the date of the request.

- i. Petroleum Refineries.
  - (1) All petroleum refineries in or affecting the PM<sub>10</sub> nonattainment/maintenance area shall, for the purpose of this PM<sub>10</sub> SIP:
    - (a) remove a minimum of 95% of the sulfur from feed streams processed by the sulfur recovery unit (SRU) for all periods of operation except for startup, shutdown, or malfunction of the SRU. The feed streams to be processed shall include the acid gas from the amine regeneration unit and the sour-water stripper. SRU efficiency shall be estimated and reported to the Executive Secretary a minimum of once per year.

- (b) reduce the H<sub>2</sub>S content of the refinery plant gas to 0.10 grain/dscf (160 ppm) or less, except during startup, shutdown, or malfunction of the amine plant. Compliance shall be based on a rolling average of 24 hours. The owner/operator shall install and maintain a continuous monitoring system for monitoring the H<sub>2</sub>S content of the refinery plant gas and a continuous recorder to record the H<sub>2</sub>S in the plant fuel gas. The monitoring system shall comply with all applicable sections of R307-170 and 40 CFR 60, Appendix B, Specification 7. As used herein, refinery "plant gas" shall have the meaning of "fuel gas" as defined in 40 CFR 60, Subpart J, and may be used interchangeably.

If the monitor reading is not available, the refinery plant gas shall be sampled as closely to the monitor location as safely possible at least once each day. The sample shall be analyzed for sulfur content by use of a chemical detector tube capable of reading the required concentration (e.g., Drager Hydrogen Sulfide No. 1/D or equivalent).

For natural gas, compliance is assumed while the fuel comes from a public utility.

- (c) no longer burn fuel oil in external combustion equipment, except during periods of natural gas curtailment or as specified in IX.H.2. External combustion shall mean combustion that takes place at no greater pressure than one inch of mercury above ambient pressure.
- (d) achieve an emission rate equivalent to no more than 9.8 kg of SO<sub>2</sub> per 1,000 kg of coke burn-off from any Catalytic Cracking unit by use of low-SO<sub>x</sub> catalyst or equivalent emission reduction techniques or procedures, including those outlined in 40 CFR 60, Subpart J. Unless otherwise specified in IX.H.2, compliance shall be determined daily based on a rolling seven-day average.
- (e) not exceed 20% opacity at any process flare. Opacity at catalytic cracking units, including those with ESP facilities, shall not exceed 20%, with compliance to be determined in accordance with Subsection (g) above.

(2) Compliance Demonstrations.

- (a) (a) Compliance with the maximum daily (24-hr) plant-wide emission limitations for PM<sub>10</sub>, SO<sub>2</sub>, and NO<sub>x</sub> shall be determined by adding the calculated emission estimates for all fuel burning process equipment to those from any stack-tested or CEM-measured source components. NO<sub>x</sub> and PM<sub>10</sub> emission factors shall be determined from AP-42 or from test data.

For SO<sub>x</sub>, the emission factors are:

Natural gas: EF = 0.60 lb/MMscf

Propane: EF = 0.60 lb/MMscf

Plant gas: the emission factor shall be calculated from the H<sub>2</sub>S measurement required in IX.H.1.i(1)(b). The emission factor, where appropriate, shall be calculated as follows:

$$(\text{lb SO}_2/\text{MMscf gas}) = (24 \text{ hr avg. ppmv H}_2\text{S})/10^6 * (64 \text{ lb SO}_2/\text{lb mole}) * (10^6 \text{ scf/MMscf}) / (379 \text{ scf / lb mole})$$

Fuel oils (when permitted): The emission factor shall be calculated based on the weight percent of sulfur, as determined by ASTM Method D-4294-89 or approved equivalent, and the density of the fuel oil, as follows:

$$\text{EF (lb SO}_2\text{/k gal)} = \text{density (lb/gal)} * (1000 \text{ gal/k gal}) * \text{wt.\% S/100} * (64 \text{ lb SO}_2\text{/32 lb S)}$$

Where mixtures of fuel are used in an affected unit, the above factors shall be weighted according to the use of each fuel.

- (b) Daily emission estimates for stack-tested source components shall be made by multiplying the latest stack-tested hourly emission rate times the logged hours of operation (or other relevant parameter) for that source component for each day. This shall not preclude a source from determining emissions through the use of a CEM that meets the requirements of R307-170.
  - (c) The sulfur dioxide concentration in the flue gas of Sulfur Recovery Units shall be determined by a continuous emission monitor that meets or exceeds the requirements contained in 40 CFR 60, Appendix B, Performance Specification 2. The monitor shall be maintained and calibrated in accordance with R307-170. The mass flow rate of the flue gas shall be determined by a volumetric flow measurement device that meets or exceeds the requirements contained in 40 CFR 52 Appendix E.
  - (d) Any parameters necessary to determine compliance, including but not limited to: CEM data, fuel gas meter readings, hours of operation for stack-tested source components, and the calculated emissions, shall be recorded on a daily basis. These records shall be kept for a minimum of five years. Any or all of these records shall be made available to the Executive Secretary upon request.
  - (e) The emissions increase (above normal operations) experienced during the SRU routine turnarounds shall not be included in the daily (24-hr) or annual compliance demonstrations.
  - (f) Emissions due to upset flaring shall not be included in the daily (24-hr) or annual compliance demonstrations.
- (3) SRU maintenance period
- (a) The routine turnaround maintenance period (expected every 2 to 5 years for approximately a 15 day period) for a Sulfur Recovery Unit shall only be scheduled during the period of April 1 through October 31. The projected SRU turnaround period shall be submitted to the Executive Secretary by April 1 of each year in which a turnaround is planned. Notice shall also be provided the Executive Secretary 30 days prior to the planned turnaround.
  - (b) Alternatively, a source may choose to conduct its turnaround maintenance outside of the window identified in paragraph 3.A above; however, in such case the exemption provided in Subsection IX.H.1.i(2)(e) above shall no longer apply.

## **IX.H.2 Source-Specific Particulate Emission Limitations in Salt Lake and Davis Counties**

### **a. BOUNTIFUL CITY POWER**

- (1) (a) NO<sub>x</sub> emissions from the 5.3 MW Turbine Exhaust Stack shall not exceed 0.0721 tons per day.
- (b) Annual NO<sub>x</sub> emissions from the entire plant shall not exceed 248.00 tons per rolling 12-month period. Combined emissions shall be the sum of emissions from natural gas fired turbine and each internal combustion engine.

Compliance with the mass emission limits shall be demonstrated by multiplying the most recent stack test results, for the turbine and each engine, by the total hours of operation along with any necessary conversion factors. Compliance with the annual limitation shall be based on a rolling 12-month total. Hours of operation shall be determined by supervisor monitoring and maintaining of an operations log.

