

BUREAU OF AIR POLLUTION CONTROL

901 SOUTH STEWART STREET SUITE 4001

CARSON CITY, NEVADA 89701-5249

p: 775-687-9350 • www.ndep.nv.gov/bapc • f: 775-687-6396

Facility ID No. A0009

PERMIT NO. AP2819-0886.01

CLASS I AIR QUALITY OPERATING PERMIT

Issued to: CYANCO Company, hereinafter called the permittee

Section VI. Specific Operating Conditions

A. Emission Units S2.001 through S2.003; location: North 4,532.552 km, East 427.513 km, UTM (Zone 11)

Table with 3 columns: Unit ID, Unit Name, Description. Row 1: S 2.001, Catalytic Reactor. Row 2: S 2.002, Waste Heat Exchanger. Row 3: S 2.003, Caustic Scrubber.

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program Air Pollution Control Equipment

Emissions from S2.001 through S2.003 each, shall be ducted to a control system consisting of a Thermal Oxidizer TO-1, with a 100% capture efficiency. The Thermal Oxidizer TO-1 must be operated at all times, including startup, shutdown and cleansing operations, and any resulting process gasses must be ducted through the Thermal Oxidizer TO-1. Thermal Oxidizer TO-1 must be operated during any upset conditions which results in emissions which can be ducted through the Thermal Oxidizer TO-1.

Stack Parameters

Height: 55.0 60.0 ft

Diameter: 4.33 4.46 ft

Exhaust Temperature: 1,575 1,750 °F

Velocity: 128.0 103.8 ft/sec

Volume Flow: 15,515 14,912 DSCFM

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program Emission Limits

On and after the date of startup of S2.001 through S2.003, the permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of TO-1 the following pollutants in excess of the following specified limits:

- a. NAC 445B.305 Part 70 Program - The discharge of PM10 (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 2.0 2.3 pounds per any one hour period.
b. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 2.0 2.3 pounds per any one hour period.
c. NAC 445B.305 Part 70 Program - The discharge of NOx (nitrogen oxides) to the atmosphere will not exceed 23.0 pounds per any one hour period, nor more than 92.0 tons per year, based on a 12-month rolling period.
d. NAC 445B.305 Part 70 Program - The discharge of CO (carbon monoxide) to the atmosphere will not exceed 9.50 10.83 pounds per any one hour period, nor more than 38.0 tons per year, based on a 12-month rolling period.
e. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 8.73 9.95 pounds per any one hour period.
f. NAC 445B.305 Part 70 Program - The discharge of Cyanide Compounds to the atmosphere will not exceed 1.0 0.68 pound per any one hour period.
g. SIP 445.721 Federally Enforceable SIP Requirement - The opacity from the stack discharge of TO-1 will not equal or exceed 20% for a period or periods aggregating more than 3 minutes in any one hour.
h. SIP 445B.2207(1)(b) State Only Requirement Federally Enforceable SIP Requirement - Incinerator burning which produces, for periods totaling 1 minute in 1 hour, a visible emission which is of an opacity equal to or greater than 20 percent, is prohibited.
i. NAC 445B.22017 State Only Requirement Federally Enforceable SIP Requirement - The opacity from the stack discharge of TO-1 will not equal or exceed 20%.



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**Facility ID No. A0009**

**PERMIT NO. AP2819-0886.01**

### CLASS I AIR QUALITY OPERATING PERMIT

Issued to: CYANCO Company, hereinafter called the permittee

## Section VI. Specific Operating Conditions

### A. Emission Units S2.001 through S2.003 (Continued)

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Operating Parameters

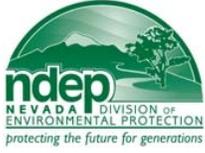
- a. The maximum allowable production rate of **Sodium Cyanide** from **S2.001 through S2.003 combined**, will not exceed ~~3.2~~ **3.6** tons per any one hour period, nor more than ~~50~~ **57** million pounds per year, based on a 12-month rolling period.
- b. **TO-1** will combust only pipeline quality natural gas and normal process waste gases.
- c. The maximum operating heat input rate for **TO-1** will not exceed ~~2.15~~ **56.0** MMBtu per hour.
- d. **TO-1** will maintain a minimum 1400°F operating temperature.
- e. 445B.2207(3) ~~State Only Requirement~~ Federally Enforceable SIP Requirement The rated burning capacity, operating and maintenance procedures approved by the Director for **TO-1** must be posted conspicuously at or near **TO-1**.
- f. Hours  
**S2.001 through S2.003 each**, may operate a total of **8760** hours per year.