- (2) Engine #8 shall be retested to verify the emissions factors after every 800 operating hours, or at least once every 24 months. All other engines and the turbine shall be tested once a year. Emission testing for NO<sub>x</sub> shall be performed using a portable monitoring system.
- (3) If the annual NO<sub>x</sub> emissions for the entire plant exceed 200 tons for any previous 12-month period, the owner/operator shall submit a report of the emissions to the Executive Secretary within 30 days. Within 90 days the owner/operator shall submit to the Executive Secretary for approval, a plan with proposed specifications for the installation, calibration, and maintenance of a Continuous Emissions Monitoring System (CEMS) for NO<sub>x</sub>. The CEMS shall be on line within 12 months following the approval of the plan.
- (4) Visible emissions shall be no greater than 10 percent opacity except for 15 minutes at start-up and 15 minutes at shutdown and during allowed straight fuel oil use. When straight fuel oil is used, visible emissions shall be no greater than 20 percent opacity except for operation not exceeding 3 minutes in any hour.

**b. CENTRAL VALLEY WATER RECLAMATION FACILITY**

- (1) (a) NO<sub>x</sub> emissions from the operation of all engines at the plant shall not exceed 0.648 tons per day.

Compliance with the daily mass emission limits shall be demonstrated by multiplying emission factors (in units of mass per kw-hr) determined for each engine by the most recent stack test results, by the respective kilowatt hours generated each day. Power production shall be determined by examination of electrical meters which shall record the electricity production. Continuous recording is required. The records shall be kept on a daily basis.

- (b) NO<sub>x</sub> emissions from the operation of all engines at the plant shall not exceed 205.6 tons per year.

- (2) Stack testing to determine the emission factors necessary to show compliance with the emission limitations stated in the above condition shall be performed at least once every five (5) years.

**c. CHEVRON PRODUCTS CO.**

(1) PM<sub>10</sub> Emissions

*DAILY LIMIT:* Combined emissions of PM<sub>10</sub> from all external combustion process equipment, including the FCC CO Boiler and Catalyst Regenerator shall be no greater than 0.234 tons per day.

Emissions for the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 or from testing listed below by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

The emission factor for the FCC CO Boiler and Catalyst Regenerator shall be determined by a stack test at least once every three years.

(2) SO<sub>2</sub> Emissions

(a) Cap Sources:

- (i) *DAILY LIMIT:* Combined emissions of sulfur dioxide from gas-fired compressor drivers and all external combustion process equipment, including the FCC CO Boiler and Catalyst Regenerator, shall not exceed 2.977 tons/day.

Emissions for gas-fired compressor drivers and the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 or from testing listed below by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

The emission factor for the FCC CO Boiler and Catalyst Regenerator shall be determined by a stack test at least once every three years. Compliance with Subsection IX.H.1.i.(1)(d) shall be determined as part of each test.

Alternatively, SO<sub>2</sub> emissions from the FCC CO Boiler and Catalyst Regenerator may be determined using a Continuous Emissions Monitor (CEM) in accordance with IX.H.1.i.2.b.

- (ii) *12-MONTH LIMIT:* Emissions of SO<sub>2</sub> from all external combustion process equipment, including the FCC CO Boiler and Catalyst Regenerator, shall be no greater than 953.9 tons per rolling twelve-month period.

(b) Sulfur Recovery Unit (SRU):

Emissions of SO<sub>2</sub> from the SRU shall not exceed 2.128 tons/day.

Emissions from the SRU Tail Gas Incinerator (TGI) shall be determined daily by multiplying the SO<sub>2</sub> concentration in the flue gas by the mass flow of the flue gas.

Whenever the SO<sub>2</sub> CEM is bypassed for short periods, SO<sub>2</sub> CEM data from the previous three days will be averaged and used as an emission factor to determine emissions.

(3) NO<sub>x</sub> Emissions

(a) *DAILY LIMIT:*

Combined emissions of NO<sub>x</sub> from gas-fired compressor drivers and all external combustion process equipment, including the FCC CO Boiler and Catalyst Regenerator and the SRU Tail Gas Incinerator, shall be no greater than 3.248 tons per day.

Emissions for gas-fired compressor drivers and the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 or from testing listed below by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

The emission factor for the FCC CO Boiler and Catalyst Regenerator shall be determined by a stack test at least once every three years.

Alternatively, NO<sub>x</sub> emissions from the FCC CO Boiler and Catalyst Regenerator may be determined using a Continuous Emissions Monitor (CEM) in accordance with IX.H.1.i.2.b.

(b) *12-MONTH LIMIT:*

Emissions of NO<sub>x</sub> from gas-fired compressor drivers and all external combustion process equipment, including FCC CO Boiler and Catalyst Regenerator and the SRU Tail Gas Incinerator, shall be no greater than 1,021.6 tons per rolling twelve-month period.

- (4) Chevron shall not be required to comply with the emission rates outlined in Subsection IX.H.1.i.(1)(d) until January 1, 2007.
- (5) Chevron shall be permitted to combust HF alkylation polymer oil in its Alkylation unit.

**d. FLYING J INC., BIG WEST OIL CO.**

(1) PM<sub>10</sub> Emissions

(a) *DAILY LIMIT:*

- (i) Combined emissions of PM<sub>10</sub> from all external combustion process equipment, including the SRU Tail Gas Incinerator and the Catalyst Regeneration System, shall not exceed the following:

- (A) 0.377 tons per day, between October 1 and March 31;  
(B) 0.407 tons per day, between April 1 and September 30.

- (ii) Emissions for the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

The daily primary PM<sub>10</sub> contribution from the Catalyst Regeneration System shall be calculated using the following equation:

$$\text{Emitted PM}_{10} = (\text{Feed rate to FCC in kbbl/time}) * (22 \text{ lbs/kbbl})$$

wherein the emission factor (22 lbs/kbbl) may be re-established by stack testing.

Total 24-hour PM<sub>10</sub> emissions shall be calculated by adding the daily emissions from the external combustion process equipment to the estimate for the Catalyst Regeneration System.

- (b) *12-MONTH LIMIT:* PM<sub>10</sub> emissions from all sources shall not exceed 71 tons. Compliance shall be based on a rolling 12-month total.

(2) SO<sub>2</sub> Emissions

(a) Plantwide

- (i) Daily Limit: Combined emissions of sulfur dioxide from all external combustion process equipment, including the SRU Tail Gas Incinerator and the Catalyst Regeneration System, shall not exceed the following limits:

- (A) 2.764 tons/day, between October 1 and March 31;  
(B) 3.639 tons/day, between April 1 and September 30.

- (ii) Emissions for the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

The daily SO<sub>2</sub> emission from the Catalyst Regeneration System shall be calculated using the following equation:

$$\text{SO}_2 = [43.3 \text{ lb SO}_2/\text{hr} / 7,688 \text{ bbl feed/day}] \times [(\text{operational feed rate in bbl/day}) \times (\text{wt\% sulfur in feed} / 0.1878 \text{ wt\%}) \times (\text{operating hr/day})]$$

wherein the scalar values (43.3 lb SO<sub>2</sub>/hr, 7,688 bbl feed/day, and 0.1878 wt% sulfur in feed) shall be re-established by stack testing at least every five years. Compliance with Subsection IX.H.1.i.(1)(d) shall also be determined as part of each test.

The FCC feed weight percent sulfur concentration shall be determined by the refinery laboratory every 30 days with one or more analyses.

Alternatively, SO<sub>2</sub> emissions from the Catalyst Regeneration System may be determined using a Continuous Emissions Monitor (CEM) in accordance with IX.H.1.i.2.b.