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program  
Monitoring, Recordkeeping, Reporting and Compliance

a. Performance/Compliance Testing

The Permittee shall:

- (1) Within 180 days of issuance of this operating permit, and once every year thereafter, conduct and record compliance tests for **PM**, **PM<sub>10</sub>**, **CO**, **NO<sub>x</sub>** and **VOC** using Methods 5, 201A/202, 10, 7 and 25 (or equivalent EPA reference methods approved in advance by the Director). Compliance tests for **Cyanide Compounds** will also be conducted once every year, using a combination of Method 5 and NIOSH Method 7904. All compliance tests must consist of a minimum of three valid runs for each pollutant on the exhaust stack of (**TO-1**). The periodic compliance tests will be conducted at the maximum sodium cyanide production rate established in 3.a. of this section for each pollutant required to be tested. The Method 5, 10 and 25 compliance tests must be conducted in accordance with test methods contained in 40 CFR Part 60, Appendix A. The sample time for each Method 5 test run shall be at least 60 minutes. The sample volume for each Method 5 test run shall be at least 60 dry standard cubic feet per minute (dscfm). The Method 201A/202 compliance tests must be conducted simultaneously and in accordance with 40 CFR Part 51, Appendix M. The NIOSH Method 7904 compliance test will be conducted in accordance with NIOSH Manual of Analytical Methods, Fourth Edition (8/15/1994). All annual compliance testing will be conducted not more than 90 days from the anniversary date of the previous compliance testing. Upon written request, the Director may approve an extension to the annual compliance test date.
- (2) A Method 5 compliance test, which includes the back-half catch, may be substituted for the Method 2012A/202 compliance tests required in 4.a.(1) of this section. All particulate matter captured in the Method 5 tests, performed under this provision, will be considered **PM<sub>10</sub>** emissions for compliance demonstration purposes.
- (3) After at least three successive compliance tests, the Director may authorize, in writing, a less frequent compliance testing schedule than the annual testing schedule required in 4.a.(1) of this section. The authorization will be based on pollutant-by-pollutant review of the emission rates during each compliance test. The review will include an evaluation of the variability in the measured emission rates and the percentage amount that the measured emission rates are below the permitted emission limit. The review will also include an evaluation of the operating throughput rate recorded during each compliance test, readings of the relevant control parameters taken during each compliance test and any other information requested by the Director. The compliance testing frequency will not be less than one test every five years.
- (4) During each compliance test, as required in 4.a.(1) and (2) of this section, record the total sodium cyanide production (based on a 100% contained NaCN basis).
- (5) During each compliance test run, but no less frequently than once per calendar year, record the opacity of the discharge from the exhaust stack of **TO-1**, using either a calibrated continuous opacity monitor or the visible emissions evaluation procedures contained in 40 CFR Part 60, Appendix A, Method 9. The visible emissions evaluations must be conducted by a certified visible emissions reader for a period of one-hour (recorded as 60 one-minute averages).



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Section VI. Specific Operating Conditions

A. Emission Units S2.001 through S2.003 (Continued)

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring, Recordkeeping, Reporting and Compliance

a. Performance/Compliance Testing (continued)

(6) During each compliance test run, record the average incinerator thermal oxidizer residence time.

b. Monitoring

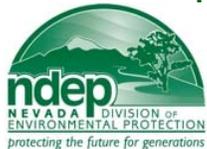
The Permittee shall:

- (1) Monitor the average NaCN production (in tons) for each one-hour period.
(2) Install, calibrate, operate and maintain in the exhaust stack of TO-1, a NOx continuous emission monitoring (CEM) system...
(3) Install, calibrate, operate and maintain an in-stack flow monitoring device in the exhaust stack of TO-1. Install, calibrate, operate, and maintain flow monitoring devices on the inlet flows of TO-1.
(4) Monitor the hours of operation of S2.001 through S2.003 each.
(5) Continuously monitor and record the oxidizer's (TO-1) operating temperature (in °F).
(6) Conduct a weekly inspection of TO-1. Record any problems with TO-1 and any corrective actions taken.
(7) The indicator range for TO-1 shall be defined as follows: The operating temperature for TO-1 shall be maintained at or above 1,400 °F. Excursions shall be defined as any time the operating temperature for TO-1 falls below this indicator range during one 15 minute rolling average period.
(8) CYANCO will monitor and sample the ambient air for Hydrogen Cyanide and monitor and record meteorological conditions at the sampling site as specified by the Bureau of Air Pollution Control and in accordance with the requirements of the PSD Monitoring Guidelines (EPA 450/4-87-007) and all the quality assurance procedures specified in the Quality Assurance Handbook for Air Pollution Measurement Systems (EPA 600/4-77-027a).

Hydrogen Cyanide Property Monitor 10.00 ppm @ 0.87 KM, East North East

Hydrogen Cyanide Property Monitor 10.00 ppm @ 0.47 KM, South
(Property monitor's set points are for reference conditions of 1 atm, 273 °K)

(9) A monitoring alarm system must be connected to the Humboldt County Sheriff's Department. This system will be capable of automatically notifying the Sheriff's Department not more than 15 minutes following an exceedance of respective property monitoring limits.



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## Section VI. Specific Operating Conditions

### A. Emission Units S2.001 through S2.003 (Continued)

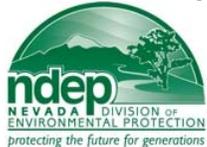
#### 4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program*

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 *Compliance Assurance Monitoring Program*

#### c. Recordkeeping

The Permittee shall:

- (1) Install, calibrate, operate, and maintain a continuous data collection system (CDCS) to record the NaCN production required in A.4.b.(1) of this section. The production rate will be recorded at least once every 15 minutes.
- (2) Use the CDCS required in A.4.c.(1) of this section to also continuously record the ~~incinerator's~~ thermal oxidizer's operating temperature. The temperature will be recorded at least once every 15 minutes.
- (3) Use the CDCS required in A.4.c.(1) of this section to also continuously record the information measured as required by A.4.b.(2) of this section and the calculated NO<sub>x</sub> emission rate based on the monitored NO<sub>x</sub> concentration and monitored flow rate. All measured information will be recorded at least once every 15 minutes. Additionally, record the following parameters:
  - (a) The hourly average NO<sub>x</sub> concentration (in ppm);
  - (b) The hourly average O<sub>2</sub> concentration (in percent) if required by A.4.b.(2) of this section. A flag will be included in the CDCS record to indicate whether the O<sub>2</sub> concentration is based on dry or wet O<sub>2</sub> measurements.
  - (c) The volume flow rate as measured by the ~~in-stack~~inlet flow monitoring ~~device~~devices located in the ~~exhaust stack inlet flows of TO-1. Total flow through TO-1 will be recorded on a daily basis.~~
  - ~~(d) The hourly average NO<sub>x</sub> emissions (in lb/hr) as calculated from the intermediate emissions determined in A.4.c.(3) of this section.~~
  - ~~(e) The total NO<sub>x</sub> emissions (in short tons) for the each calendar month calculated from the hourly NO<sub>x</sub> emissions.~~
  - (d) The cumulative total NO<sub>x</sub> emissions (in short tons) for each successive 12-month rolling period. The NO<sub>x</sub> emissions rate, in tons/year, as measured by the CEMS required in A.4.b(2) of this section, on a 1-hour, daily, monthly and 12-month rolling period. The daily emissions will be determined at the end of each day as the sum of the total of each hourly emissions, in lb/hr, for that day as determined from the hourly concentration in B.4.c(3)(a). The monthly emissions will be determined at the end of each calendar month as the sum of each total daily emissions as determined for each day of the calendar month in tons. The 12-month rolling emissions will be determined by adding the current monthly emissions in tons to the preceding 11 months' emissions.
- (4) Use the CDCS required in A.4.c.(1) of this section to also continuously record the calendar date and time of any required monitoring for **S2.001 through S2.003**.
- (5) Maintain the following information in a contemporaneous log for **S2.001 through S2.003 each**, for each day or part of a day that **S2.001 through S2.003 each**, are operating:
  - (a) A description of any modifications or alterations made to the CEMS or CDCS which could affect the ability of the system to comply with the appropriate performance specifications in 40 CFR Part 60, Appendix B.
  - (b) Retain all required records in accordance with Section V.A of this operating permit.
  - (c) Results of the continuous operating temperature readings for **TO-1**, and verification that the continuous operating temperature remained at or above 1,400 °F.
- (6) ~~The incinerator temperature sensor, property monitors and the recording of meteorological conditions as required under VI.A.4 will be connected to a data logger, which is compatible with the system and format used by the Bureau of Air Pollution Control, and record the information continuously. This data logger will be connected to a dedicated telephone line and modem, allowing continuous access to the data being recorded. The thermal oxidizer temperature sensors, property monitors and the recording of meteorological conditions as required under VI.A.4 will be connected to a data logger that will record the information continuously. The data will be transferred to a secure website and the Bureau of Air Pollution Control will be provided a password allowing continuous access to the data being recorded.~~



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## Section VI. Specific Operating Conditions

### A. Emission Units S2.001 through S2.003 (Continued)

4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program*

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 *Compliance Assurance Monitoring Program*

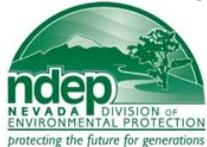
c. **Recordkeeping (continued)**

- (7) Based on the results of the most recent annual cyanide compounds compliance test required in A.4.a.(1) of this section, as well as the required production rate of NaCN as required in A.4.c.(1) of this section, use the cyanide compounds emission rate from the most recent compliance test (in units of pounds-HCN/hour) in conjunction with production of NaCN (in units of pounds-NaCN/hr) to calculate pounds of cyanide compounds per month, for each 12-month rolling period. Based on this monthly result, calculate annual emissions of cyanide compounds in units of tons-HCN/12-month rolling period.
- (8) An emission factor for PM10, CO and VOC will be calculated (pounds per dry standard cubic feet) each year based on the results of the most recent performance test for PM10, CO and VOC required in A.4.a.(1) of this section. The emission factor shall be used from the date of the performance test until the date of the next performance test. Permittee record the daily emissions of PM10, CO and VOC based on the emission factor multiplied by the total daily flow recorded in A.4.c.(3). The monthly emissions will be determined at the end of each calendar month as the sum of each total daily emissions as determined for each day of the calendar month in tons. 12-month rolling emissions will be determined by adding the current monthly emissions in tons to the preceding 11 months' emissions.

d. **Reporting**

The Permittee shall:

- (1) Report all excess emissions as required in Sections III.B and III.C of this operating permit.
- (2) Report all deviations as required in Sections V.C and V.F of the operating permit.
- (3) Submit semi-annual monitoring reports as required in Section V.C of this operating permit.
- (4) Certify compliance with all applicable requirements as required in Section V.E of this operating permit.
- (5) All required monitors will be audited on a quarterly basis. The audits will be conducted by an independent third party, acceptable to the Chief of the Bureau of Air Pollution Control. Reports of the audits will be submitted to the Bureau of Air Pollution Control on a quarterly basis.
- (6) Report actual 12-month rolling average emissions of PM10, PM2.5, VOC, NOx and CO from TO-1 on a quarterly basis, commencing with the first quarter following the notice of startup of the changes approved in the July 2008 Minor Revision Application required under Section II.A.3 of this Operating Permit. If the 12-month rolling average emissions for any 12-month rolling period in the report exceeds the projected actual emission identified in the July 2008 minor revision application (8.02 tons/yr for PM10/PM2.5, 1.14 tons/yr for VOC, 60.8 tons/yr for NOx and 14.18 tons/yr for CO), the Permittee shall provide justification that a PSD Major Modification did not occur. These reports shall be submitted quarterly for the first five years, then annually for the next five years, to the Chief of the Bureau of Air Pollution Control.



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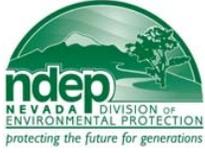
## Section VI. Specific Operating Conditions

### A. Emission Units S2.001 through S2.003 (Continued)

#### 5. NAC 445B.3405 (445B.316) *Part 70 Program*

##### Shielded Requirements

- a. Compliance with conditions A.1 through A.4 of this section shall be deemed to be in compliance with the applicable requirements specified below, as of the issuance date of this operating permit.
  - (1) NAC 445B.2203 - Emissions of Particulate Matter (see streamlining demonstration)
  - (2) SIP 445.732 - Emissions of Particulate Matter (see streamlining demonstration)
  - (3) NAC 445B.22017 - Maximum Opacity of Emissions (see streamlining demonstration)
  - (4) SIP 445.721 - Maximum Opacity of Emissions (see streamlining demonstration)
  
- b. The following are not applicable requirements for **S2.001 through S2.003**:
  - (1) NSPS 40 CFR Part 60, Subpart A - General Standards  
The provisions of this Subpart only apply if any portion of the facility is subject to a promulgated NSPS regulation found elsewhere in Part 60. Although the Sodium Cyanide storage tanks are technically subject to 40 CFR 60, Subpart Kb, VOC Standards for Organic Storage Tanks, the Subpart Kb standard specifically exempts these CYANCO storage tanks from the provisions of 40 CFR 60, Subpart A.
  - (2) NSPS 40 CFR Part 60, Subpart VV - Standards for Equipment Leaks in the SOCM I Industry  
These rules apply to listed manufacturing operations in the SOCM I industry. Although sodium cyanide is not a listed chemical, hydrogen cyanide, an intermediate, is listed. At any time, the CYANCO equipment (pumps, valves, flanges, etc.) contains less than 10% wt. of hydrogen cyanide. The Subpart VV rules, 60.480(d)(5), exempt an affected facility if the equipment does not contain a volatile organic compound greater than 10% by weight.
  - (3) NESHAPs 40 CFR Part 61, Subpart A - General Provisions  
These rules are the general provisions for the pre-1990 Amendments, air toxics regulations which would apply if the facility were subject to any regulation codified under Part 61. CYANCO does not fall under any part 61, NESHAP, regulation and has already certified to the NDEP that the facility does not contain any asbestos containing materials.
  - (4) NESHAPs 40 CFR Part 63, Subpart A - General Provisions  
These rules are the general provisions of the post-1990 Amendments, air toxic standards which would apply if the facility were subject to any regulation codified under Part 63. CYANCO does not fall under any Part 63 regulation, and is, in fact, a minor source of air toxic emissions (less than 10 tpy of any single HAP, and less than 25 tpy of all HAPs combined.)



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Section VI. Specific Operating Conditions

B. Emission Units S2.004 through S2.006; location: North 4532.55 km, East 427.53 km, UTM (Zone 11)

Table with 3 columns: Unit ID, Unit Name, and Description. Row 1: S 2.004 Catalytic Reactor. Row 2: S 2.005 Waste Heat Exchanger. Row 3: S 2.006 Caustic Scrubber.

1. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Air Pollution Control Equipment

Emissions from S2.004 through S2.006 each, shall be ducted to a control system consisting of a Thermal Oxidizer TO-2, with a 100% capture efficiency. The Thermal Oxidizer TO-2 must be operated at all times, including startup, shutdown and cleansing operations, and any resulting process gasses must be ducted through the Thermal Oxidizer TO-2. Thermal Oxidizer TO-2 must be operated during any upset conditions which results in emissions which can be ducted through the Thermal Oxidizer TO-2.

Stack Parameters

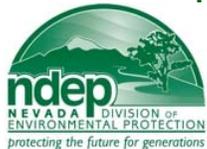
- Height: 60.0 ft
Diameter: 4.46 ft
Exhaust Temperature: 1,725 °F
Velocity: 126.8 94.2 ft/sec
Volume Flow: 15,515 14,305 DSCFM

2. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Emission Limits

On and after the date of startup of S2.004 through S2.006, the permittee will not discharge or cause the discharge into the atmosphere from the exhaust stack of TO-2 the following pollutants in excess of the following specified limits:

- a. NAC 445B.305 Part 70 Program - The discharge of PM10 (particulate matter less than 10 microns in diameter) to the atmosphere will not exceed 2.0 2.5 pounds per any one hour period.
b. NAC 445B.305 Part 70 Program - The discharge of PM (particulate matter) to the atmosphere will not exceed 2.0 2.5 pounds per any one hour period.
c. NAC 445B.305 Part 70 Program - The discharge of NOx (nitrogen oxides) to the atmosphere will not exceed 23.0 pounds per any one hour period, nor more than 92.0 tons per year, based on a 12-month rolling period.
d. NAC 445B.305 Part 70 Program - The discharge of CO (carbon monoxide) to the atmosphere will not exceed 9.50 11.97 pounds per any one hour period, nor more than 38.0 tons per year, based on a 12-month rolling period.
e. NAC 445B.305 Part 70 Program - The discharge of VOC (volatile organic compounds) to the atmosphere will not exceed 8.73 11.0 pounds per any one hour period.
f. NAC 445B.305 Part 70 Program - The discharge of Cyanide Compounds to the atmosphere will not exceed 1.0 0.68 pound per any one hour period.
g. SIP 445.721 Federally Enforceable SIP Requirement - The opacity from the stack discharge of TO-2 will not equal or exceed 20% for a period or periods aggregating more than 3 minutes in any one hour.
h. SIP 445B.2207(1)(b) State Only Requirement Federally Enforceable SIP Requirement - Incinerator burning which produces, for periods totaling 1 minute in 1 hour, a visible emission which is of an opacity equal to or greater than 20 percent, is prohibited.
i.h. NAC 445B.22017 State Only Requirement Federally Enforceable SIP Requirement - The opacity from the stack discharge of TO-2 will not equal or exceed 20%.



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### B. Emission Units S2.004 through S2.006 (Continued)

3. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Operating Parameters

- a. The maximum allowable production rate of **Sodium Cyanide** from **S2.004 through S2.006 combined**, will not exceed ~~3.2~~ **4.0** tons per any one hour period, nor more than ~~50~~ **63 million** pounds per year, based on a 12-month rolling period.
- b. **TO-2** will combust only pipeline quality natural gas and normal process waste gases.
- c. The maximum operating heat input rate for **TO-2** will not exceed ~~10.0~~ **48.0** MMBtu per hour.
- d. **TO-2** will maintain a minimum 1400°F operating temperature.
- e. 445B.2207(3) ~~State Only Requirement~~ Federally Enforceable SIP Requirement The rated burning capacity, operating and maintenance procedures approved by the Director for **TO-2** must be posted conspicuously at or near **TO-2**.
- f. Hours  
**S2.004 through S2.006, each**, may operate a total of **8760** hours per year.

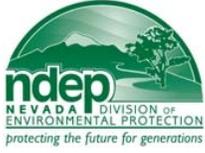
4. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Monitoring, Recordkeeping, Reporting and Compliance

a. Performance/Compliance Testing

The Permittee shall:

- (1) Within 180 days of issuance of this operating permit, and once every year thereafter, conduct and record compliance tests for **PM, PM<sub>10</sub>, CO, NO<sub>x</sub> and VOC** using Methods 5, 201A/202, 10, 7 and 25 (or equivalent EPA reference methods approved in advance by the Director). Compliance tests for **Cyanide Compounds** will also be conducted once every year, using a combination of Method 5 and NIOSH Method 7904. All compliance tests must consist of a minimum of three valid runs for each pollutant on the exhaust stack of (~~IN-1~~**TO-2**). The periodic compliance tests will be conducted at the maximum sodium cyanide production rate established in 3.a. of this section for each pollutant required to be tested. The Method 5, 10 and 25 compliance tests must be conducted in accordance with test methods contained in 40 CFR Part 60, Appendix A. The sample time for each Method 5 test run shall be at least 60 minutes. The sample volume for each Method 5 test run shall be at least 60 dry standard cubic feet per minute (dscfm). The Method 201A/202 compliance tests must be conducted simultaneously and in accordance with 40 CFR Part 51, Appendix M. The NIOSH Method 7904 compliance test will be conducted in accordance with NIOSH Manual of Analytical Methods, Fourth Edition (8/15/1994). All annual compliance testing will be conducted not more than 90 days from the anniversary date of the previous compliance testing. Upon written request, the Director may approve an extension to the annual compliance test date.
- (2) A Method 5 compliance test, which includes the back-half catch, may be substituted for the Method 2012A/202 compliance tests required in 4.a.(1) of this section. All particulate matter captured in the Method 5 tests, performed under this provision, will be considered PM<sub>10</sub> emissions for compliance demonstration purposes.
- (3) After at least three successive compliance tests, the Director may authorize, in writing, a less frequent compliance testing schedule than the annual testing schedule required in 4.a.(1) of this section. The authorization will be based on pollutant-by-pollutant review of the emission rates during each compliance test. The review will include an evaluation of the variability in the measured emission rates and the percentage amount that the measured emission rates are below the permitted emission limit. The review will also include an evaluation of the operating throughput rate recorded during each compliance test, readings of the relevant control parameters taken during each compliance test and any other information requested by the Director. The compliance testing frequency will not be less than one test every five years.
- (4) During each compliance test, as required in 4.a.(1) and (2) of this section, record the total sodium cyanide production (based on a 100% contained NaCN basis).
- (5) During each compliance test run, but no less frequently than once per calendar year, record the opacity of the discharge from the exhaust stack of **TO-2**, using either a calibrated continuous opacity monitor or the visible emissions evaluation procedures contained in 40 CFR Part 60, Appendix A, Method 9. The visible emissions evaluations must be conducted by a certified visible emissions reader for a period of one-hour (recorded as 60 one-minute averages).