Total 24-hour SO<sub>2</sub> emissions shall be calculated by adding the daily emissions from the external combustion process equipment to the values for the Catalyst Regeneration System and the SRU.

- (b) *INDIVIDUAL POINT SOURCE LIMITATION*: The Sulfur Recovery Unit (SRU) shall be regulated individually for SO<sub>2</sub> at the following emission limits:

October 1 through March 31	0.5323 tons per day;
April 1 through September 30	0.6927 tons per day

Emissions from the SRU Tail Gas Incinerator (TGI) shall be determined daily by multiplying the sulfur dioxide concentration in the flue gas by the mass flow of the flue gas.

- (c) *THE 12-MONTH SO<sub>2</sub> EMISSION LIMIT* for the Entire Refinery shall be 712.5 tons per rolling 12-month period. Of this amount, emissions from the sulfur treatment plant shall not exceed 223.58 tons per 12-month period.

### (3) NO<sub>x</sub> Emissions

- (a) *DAILY LIMIT*:

- (i) Combined emissions of NO<sub>x</sub> from gas-fired compressor drivers and all external combustion process equipment, including the Catalyst Regeneration System, shall not exceed the following:

(A) 1.027 tons per day, between October 1 and March 31;  
(B) 1.145 tons per day, between April 1 and September 30.

- (ii) Emissions for gas-fired compressor drivers and the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

The daily NO<sub>x</sub> emission from the Catalyst Regeneration System shall be calculated using the following equation:

$$\text{NO}_x = (\text{Flue Gas, moles/hr}) \times (180 \text{ ppm} / 1,000,000) \times (30.006 \text{ lb/mole}) \times (\text{operating hr/day})$$

wherein the scalar value (180 ppm) may be re-established by stack testing.

Alternatively, NO<sub>x</sub> emissions from the Catalyst Regeneration System may be determined using a Continuous Emissions Monitor (CEM) in accordance with IX.H.1.i.2.b.

Total 24-hour NO<sub>x</sub> emissions shall be calculated by adding the daily emissions from gas-fired compressor drivers and the external combustion process equipment to the value for the Catalyst Regeneration System.

- (b) *12-MONTH LIMIT*: NO<sub>x</sub> from gas-fired compressor drivers and all external combustion process equipment, including the Catalyst Regeneration System, shall not exceed 396.7 tons per rolling 12-month period.

**e. GENEVA ROCK PRODUCTS, POINT OF THE MOUNTAIN (Hansen Pit and Mount Jordan Pit)**

- (1) PM<sub>10</sub> emissions from the Asphalt Plant Baghouse Stack (APBH) shall not exceed 0.127 tons per day.

Compliance with the daily mass emission limits shall be demonstrated by multiplying the most recent stack test results, along with any necessary conversion factors, by the appropriate hours of operation for each day. Hours of operation shall be determined by supervisor monitoring and maintaining an operations log.

- (2) Stack testing shall be performed as specified below:

<i>POLLUTANT</i>	<i>TEST FREQUENCY</i>
PM <sub>10</sub> (virgin materials)	5 years
PM <sub>10</sub> (recycle asphalt)	3 years

When testing for PM<sub>10</sub> emissions during manufacture of recycle asphalt, recycle asphalt shall be introduced into the plant at a rate no less than 45% of the plant production

- (3) Visible emissions from the following emission points shall not exceed the following values:

- (a) All crushers - 10% opacity
- (b) All screens - 10% opacity
- (c) All conveyor transfer points - 10% opacity
- (d) Conveyor drop points - 15% opacity

- (4) The following production limits are the combined totals for the Hansen Pit and the Mount Jordan Pit:

(a) *ASPHALT PLANT*

- (i) 500 tons of asphalt produced per hour (averaged over each operating day).
- (ii) 50% recycle asphalt used in the manufacture of asphalt (averaged over each operating shift).

(b) *CONCRETE BATCH PLANT*

2,400 cubic yards of concrete produced per 24-hour period.

(c) *AGGREGATE PITS*

37,944 tons per 24-hour period of aggregate crushing and screening production.

**f. HOLLY REFINING AND MARKETING CO.**

(1) PM<sub>10</sub> Emissions

*DAILY LIMIT:*

Combined emissions of PM<sub>10</sub> from all external combustion process equipment, including the Sulfur Recovery Unit Tail Gas Incinerator, shall be no greater than 0.444 tons per day.

Emissions for the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 or from testing below by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

The emission factor for the (51-6) CO Boiler shall be determined by stack test. Testing is required once at least every five years.

(2) SO<sub>2</sub> Emissions

*DAILY LIMIT:*

Combined emissions of SO<sub>2</sub> from gas-fired compressor drivers and all external combustion process equipment, including the Sulfur Recovery Unit Tail Gas Incinerator, shall be no greater than 4.714 tons per day.

Emissions for gas-fired compressor drivers and the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 or from testing below by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

Fuel Oil - The weight percent sulfur and the fuel oil density shall be recorded for each day any fuel oil is combusted. Fuel oil may be combusted in external combustion process equipment only during periods of natural gas curtailment.

The emission factor for the (51-6) CO Boiler shall be determined by stack test. Testing is required at least once every five years. Compliance with Subsection IX.H.1.i.(1)(d) above shall be determined as part of each test. Alternatively, SO<sub>2</sub> emissions from the (51-6) CO Boiler may be determined using a Continuous Emissions Monitor (CEM) in accordance with IX.H.1.i.2.b.

Emissions from the SRU/TGI shall be determined daily by multiplying the sulfur dioxide concentration in the flue gas by the mass flow of the flue gas.

(3) NO<sub>x</sub> Emissions:

(a) *DAILY LIMIT:*

Combined emissions of NO<sub>x</sub> from gas-fired compressor drivers and all external combustion process equipment, including the Sulfur Recovery Unit Tail Gas Incinerator, shall be no greater than 2.20 tons per day.

Emissions for gas-fired compressor drivers and the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

(b) *12-MONTH LIMIT:*

Combined emissions of NO<sub>x</sub> from gas-fired compressor drivers and all external combustion process equipment, including the Sulfur Recovery Unit Tail Gas Incinerator, shall be no greater than 693.0 tons per rolling twelve-month period.

**g. INTERSTATE BRICK**

(1) Emissions to the atmosphere from the indicated emission point shall not exceed the following rate:

(a) Scrubber Emissions - Tunnel Kiln #1:

- (i) PM<sub>10</sub> 0.150 tons/day
- (ii) SO<sub>2</sub> 0.120 tons/day
- (iii) NO<sub>x</sub> 0.209 tons/day

(b) Scrubber Emissions - Tunnel Kiln #3:

- (i) PM<sub>10</sub> 0.288 tons/day
- (ii) SO<sub>2</sub> 0.144 tons/day
- (iii) NO<sub>x</sub> 0.310 tons/day

(c) Scrubber Emissions - Tunnel Kiln #4:

- (i) PM<sub>10</sub> 0.458 tons/day
- (ii) SO<sub>2</sub> 0.216 tons/day
- (iii) NO<sub>x</sub> 0.150 tons/day

Compliance with the daily mass emission limits shall be demonstrated by multiplying the most recent stack test results, along with any necessary conversion factors, by the appropriate hours of operation for each day. Hours of operation shall be determined by supervisor monitoring and maintaining an operations log.

(2) Stack testing shall be performed as specified below:

<i>POLLUTANT</i>	<i>TEST FREQUENCY</i>
PM <sub>10</sub> (Kilns #1, 3, & 4)	every 5 years after initial compliance test
NO <sub>x</sub> (Kilns #1, 3, & 4)	every 5 years after initial compliance test
SO <sub>2</sub> (Kilns #1, 3, & 4)	every year

**h. KENNECOTT UTAH COPPER: MINE**

(1) *BINGHAM CANYON MINE:*

- (a) Total material moved (ore and waste) shall not exceed 260,000,000 tons per 12-month period
- (b) Annual emissions of SO<sub>2</sub> from the combustion of fuel shall not exceed 97 tons per year. SO<sub>2</sub> emissions from fuel burning shall be determined using the following equation:

$$\text{tpy SO}_2 = (\text{gal fuel / year}) * (7.05 \text{ lb/gal}) * (\% \text{ S by wt.}) / 2000 \text{ lb/ton} * (2 \text{ lb SO}_2 / \text{lb S})$$

- (c) The sulfur content of diesel fuel oil burned in the equipment engines shall not exceed 0.03 pounds of sulfur per million BTU heat input as determined by the appropriate ASTM Method. This represents 0.05% sulfur by weight in the fuel oil.

**i. KENNECOTT UTAH COPPER: POWER PLANT and TAILINGS IMPOUNDMENT**

(1) *UTAH POWER PLANT*

The following requirements, subsections (a) through (f), are applicable unless and until the owner/operator has complied with the requirements set forth in Subsection (g) below.

- (a) During the period from November 1, to the last day in February, inclusive, the following conditions shall apply:
  - (i) The four boilers shall use only natural gas as a fuel, unless the supplier or transporter of natural gas imposes a curtailment. The power plant may then burn coal, only for the duration of the curtailment plus sufficient time to empty the coal bins following the curtailment.

- (ii) Fuel usage shall be limited to the following:

- (A) 42,706 MMBTU per day of natural gas
    - (B) 31,510 MMBTU per day of coal, only during curtailment of natural gas supply

- (iii) *NATURAL GAS USED AS FUEL:*

Except during a curtailment of natural gas supply, emissions to the atmosphere from the indicated emission point shall not exceed the following rates:

- (A) For each of boilers no. 1, 2, & 3:

- NO<sub>x</sub>                    1.91 ton/day

- (B) For boiler no. 4:

- NO<sub>x</sub>                    3.67 ton/day

- (iv) *COAL USED AS FUEL:*

Emissions to the atmosphere from the indicated emission point shall not exceed the following rates:

- (A) For each of boilers no. 1, 2, & 3:

- (I) PM<sub>10</sub>                    0.208 ton/day
      - (II) NO<sub>x</sub>                    2.59 ton/day

- (B) For boiler no. 4:

- (I) PM<sub>10</sub>                    0.402 ton/day
      - (II) NO<sub>x</sub>                    4.52 ton/day

- (v) Owner/operator shall provide monthly reports to the Executive Secretary showing daily total emission estimates based upon boiler usage, fuel consumption and previously available results of stack tests.

(b) During each annual period from March 1 to October 31, inclusive, the following conditions shall apply:

(i) KUCC shall use coal, natural gas, oils that meet all the specifications of 40 CFR 266.40(e) and contains less than 1000 ppm total halogens, and/or number two fuel oil or lighter in the boilers.

(ii) The following limit on fuel usage shall not be exceeded:

50,400 MMBTU per day of heat input

(iii) Emissions to the atmosphere from each emission point shall not exceed the following rates and concentrations:

(A) For each of boilers no. 1, 2 & 3:

(I)PM<sub>10</sub>0.208 ton/day

(II)NO<sub>x</sub> 2.59 ton/day

(B) For boiler no. 4:

(I)PM<sub>10</sub>0.402 ton/day

(II)NO<sub>x</sub>4.52 ton/day

(c) Stack testing to show compliance with the above emission limitations shall be performed as follows for all four boilers and the following air contaminants:

<i>POLLUTANT</i>	<i>TESTING FREQUENCY</i>
(i). NO <sub>x</sub>	every year
(ii) PM <sub>10</sub>	every year

The heat input during all compliance testing shall be no less than 90% of the design rate. To determine mass emission rates (ton/day) the pollutant concentration as determined by the appropriate methods shall be multiplied by the volumetric flow rate and any necessary conversion factors to give the results in the specified units of the emission limitation.

The limited use of natural gas during startup, for maintenance firings and break-in firings does not constitute operation and does not require stack testing.

(d) Visible emissions from the boiler stacks shall not exceed the associated opacity on a six-minute average, based on 40 CFR 60, Appendix A, Method 9, or as measured by a Continuous Opacity Monitor except as provided for in R307-305-3(4):

(i) Natural Gas as Fuel 10% opacity

(ii) Coal as Fuel 20% opacity

(e) The sulfur content of any fuel burned shall not exceed 0.52 lb of sulfur per million Btu (annual running average), nor shall any one test exceed 0.66 lb of sulfur per million Btu. The owner/operator shall submit monthly reports of sulfur input to the boilers. The reports shall include:

\* sulfur content,

- \* gross calorific value and moisture content of each gross coal sample,
  - \* the gross calorific value of all coal and gas,
  - \* the total amount of coal and gas burned, and
  - \* the running annual average sulfur input calculated at the end of each month of operation.
- (f) To determine compliance with a daily limit owner/operator shall calculate a daily limit. The BTU limit shall be determined by monitoring the daily natural gas, and/or coal consumption and multiplying that value with the BTU rating of the fuel consumed. The natural gas BTU used shall be that value supplied by the natural gas vendor from the previous months bill. The BTU limit for coal shall be determined by monitoring the daily coal consumption and multiplying that value with the coal BTU rating. KUCC shall provide test certification for each load of coal received. Test certification for each load received shall be defined as test once per day for coal received that day from each supplier. Certification shall be either by their own testing or test reports from the coal marketer. Records of BTU fuel usage shall be kept on a daily basis.
- (g) The requirements set forth in conditions (a) – (f) above shall apply at the Utah Power Plant unless and until the following occur:
- (i) A Notice of Intent is submitted to the Executive Secretary, pursuant to the procedures of R307-401, that describes the specific technologies that will be used.
  - (ii) An Approval Order is issued that authorizes implementation of the approach set forth in the Notice of Intent.
  - (iii) Notwithstanding the requirements specified in R307-401, the Notice of Intent must demonstrate that the technologies specified in the Approval Order would represent Reasonably Available Control Measures (RACM), as required by Section 172(c)(1) of the Clean Air Act.
  - (iv) To the extent that the current SIP requirements outlined above in conditions (a) - (f) above have been relied upon by the Utah SIP to satisfy Section 172(c)(4) or Section 175A(a) of the Clean Air Act, demonstrate that the technologies specified in the Approval Order would also provide for attainment or maintenance of the National Ambient Air Quality Standards. The demonstration required in this paragraph may incorporate modeling previously conducted by the State for the purpose of a maintenance demonstration.
  - (v) The technologies specified in the Approval Order have been installed and tested in accordance with the Approval Order.
  - (vi) The terms and conditions of the Approval Order implementing the approach set forth in the Notice of Intent have been incorporated into a Title V Operating Permit, in accordance with R307-415.
  - (vii) As of the effective date of the Operating Permit, the PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> emissions limits for the Utah Power Plant boilers, including applicable monitoring requirements, set forth in that permit as most recently amended, shall become incorporated by reference into the Utah SIP. Henceforth, those terms and conditions specified in the Operating Permit shall supersede conditions (a) - (f) above.