BUREAU OF AIR POLLUTION CONTROL

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Facility ID No. A0009

PERMIT NO. AP2819-0886.01

CLASS I AIR QUALITY OPERATING PERMIT

Issued to: CYANCO Company, hereinafter called the permittee

Section VI. Specific Operating Conditions

B. Emission Units S2.004 through S2.006 (Continued)

4. NAC 445B.3405 (NAC 445B.316) Part 70 Program
Monitoring, Recordkeeping, Reporting and Compliance

a. Performance/Compliance Testing (continued)

(6) During each compliance test run, record the average incinerator thermal oxidizer residence time.

b. Monitoring

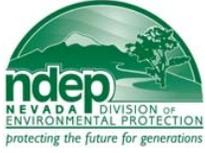
The Permittee shall:

- (1) Monitor the average NaCN production (in tons) for each one-hour period.
(2) Install, calibrate, operate, and maintain in the exhaust stack of TO-2 a NOx continuous emission monitoring (CEM) system...
(3) Install, calibrate, operate and maintain an in-stack flow monitoring device in the exhaust stack of TO-2. Install, calibrate, operate, and maintain flow monitoring devices on the inlet flows of TO-2.
(4) Monitor the hours of operation of S2.004 through S2.006 each.
(5) Continuously monitor the oxidizer's (TO-2) operating temperature (in °F).
(6) Conduct a weekly inspection of TO-2. Record any problems with TO-2 and any corrective actions taken.
(7) The indicator range for TO-2 shall be defined as follows: The operating temperature for TO-2 shall be maintained at or above 1,400 °F. Excursions shall be defined as any time the operating temperature for TO-2 falls below this indicator range during one 15 minute rolling average period.
(8) CYANCO will monitor and sample the ambient air for Hydrogen Cyanide and monitor and record meteorological conditions at the sampling site as specified by the Bureau of Air Pollution Control and in accordance with the requirements of the PSD Monitoring Guidelines (EPA 450/4-87-007) and all the quality assurance procedures specified in the Quality Assurance Handbook for Air Pollution Measurement Systems (EPA 600/4-77-027a). Findings will be submitted to the Bureau of Air Pollution Control within 60 days after the end of each calendar quarter. The Hydrogen Cyanide detection monitors will be installed at the following locations and set to detect the following concentrations:

Hydrogen Cyanide Property Monitor 10.00 ppm @ 0.87 KM, East North East

Hydrogen Cyanide Property Monitor 10.00 ppm @ 0.47 KM, South
(Property monitor's set points are for reference conditions of 1 atm, 273 °K)

(9) A monitoring alarm system must be connected to the Humboldt County Sheriff's Department. This system will be capable of automatically notifying the Sheriff's Department not more than 15 minutes following an exceedance of respective property monitoring limits.



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## Section VI. Specific Operating Conditions

### B. Emission Units S2.004 through S2.006 (Continued)

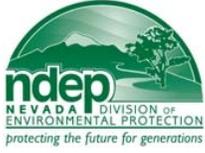
4. NAC 445B.3405 (NAC 445B.316) Part 70 Program

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 Compliance Assurance Monitoring Program

c. Recordkeeping

The Permittee shall:

- (1) Install, calibrate, operate, and maintain a continuous data collection system (CDCS) to record the NaCN production required in B.4.b.(1) of this section. The production rate will be recorded at least once every 15 minutes.
- (2) Use the CDCS required in B.4.c.(1) of this section to also continuously record the ~~incinerator's~~ thermal oxidizer's operating temperature. The temperature will be recorded at least once every 15 minutes.
- (3) Use the CDCS required in B.4.c.(1) of this section to also continuously record the information measured as required by B.4.b.(2) of this section and the calculated NO<sub>x</sub> emission rate based on the monitored NO<sub>x</sub> concentration and monitored flow rate. All measured information will be recorded at least once every 15 minutes. Additionally, record the following parameters:
  - (a) The hourly average NO<sub>x</sub> concentration (in ppm);
  - (b) The hourly average O<sub>2</sub> concentration (in percent) if required by B.4.b.(2) of this section. A flag will be included in the CDCS record to indicate whether the O<sub>2</sub> concentration is based on dry or wet O<sub>2</sub> measurements.
  - (c) The volume flow rate as measured by the ~~in-stack inlet~~ flow monitoring ~~device~~ devices located in the ~~exhaust stack inlet flows~~ of **TO-2**. **Total flow through TO-2 will be recorded on a daily basis.**
  - ~~(d) The hourly average NO<sub>x</sub> emissions (in lb/hr) as calculated from the intermediate emissions determined in B.4.c.(3) of this section.~~
  - ~~(e) The total NO<sub>x</sub> emissions (in short tons) for the each calendar month calculated from the hourly NO<sub>x</sub> emissions.~~
  - (f d) The cumulative total NO<sub>x</sub> emissions (in short tons) for each successive 12-month rolling period. The NO<sub>x</sub> emissions rate, in tons/year, as measured by the CEMS required in A.4.b(2) of this section, on a 1-hour, daily, monthly and 12-month rolling period. The daily emissions will be determined at the end of each day as the sum of the total of each hourly emissions, in lb/hr, for that day as determined from the hourly concentration in B.4.c(3)(a). The monthly emissions will be determined at the end of each calendar month as the sum of each total daily emissions as determined for each day of the calendar month in tons. The 12-month rolling emissions will be determined by adding the current monthly emissions in tons to the preceding 11 months' emissions.**
- (4) Use the CDCS required in B.4.c.(1) of this section to also continuously record the calendar date and time of any required monitoring for **S2.004 through S2.006**.
- (5) Maintain the following information in a contemporaneous log for **S2.004 through S2.006**, for each day or part of a day that **S2.004 through S2.006** operates:
  - (a) A description of any modifications or alterations made to the CEMS or CDCS which could affect the ability of the system to comply with the appropriate performance specifications in 40 CFR Part 60, Appendix B.
  - (b) Retain all required records in accordance with Section V.A of this operating permit.
  - (c) Results of the continuous operating temperature readings for **TO-2**, and verification that the continuous operating temperature remained at or above 1,400 °F.
- (6) ~~The incinerator temperature sensor, property monitors and the recording of meteorological conditions as required under VI.A.4 will be connected to a data logger, which is compatible with the system and format used by the Bureau of Air Pollution Control, and record the information continuously. This data logger will be connected to a dedicated telephone line and modem, allowing continuous access to the data being recorded.~~ The thermal oxidizer temperature sensors, property monitors and the recording of meteorological conditions as required under VI.A.4 will be connected to a data logger that will record the information continuously. The data will be transferred to a secure website and the Bureau of Air Pollution Control will be provided a password allowing continuous access to the data being recorded.