(2) *TAILINGS IMPOUNDMENT:*

- (a) Visible emissions caused by fugitive dust shall not exceed 10% at the property boundary, and 20% onsite except during periods when wind speeds exceed the value specified in UAC R307-309 and control measures in the most recently approved dust control plan are being taken. The fugitive dust control plan shall utilize the fugitive dust control strategies listed in UAC R307-205 and R307-309.
- (b) Kennecott shall submit reports and conduct on site inspections on the fugitive dust abatement program activities for the executive secretary as specified in the most current Approval Order and operating permit.
- (c) All unpaved roads and other unpaved operational areas that are used by mobile equipment shall be water sprayed or chemically treated to control fugitive dust. Treatment shall be of sufficient frequency and quantity to maintain the surface material in a damp/moist or crusted condition.
- (d) On the North Tailings Impoundment, as the embankment cells are filled during continual raising of the embankment, dust shall be controlled by the inherent high water content of the hydraulically placed cyclone underflow. Portions of the embankment that are not under active construction shall be kept wet or tackified by applying chemical stabilizing agents or water pumped from the toe ditch. Newly formed exterior slopes shall be stabilized with chemical stabilizing agents or vegetation.
- (e) Disturbed or stripped areas of the North Tailings Impoundment shall be kept sufficiently moist during the project to minimize fugitive dust. This control, or other equivalent control methods, shall remain operational during the project cycle and until the areas have been reclaimed. The control methods used shall be operational as needed 24 hours per day, 365 days per year or until the area has been reclaimed.
- (f) The minimum cycle time required for wetting all interior beach areas of the North Impoundment between February 15 and November 15 shall be at least every four days.
- (g) On the North Tailing Impoundment Kennecott shall conduct wind erosion potential inspections monthly between February 15 and November 15. The tailings distribution system consisting of the North Tailing Impoundment shall be operated to maximize surface wetness. Wind erosion potential is the area that is not wet, frozen, vegetated, crusted or treated and has the potential for wind erosion. No more than 50 contiguous acres or more than 5% of the total North tailings area shall be permitted to have the potential for wind erosion. If it is determined that the total surface area with the potential for wind erosion is greater than 5%, or at the request of the Executive Secretary, inspections shall be conducted once every five working days. Kennecott shall immediately initiate the revised inspection schedule and the results reported to the Executive Secretary within 24 hours of the inspection. The schedule shall continue to be implemented until Kennecott measures a total surface with the potential for wind erosion of less than or equal to 5%. If Kennecott or the Executive Secretary, determines that the percentage of wind erosion potential is exceeded, Kennecott shall meet with the Executive Secretary, or Executive Secretary's staff, to discuss additional or modified fugitive dust controls/operational practices, and an implementation schedule for such, within five working days following verbal notification by either party.
- (h) On the closed South Tailings Impoundment Kennecott shall conduct wind erosion potential inspections on inactive non-reclaimed areas monthly between February 15 and November 15. No more than 50 contiguous acres or more than 5% of the South Tailings impoundment tailings area shall be permitted to have the potential for wind erosion. Wind erosion potential is the area that is

not wet, frozen, vegetated, crusted or treated and has the potential for wind erosion. Inactive but non-reclaimed areas are to be stabilized by chemical stabilizing agents, ponded water, sprinklers, vegetation or other methods of fugitive dust control. If it is determined by Kennecott or the Executive Secretary, that the total surface area with the potential for wind erosion is greater than 5% of total tailings area, or at the request of the Executive Secretary, inspections shall be conducted once every five working days. Kennecott shall immediately initiate the revised inspection schedule and the results reported to the Executive Secretary within 24 hours of the inspection. The schedule shall continue to be implemented until Kennecott measures a total surface with the potential for wind erosion of less than or equal to 5% total tailings area. If Kennecott or the Executive Secretary, determines that the percentage of wind erosion potential is exceeded, Kennecott shall meet with the Executive Secretary, or Executive Secretary's staff, to discuss additional or modified fugitive dust controls/operational practices, and an implementation schedule for such, within five working days following verbal notification by either party.

- (i) Exterior tailings impoundment areas determined by Kennecott or the executive secretary to be sources of excessive fugitive dust shall be stabilized through vegetation cover or other approved methods. The exterior tailings surface area of the North Impoundment shall be re-vegetated or stabilized so that no more than 5% of the total exterior surface area shall be subject to wind erosion.
- (j) If between February 15 and November 15 of each calendar year Kennecott's weather forecast is for a wind speed at more than 25 mph for more than one hour within 48 hours of issuance of the forecast, the procedures listed below shall be followed:
  - (i) Alert the DAQ promptly.
  - (ii) Continue surveillance and coordination.
- (k) If a temporary or permanent shutdown occurs that would affect any area of the Kennecott Tailings Impoundment, Kennecott shall submit a final dust control plan for all areas of the Tailings Impoundment to the Executive Secretary for approval at least 60 days prior to the planned shutdown.

**j. KENNECOTT UTAH COPPER: SMELTER and REFINERY**

(1) *SMELTER:*

(a) Emissions to the atmosphere from the indicated emission points shall not exceed the following rates and concentrations:

(i) Main Stack (Stack No. 11)

- (A) PM<sub>10</sub>                      89.5 lbs/hr (24 hr. average)
- (B) SO<sub>2</sub>     (I)     552 lbs/hr (3 hr. average – rolling)
- (II)    422 lbs/hr (24 hr. average - calendar day)
- (III)   211 lbs/hr (annual average)
- (C) NO<sub>x</sub>                      35.0 lbs.hr (annual average)

(ii) Acid Plant Tail Gas

- SO<sub>2</sub>     (I)     1,050 ppmdv (3 hr. rolling average)
- (II)    650 ppmdv (6 hr. rolling average)

All annual average emissions limits shall be based on rolling 12-month averages. Based on the first day of each month, a new 12-month total shall be calculated using the previous 12 months.

Reference to stack in Condition #1 above and Condition #2 below may not necessarily refer to an exhaust point to the atmosphere. Many emission sources are commingled with emissions from other sources and exit to the atmosphere from a common emission point. "Stack" in these conditions refers to the point prior to mixing with emissions from other sources.

(b) Stack testing to show compliance with the emissions limitations of Condition (a) above shall be performed as specified below:

<i>EMISSION POINT</i>	<i>POLLUTANT</i>	<i>TEST FREQUENCY</i>
(i) Main Stack PM <sub>10</sub> (Stack No. 11)	SO <sub>2</sub>	every year
	NO <sub>x</sub>	CEM
(ii) Acid Plant Tailgas	SO <sub>2</sub>	CEM

(c) Testing Status (To be applied to (a) and (b) above)

- (i) To demonstrate compliance with the main stack mass emissions limits for SO<sub>2</sub> and NO<sub>x</sub> of Condition (a)(i) above, KUC shall calibrate, maintain and operate the measurement systems for continuously monitoring SO<sub>2</sub> and NO<sub>x</sub> concentrations and stack gas volumetric flow rates in the main smelter stack. Such measurement systems shall meet the requirements of R307-170.
- (ii) In addition to the stack test required to measure PM<sub>10</sub> in (b) above, the owner/operator shall calibrate, maintain and operate a system to continuously measure emissions of particulate matter from the main stack. For purposes of determining compliance with the emission limit,

- all particulate matter collected shall be reported as PM<sub>10</sub>. Compliance with the main stack emission limit for PM<sub>10</sub> shall be demonstrated using the smelter main stack continuous particulate sampling system to provide a 24-hour value. The owner/operator may petition the Air Quality Board at any time to discontinue the operation of the continuous monitor. An analysis of the potential PM<sub>10</sub> uncontrolled emissions from the main stack shall be submitted to the Executive Secretary at the time of such a petition.
- (iii) The owner/operator shall install, calibrate, maintain, and operate continuous monitoring systems on the acid plant tail gas.
  - (iv) All monitoring systems shall comply with all applicable sections of R307-170.
  - (v) KUC shall maintain records of all measurements necessary for and including the expression of PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> emissions in terms of pounds per hour. Emissions shall be calculated at the end of each day for the preceding 24 hours for PM<sub>10</sub>, SO<sub>2</sub> and NO<sub>x</sub> and calculated at the end of each hour for the preceding three-hour period for SO<sub>2</sub>. Results for each measurement or monitoring system and reports evaluating the performance of such systems shall be summarized and shall be submitted to the Executive Secretary within 20 days after the end of each month.
- (d) Visible emissions from the following emission points shall not exceed the following values:
- (i) Smelter Main Stack (stack 11)      20% opacity
  - (ii) Sources equipped with continuous opacity monitors (acid plant tailgas and main stack) shall use the compliance methods contained in 40 CFR 60.11.
- (e) All gases produced during smelting and/or converting which enter the primary gas handling system shall pass through an online sulfuric acid plant. During the start-up/shutdown process of any equipment, the gas emissions shall be ducted, as necessary, either to the acid plant or to the secondary scrubber for control.
- (i) A log shall be kept of any time the gases produced during smelting and/or converting are not passed through an online sulfuric acid plant. An additional log shall be kept and include the dates, times and durations of all times any gases from smelting and/or converting bypass both the acid plant and the secondary gas system. The log will serve as the monitoring requirement.
- (f) The owner/operator shall employ the following measures for reducing escape of pollutants to the atmosphere and to capture emissions and vent them through a stack or stacks:
- (i) Maintenance of all ducts, flues, and stacks in such a fashion that leakage of gases to the ambient air will be prevented to the maximum extent practicable.
  - (ii) Operation and maintenance of gas collection systems in good working order.
  - (iii) Making available to the Executive Secretary the preventive/routine maintenance records for the hooding systems, dust collection mechanism of waste heat boilers, furnace wet scrubbing systems, and dry electrostatic precipitators.
  - (iv) Weekly observation of process units.

- (v) Monthly inspection of gas handling systems.
- (vi) Maintenance of gas handling systems, available on call on a 24-hour basis.
- (vii) Operation and maintenance of an upwind/downwind fugitive monitoring system. The owner/operator may petition the Executive Secretary to discontinue the operation of this system.
- (viii) Contained conveyance of acid plant effluent solutions.

Within 90 days of approval of these conditions, KUC submitted to the Division examples of the forms and records that will be used to comply with Conditions (f) (iv) and (v) above. KUC may modify these forms and records after approval in accordance with R307-401-1.

- (g) Secondary hoods and ventilation systems shall be installed on the following points to capture fugitive emissions into the secondary ventilation system or other approved pollution control devices:
  - (i) Concentrate Dryer Feed Chute
  - (ii) Slag and Matte Granulators
  - (iii) Smelting and Converting Furnaces
  - (iv) Slag Pot Filling Stations.

(2) *REFINERY:*

- (a) Emissions to the atmosphere from the indicated emission point shall not exceed the following rate:

<i>EMISSION POINT</i>	<i>POLLUTANT</i>	<i>MAXIMUM EMISSION RATE</i>
The sum of Two (Tankhouse) Boilers	NO <sub>x</sub>	0.11 tons/day

- (b) Stack testing to show compliance with the above emission limitations shall be performed as follows:

<i>POLLUTANT</i>	<i>TESTING FREQUENCY</i>
NO <sub>x</sub>	every three years

To determine mass emission rate, the pollutant concentration as determined by the appropriate methods above, shall be multiplied by the volumetric flow rate and any necessary conversion factors to give the results in the specified units of the emission limitation. Provided that the two boilers installed are identical in make, model, and pollution control equipment, compliance with the emission limitation by the second boiler shall be determined by the stack test of the first boiler.

- (c) The owner/operator shall use only natural gas or landfill gas as a primary fuel in the boilers. The boilers may be equipped to operate on #2 fuel oil; however, operation of the boilers on #2 fuel oil shall only occur during periods of natural gas curtailment and during testing and maintenance periods. Operation of the boilers on #2 fuel oil shall be reported to the Executive Secretary within one working day of start-up. Emissions resulting from operation of the boiler on #2 fuel

oil shall be reported to the Executive Secretary within 30 days following the use of #2 fuel oil in the boilers.

**k. PACIFICORP, GADSBY POWER PLANT**

- (1) NO<sub>x</sub> emissions from the operation of all boilers and turbines at the plant shall not exceed 6.57 tons per day. Total plant emissions shall be the sum of emissions from each of the boilers and each of the turbines.

Daily emissions from each boiler shall be determined by a continuous emission monitoring system (CEMS) as required by 40 CFR Part 75 for the Acid Rain Program.

NO<sub>x</sub> emissions from each turbine shall be based on a rolling 30-day average.

- (2) PM<sub>10</sub> emissions from the operation of all boilers and turbines at the plant shall not exceed 73.89 tons per rolling 12-month period. Total plant emissions shall be the sum of emissions from each of the boilers and each of the turbines. The emissions shall be determined on a rolling 12-month total. Emission factors for PM<sub>10</sub> shall be obtained from EPA's Compilation of Air Pollutant Emission Factors, AP-42.
- (3) Visible emissions shall be no greater than 10 percent opacity from each turbine. In lieu of monitoring via visible emission observations, fuel usage shall be monitored to demonstrate that only pipeline-quality natural gas is used as fuel.

## 1. TESORO WEST COAST

### (1) PM<sub>10</sub> Emissions

*DAILY LIMIT:* Combined emissions of PM<sub>10</sub> from gas-fired compressor drivers and all external combustion process equipment, including the FCC/CO Boiler (ESP), shall be no greater than 0.261 tons per day.