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## Section VI. Specific Operating Conditions

### **B. Emission Units S2.004 through S2.006 (Continued)**

4. NAC 445B.3405 (NAC 445B.316) *Part 70 Program*

Monitoring, Recordkeeping, Reporting and Compliance & 40 CFR Part 64 *Compliance Assurance Monitoring Program*

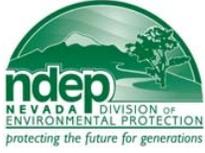
c. **Recordkeeping (continued)**

- (7) Based on the results of the most recent annual cyanide compounds compliance test required in B.4.a.(1) of this section, as well as the required production rate of NaCN as required in B.4.c.(1) of this section, use the cyanide compounds emission rate from the most recent compliance test (in units of pounds-HCN/hour) in conjunction with production of NaCN (in units of pounds-NaCN/hr) to calculate pounds of cyanide compounds per month, for each 12-month rolling period. Based on this monthly result, calculate annual emissions of cyanide compounds in units of tons-HCN/12-month rolling period.
- (8) An emission factor for PM<sub>10</sub>, CO and VOC will be calculated (pounds per dry standard cubic feet) each year based on the results of the most recent performance test for PM<sub>10</sub>, CO and VOC required in B.4.a.(1) of this section. The emission factor shall be used from the date of the performance test until the date of the next performance test. Permittee record the daily emissions of PM<sub>10</sub>, CO and VOC based on the emission factor multiplied by the total daily flow recorded in B.4.c.(3). The monthly emissions will be determined at the end of each calendar month as the sum of each total daily emissions as determined for each day of the calendar month in tons. 12-month rolling emissions will be determined by adding the current monthly emissions in tons to the preceding 11 months' emissions.

d. **Reporting**

The Permittee shall:

- (1) Report all excess emissions as required in Sections III.B and III.C of this operating permit.
- (2) Report all deviations as required in Sections V.C and V.F of the operating permit.
- (3) Submit semi-annual monitoring reports as required in Section V.C of this operating permit.
- (4) Certify compliance with all applicable requirements as required in Section V.E of this operating permit.
- (5) All required monitors will be audited on a quarterly basis. The audits will be conducted by an independent third party, acceptable to the Chief of the Bureau of Air Pollution Control. Reports of the audits will be submitted to the Bureau of Air Pollution Control on a quarterly basis.
- (6) Report actual 12-month rolling average emissions of PM<sub>10</sub>, PM<sub>2.5</sub>, VOC, NO<sub>x</sub> and CO from TO-2 on a quarterly basis, commencing with the first quarter following the notice of startup of the changes approved in the July 2008 Minor Revision Application required under Section II.A.3 of this Operating Permit. If the 12-month rolling average emissions for any 12-month rolling period in the report exceeds the projected actual emission identified in the July 2008 minor revision application (10.22 tons/yr for PM<sub>10</sub>/PM<sub>2.5</sub>, 5.24 tons/yr for VOC, 67.1 tons/yr for NO<sub>x</sub> and 4.14 tons/yr for CO), the Permittee shall provide justification that a PSD Major Modification did not occur. These reports shall be submitted quarterly for the first five years, then annually for the next five years, to the Chief of the Bureau of Air Pollution Control.



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**Section VI. Specific Operating Conditions**

**B. Emission Units S2.004 through S2.006 (Continued)**

5. NAC 445B.3405 (445B.316) *Part 70 Program*

Shielded Requirements

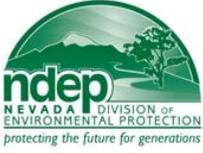
a. Compliance with conditions B.1 through B.4 of this section shall be deemed to be in compliance with the applicable requirements specified below, as of the issuance date of this operating permit.

- (1) NAC 445B.2203 - Emissions of Particulate Matter (see streamlining demonstration)
- (2) SIP 445.732 - Emissions of Particulate Matter (see streamlining demonstration)
- (3) NAC 445B.22017 - Maximum Opacity of Emissions (see streamlining demonstration)
- (4) SIP 445.721 - Maximum Opacity of Emissions (see streamlining demonstration)

b. The following are not applicable requirements for **S2.004 through S2.006**:

- (1) NSPS 40 CFR Part 60, Subpart A - General Standards  
The provisions of this Subpart only apply if any portion of the facility is subject to a promulgated NSPS regulation found elsewhere in Part 60. Although the Sodium Cyanide storage tanks are technically subject to 40 CFR 60, Subpart Kb, VOC Standards for Organic Storage Tanks, the Subpart Kb standard specifically exempts these CYANCO storage tanks from the provisions of 40 CFR 60, Subpart A.
- (2) NSPS 40 CFR Part 60, Subpart VV - Standards for Equipment Leaks in the SOCM I Industry  
These rules apply to listed manufacturing operations in the SOCM I industry. Although sodium cyanide is not a listed chemical, hydrogen cyanide, an intermediate, is listed. At any time, the CYANCO equipment (pumps, valves, flanges, etc.) contains less than 10% wt. of hydrogen cyanide. The Subpart VV rules, 60.480(d)(5), exempt an affected facility if the equipment does not contain a volatile organic compound greater than 10% by weight.
- (3) NESHAPs 40 CFR Part 61, Subpart A - General Provisions  
These rules are the general provisions for the pre-1990 Amendments, air toxics regulations which would apply if the facility were subject to any regulation codified under Part 61. CYANCO does not fall under any part 61, NESHAP, regulation and has already certified to the NDEP that the facility does not contain any asbestos containing materials.
- (4) NESHAPs 40 CFR Part 63, Subpart A - General Provisions  
These rules are the general provisions of the post-1990 Amendments, air toxic standards which would apply if the facility were subject to any regulation codified under Part 63. CYANCO does not fall under any Part 63 regulation, and is, in fact, a minor source of air toxic emissions (less than 10 tpy of any single HAP, and less than 25 tpy of all HAPs combined.)

**\*\*\*\*\*End of Specific Operating Conditions\*\*\*\*\***



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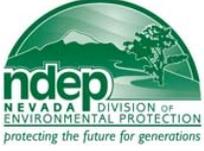
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**Section VII. Emission Caps**

A. No Emission Cap Established

\*\*\*\*\*End of Emission Caps Conditions\*\*\*\*\*



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**Section VIII. Surface Area Disturbance Conditions**

N/A

\*\*\*\*\*End of Surface Area Disturbance Conditions\*\*\*\*\*



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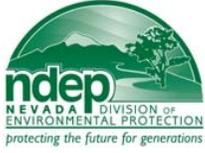
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**Section IX. Schedules of Compliance**

A. N/A

\*\*\*\*\*End of Schedules of Compliance\*\*\*\*\*



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**Section X. Amendments**

9/XX/2008 – July 2008 minor revision application to increase production; change west plant thermal oxidizer to unit similar to east plant thermal oxidizer; add oxygen enrichment to increase production rate; correct emission calculations; optimize and/or replace existing neutralizer/mixer; add additional fin tube cooling exchangers in the waste heat boiler.

**This permit:**

1. Is non-transferable. (NAC 445B.287) Part 70 Program
2. Will be posted conspicuously at or near the stationary source. (NAC 445B.318) (State Only Requirement)
3. Will expire and be subject to renewal five (5) years from December 5, 2006. (NAC 445B.315) Part 70 Program
4. A complete application for renewal of an operating permit must be submitted to the director on the form provided by him with the appropriate fee at least 240 calendar days before the expiration date of this operating permit. (NAC 445B.323.2) Part 70 Program
5. Any party aggrieved by the Department's decision to issue this permit may appeal to the State Environmental Commission (SEC) within ten days after the date of notice of the Department's action. (NRS 445B.340) (State Only Requirement)

**THIS PERMIT EXPIRES ON:** December 5, 2011

**Signature** \_\_\_\_\_

**Issued by:** Matthew A. DeBurle  
Supervisor, Permitting Branch  
Bureau of Air Pollution Control

**Phone:** (775) 687-9350      **Date:** September XX, 2008

rm 02/2007  
mad 09/2008

# Class I Non-Permit Equipment List

Cyanco Company Facility-Wide Title V Operating Permit AP2819-0886.01

Emission Unit #	Emission Unit Description
IA1.001	Diesel-fired Generator (Maximum rated heat input < 4.0 MMBtu/hr)
IA1.002	Diesel-fired Generator (Maximum rated heat input < 4.0 MMBtu/hr)
IA1.003	<del>Diesel-fired</del> Propane Gas fired Well Engine (Maximum rated heat input < 4.0 MMBtu/hr)
IA1.004	<del>Diesel-fired</del> Natural Gas fired Warm-Up Boiler (Maximum rated heat input < 4.0 MMBtu/hr)
IA1.005	5 7 Space Heaters (Maximum rated heat input < 4.0 MMBtu/hr, total)
IA1.006	Cooling Tower; 1996 Marley – Model # NC9161G
IA1.007	Various Small Diesel-fired Internal Combustion Sources (Maximum rated Heat Input < 4.0 MMBtu/hr, each)
<del>IA1.008</del>	<del>Flare (rejects portion of natural gas in the PSA unit)</del>