Emissions for gas-fired compressor drivers and the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 or from testing below by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

The FCCU/COB stack (ESP) shall be stack tested every year to determine the PM<sub>10</sub> emission factor.

### (2) SO<sub>2</sub> Emissions

#### (a) Cap Sources:

- (i) *DAILY LIMIT* - Combined emissions of SO<sub>2</sub> from gas-fired compressor drivers and all external combustion process equipment, including the FCC/CO Boiler (ESP), shall not exceed the following:

(A) November 1 through end of February: 3.699 tons/day

(B) March 1 through October 31: 4.374 tons/day

- (ii) Emissions for gas-fired compressor drivers and the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

Emissions from the ESP stack (FCC/CO Boiler) shall be determined daily by multiplying the SO<sub>2</sub> concentration in the flue gas by the mass flow of the flue gas and subtracting the emissions attributable to combustion of plant gas in the CO Boiler.

The SO<sub>2</sub> concentration in the flue gas shall be determined by a continuous emission monitor (CEM) that meets or exceeds the requirements contained in 40 CFR 60, Appendix B, Performance Specification 2.

Whenever the SO<sub>2</sub> CEM is unavailable for short periods (i.e. CO boiler or ESP emergency bypass, FCCU start-up and shutdowns), SO<sub>2</sub> CEM data from the previous three days will be averaged and used as an emission factor to determine emissions from the FCCU.

The mass flow rate of the flue gas shall be determined by a volumetric flow measurement device that meets or exceeds the requirements contained in 40 CFR 52 Appendix E.

Emissions attributable to combustion of plant gas in the CO Boiler shall be calculated by multiplying the quantity of fuel used in the CO boiler by the emission factor for plant gas.

- (b) *SULFUR RECOVERY UNIT, TAIL GAS INCINERATOR (SRU/TGI):* Emissions of SO<sub>2</sub> from the SRU shall not exceed 1.68 tons/day.

Emissions from the SRU/TGI shall be determined daily by multiplying the SO<sub>2</sub> concentration in the flue gas by the mass flow of the flue gas.

- (c) *12-MONTH LIMIT*: Emissions of SO<sub>2</sub> from the entire facility shall not exceed 1,637 tons per rolling 12-month period.

(3) NO<sub>x</sub> Emissions

- (a) *DAILY LIMIT*: Combined emissions of NO<sub>x</sub> from gas-fired compressor drivers and all external combustion process equipment shall be no greater than 1.988 tons per day.

Emissions for gas-fired compressor drivers and the group of external combustion process equipment shall be determined daily by multiplying the appropriate emission factor from section IX.H.1.i.2 or from testing listed below by the relevant parameter (e.g. hours of operation, feed rate, or quantity of fuel combusted) at each affected unit, and summing the results for the group of affected units.

The emission factor for the Ultraformer Furnace (stack F1) shall be determined by stack test. Testing shall be performed once each year.

The emission factor for the Crude Unit Furnace (stack H-101) shall be determined by stack test. Testing shall be performed once every three years.

The emission factors for both trains of the cogeneration facility shall be determined by stack test. Testing shall be performed at each train once every two years, with one train tested each year.

- (b) Emissions of NO<sub>x</sub> from each gas-fired compressor driver shall be no greater than 3.20 lb/hr.
- (c) *12-MONTH LIMIT*: Emissions of NO<sub>x</sub> from gas-fired compressor drivers and all external combustion process equipment shall be no greater than 598 tons per rolling twelve-month period.

**m. WEST VALLEY LEASING COMPANY LLC, WEST VALLEY POWER PLANT**

Combined NO<sub>x</sub> emissions from the operation of all five turbines under steady state operation (not including startups and shutdowns) shall not exceed 0.44 tons per day calculated on a 30-day rolling average.

NO<sub>x</sub> emissions shall be calculated from the CEMs recorded data using 40 CFR 60 App. A, Method 19. The owner/operator shall install, calibrate, maintain, and operate a continuous monitoring system for measuring nitrogen oxides. The monitoring system shall be used for measuring and determining compliance.

### IX.H.3 Source-Specific Particulate Emission Limitations for Utah County

#### a. GENEVA NITROGEN, INC.

(1) Emissions to the atmosphere from the indicated emission points shall not exceed the following rates and concentrations:

- (a) Montecatini Acid Plant Vent  
NO<sub>x</sub> 0.389 tons/day 140 tons/yr
- (b) Weatherly Acid Plant Vent  
NO<sub>x</sub> 0.233 tons/day 83.8 tons/yr
- (c) Prill Tower  
PM<sub>10</sub> 0.24 tons/day 86 tons/yr

Compliance with the daily and annual mass emission limits shall be demonstrated by multiplying the most recent stack test results, along with any necessary conversion factors, by the appropriate hours of operation for each day and for each rolling 12-month period. Hours of operation shall be determined by supervisor monitoring and maintaining of an operations log.

(2) Stack testing shall be performed as specified below:

	<i>EMISSION POINT</i>	<i>POLLUTANT</i>	<i>TEST FREQUENCY</i>
(a)	Montecatini Acid Plant Vent	NO <sub>x</sub>	every two years
(b)	Weatherly Acid Plant Vent	NO <sub>x</sub>	every three years
(c)	Prill Tower	PM <sub>10</sub>	every three years

**b. GENEVA ROCK PRODUCTS, OREM PLANT**

- (1) During the period from November 1 to the last day in February, inclusive, emissions to the atmosphere from the indicated emission point shall not exceed the following rates and concentrations:

Asphalt Plant Baghouse Stack (APBH)

- (a) PM<sub>10</sub>        0.103 tons/day
- (b) NO<sub>x</sub>         0.568 tons/day
- (c) SO<sub>x</sub>         0.484 tons/day

Compliance with the daily mass emission limits shall be demonstrated by multiplying the most recent stack test results, along with any necessary conversion factors, by the appropriate hours of operation for each day. Hours of operation shall be determined by supervisor monitoring and maintaining an operations log.

- (2) Stack testing shall be performed as specified below:

<i>EMISSION POINT</i>	<i>POLLUTANT</i>	<i>TEST FREQUENCY</i>
Asphalt Plant	PM <sub>10</sub>	3 years
	NO <sub>x</sub>	3 years
	SO <sub>x</sub>	3 years

- (3) Opacity observations of emissions from the Asphalt Plant shall be conducted at least once every 12 months.

**c. PAYSON CITY POWER**

- (1) NO<sub>x</sub> emissions from the operation of all engines combined shall not exceed 1.54 tons per day.

The number of kilowatt hours generated by each engine shall be recorded on a daily basis. Emission factors shall be derived from the most recent emission test results.

- (2) NO<sub>x</sub> emissions from the operation of all engines combined shall not exceed 268 tons per 12-month period.

The number of kilowatt hours generated by each engine shall be recorded on a daily basis. Compliance with the daily mass emission limits shall be demonstrated by multiplying emission factors (in units of mass per kw-hr,) determined for each engine by the most recent stack test results, by the respective kilowatt hours generated each day.

- (3) The emission factors necessary to determine compliance with conditions (1) and (2) above shall be determined by stack test, to be performed at least once every three (3) years.

- (4) Visible emissions shall be no greater than 10 percent opacity except for 15 minutes at start-up and shutdown. When straight diesel fuel is used, visible emissions shall be no greater than 20 percent opacity except for 15 minutes at start-up and shutdown .

**d. PROVO CITY POWER**

- (1) NO<sub>x</sub> emissions from the operation of all engines and boilers at the plant shall not exceed 2.45 tons per day.

The following equation shall be used to calculate the daily emissions from each engine:

$$\begin{aligned} & (\text{Power production in kW-hr/day}) \times (\text{Emission rate in gram/kW-hr}) \\ & \times (1 \text{ lb}/453.59 \text{ g}) \times (1 \text{ ton}/2000 \text{ lbs}) = \text{tons/day} \end{aligned}$$

- (2) NO<sub>x</sub> emissions from the operation of all engines and boilers at the plant shall not exceed 254 tons per 12-month period.

The following equation shall be used to calculate the emissions from each engine:

$$\begin{aligned} & (\text{Power production in kW-hr/rolling 12-month period}) \times (\text{Emission rate in gram/kW-hr}) \\ & \times (1 \text{ lb}/453.59 \text{ g}) \times (1 \text{ ton}/2000 \text{ lbs}) = \text{tons per rolling 12-month period} \end{aligned}$$

- (3) Stack testing to update the emission rate factors used in Conditions (1) and (2) above shall be performed as follows:

Boiler No. 4 and Boiler No. 5 shall each be tested every 8,760 hours of operation and at least once every five years.

Each engine shall be tested every 8,760 hours of operation and at least once every five years.

- (4) Total plant emissions shall be the sum of emissions from each of the engines and boilers. The emission rates to be used in the equations listed in conditions 1 and 2 above shall be derived from the most recent stack test results. Power production rates shall be determined by Watt Hour meters on each of the engine and boiler generators. The total amount of kilowatt-hours generated by each engine or boiler shall be recorded on both a daily and a monthly basis.

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- (1) (a) NO<sub>x</sub> emissions from the operation of all engines at the plant shall not exceed 1.68 tons per day.
  - (b) NO<sub>x</sub> emissions from the operation of all engines at the plant shall not exceed 248 tons per 12-month period.
- (2) Compliance with the above limitations shall be determined by a continuous emissions monitoring system (CEM) meeting the requirements of R307-170. Daily NO<sub>x</sub> emissions shall be calculated for each individual engine and summed into a monthly output. The monthly outputs shall be summed into a rolling 12-month total of NO<sub>x</sub> in tons/year. The owner/operator shall calculate a new 12-month total by the last day of each month using data from the previous 12 months. Records of emissions shall be kept for all periods when the plant is in operation.

## **IX.H.4. Establishment of Alternative Requirements**

### **a. Alternative Requirements.**

In lieu of the requirements imposed pursuant to Subsections IX.H.1, **2 and 3** above, a facility owner may comply with alternative requirements, provided the requirements are established pursuant to the permit issuance, renewal, or significant permit revision process found in R307-415 and are consistent with the streamlining procedures and guidelines set forth in Subsections b and c below. These procedures and guidelines are drawn from section II.A. of EPA's *White Paper Number 2 for Improved Implementation of the Part 70 Operating Permits Program*, dated March 5, 1996.

For the sources subject to R307-415, an alternative requirement is approved for the source by the executive secretary and the EPA if it is incorporated in an issued part 70 permit to which EPA has not objected. Any public comments concerning the alternative will be transmitted to EPA with the proposed permit. The executive secretary's determination of approval is not binding on the EPA.

Noncompliance with an alternative requirement approved under this plan shall constitute a violation of the underlying SIP condition that was established in Subsections IX.H.1, **2 or 3** of this plan.

### **b. Demonstrating Equivalency of an Alternative Requirement.**

The source shall demonstrate that the alternative requirement is as or more stringent than the existing SIP requirement, considering, among other things, the following:

#### (1) For emission limits:

- (a) Emission limits should be converted to a common format/units of measure so that a direct comparison can be made. If not, a valid, detailed correlation must be demonstrated between different formats/units so that a comparison is possible.
- (b) Are compliance dates as or more stringent (earlier or more frequent)?
- (c) Are averaging times as or more stringent?
- (d) Are transfer or collection efficiencies as or more stringent?
- (e) Will the same pollutants be regulated to the same or greater extent?
- (f) Are any exceptions/defenses as or more limited?
- (g) Are associated test methods as or more stringent?

#### (2) For work practice standards:

- (a) Are base elements the same (e.g., if the original rule addresses frequency of inspection and recordkeeping, does the new rule address these same elements?) and are requirements relating to these elements as or more stringent?
- (b) The comparison should be for each individual emissions unit. The comparison should not analyze across multiple emissions units.
- (c) Are compliance dates as or more stringent (earlier or more frequent)?

- (d) Are averaging times, if any, as or more stringent?
  - (e) Will the same pollutants be regulated to the same extent?
  - (f) Are any exceptions/defenses as or more limited?
- (3) For monitoring requirements/test methods:
- (a) Would alternative monitoring assure compliance to the same or greater degree?
  - (b) Is the monitoring frequency the same or greater?
  - (c) Is the monitoring method as or more accurate, precise, reliable, and replicable?
  - (d) Is there sufficient evidence of the alternative method's accuracy/reliability?
  - (e) Are any exceptions to requirements as or more limited?
  - (f) Are quality assurance procedures as or more robust?
- (4) For reporting requirements:
- (a) Is the reporting frequency the same or more frequent?
  - (b) Are the reporting requirements the same or more detailed?
  - (c) Are the deadlines for reporting the same or more frequent?
- (5) For record keeping requirements:
- (a) Are the record keeping requirements the same or more detailed?
  - (b) Are the retention requirements as or more stringent?
  - (c) Are the requirements/methods as or more reliable?

If the source fails to demonstrate that the proposed alternative is as or more stringent than the provision to be replaced, the executive secretary shall disapprove the proposed alternative.

**c. Procedure.**

- (1) A source can request an equivalent emission limitation or other requirement by submitting the following information to the executive secretary.
  - (a) Side-by-side comparison of existing and proposed requirements for specific emissions units of the source.
  - (b) A proposed written determination regarding relative stringency in accordance with Subsection b above, including documentation to support the determination. This shall be repeated for each emissions unit-pollutant combination.

- (2) The source shall comply with the existing SIP limitation or requirement until the new limitation or requirement has been included in the source's operating permit and becomes effective. If the source won't be able to immediately comply with the new limitation or requirement, the source shall comply with existing limits/requirements until the new limits/requirements become effective.
- (3) If the executive secretary disapproves the requested changes, the existing requirements remain in place. If EPA objects to the requested changes in accordance with R307-415-8, the existing requirements remain in place.
- (4) At the time the executive secretary transmits a source's part 70 application to EPA, the executive secretary will notify EPA if a source has requested an equivalent emission limitation. The executive secretary will review the request, and if the executive secretary agrees that the source has demonstrated that the alternative requirement is as or more stringent than the existing SIP requirement, the executive secretary will submit the equivalent demonstration and supporting documentation to EPA in advance of draft permit issuance. If the executive secretary disapproves the requested changes, the disapproval notice will be submitted to EPA.