



## BUREAU OF AIR POLLUTION CONTROL

901 South Stewart Street, Suite 4001 • Carson City, Nv 89701-5249  
phone: 775-687-9350 • [www.ndep.nv.gov/baqp](http://www.ndep.nv.gov/baqp) • fax: 775-687-6396

**Facility ID No. A0412**

**Permit No. AP1044-2242**

### MERCURY OPERATING PERMIT TO CONSTRUCT: PHASE 2

**Issued to:** Coeur Rochester, Inc. (HEREINAFTER REFERRED TO AS *THE PERMITTEE*)

**Mailing Address:** P.O. Box 1057; LOVELOCK, NEVADA 89419

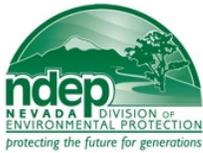
**Physical Address:** 25.0 MILES NORTHEAST OF LOVELOCK, NEVADA. TRAVEL EAST FROM INTERSTATE 80 FROM EXIT 119

**General Facility Location:** SECTIONS 9, 10, 15,16,21,22,27,28,32 AND 33 OF T28N, R34E, MDB&M (HA 129) (BUENA VISTA VALLEY) (PERSHING COUNTY)  
NORTH 4,460.15 KM, EAST 402.15 KM, UTM ZONE 11 (NAD 83)

**Emission Unit List: (1 Emission Unit)**

**A. System 01 – Reverberatory (System 8 in Air Quality Operating Permit 1044-0063.2)**

TU	4.001	Reverberatory Furnace (S2.003 in AQOP)
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## Section I. General Conditions

*The Permittee* must comply with, but is not limited to, all conditions of Nevada Administrative Code (NAC) 445B.3611-3689 “Nevada Mercury Air Emissions Control Program”, inclusive.

A. Records Retention. NAC 445B.3679.2(a)

*The Permittee* of a Mercury Operating Permit to Construct shall retain records of all required monitoring data and support information for (5) years after the date of the sample collection, measurement, report or analysis. Supporting information includes, without limitation, all records regarding calibration and maintenance of the monitoring equipment and all original strip-chart recordings for continuous monitoring instrumentation.

B. Severability. NAC 445B.3679.2(b)

Each of the conditions and requirements of the Mercury Operating Permit to Construct is severable and, if any are held invalid, the remaining conditions and requirements continue in effect.

C. Compliance/Noncompliance. NAC 445B.3679.2(c)

*The Permittee* must comply with all conditions of the Mercury Operating Permit to Construct. Any noncompliance constitutes a violation and is grounds for:

1. An action for noncompliance;
2. The revoking and reissuing, or the terminating of the Mercury Operating Permit to Construct by the Director; or
3. The reopening or revising of the Mercury Operating Permit to Construct by the holder of the Mercury Operating Permit to Construct as directed by the Director.

D. Defense to Noncompliance. NAC 445B.3679.2(d)

The need to halt or reduce activity to maintain compliance with the conditions of the Mercury Operating Permit to Construct is not a defense to noncompliance with any conditions of the Mercury Operating Permit to Construct.

E. Cause. NAC 445B.3679.2(e)

The Director may revise, revoke and reissue, reopen and revise, or terminate the Mercury Operating Permit to Construct for cause.

F. Property Rights/Exclusive Privilege. NAC 445B.3679.2(f)

The Mercury Operating Permit to Construct does not convey any property rights or any exclusive privilege.

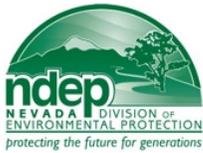
G. Information Request from Director. NAC 445B.3679.2(g)

*The Permittee* shall provide the Director, in writing and within a reasonable time, with any information that the Director requests to determine whether cause exists for revoking or terminating the Mercury Operating Permit to Construct or to determine compliance with the conditions of this Mercury Operating Permit to Construct.

H. Right to Entry. NAC 445B.3679.2(h)

*The Permittee* shall allow the Director or any authorized representative of the Director, upon the presentation of credentials, to:

1. Enter upon the premises of *the Permittee* where:
  - a. The thermal unit that emits mercury is located;
  - b. Activity related to mercury emissions is conducted; or
  - c. Records are kept pursuant to the conditions of the Mercury Operating Permit to Construct.
2. Have access to and copy, during normal business hours, any records that are kept pursuant to the conditions of the Mercury Operating Permit to Construct;
3. Inspect, at reasonable times, any facilities, practices, operations, or equipment, including any equipment for monitoring or controlling air pollution, that are regulated or required pursuant to the Mercury Operating Permit to Construct; and
4. Sample or monitor, at reasonable times, substances or parameters to determine compliance with the conditions of the Mercury Operating Permit to Construct or applicable requirements.



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## Section I. General Conditions (continued)

I. Certify True and Accurate. NAC 445B.3679.2(i)

A responsible official of the stationary source shall certify that, based on information and belief formed after reasonable inquiry, the statements made in any document required to be submitted by any condition of the Mercury Operating Permit to Construct are true, accurate and complete.

J. Yearly Reporting. NAC 445B.3679.3(b)(c)(d)

*The Permittee* will submit yearly reports including, but not limited to, throughput, production, fuel consumption, hours of operation, emissions and mercury co-product. These reports will be submitted on the form provided by the Bureau of Air Pollution Control for all emission units/systems specified on the form. The completed form must be submitted to the Bureau of Air Pollution Control no later than March 1 annually for the preceding calendar year, unless otherwise approved by the Bureau of Air Pollution Control.

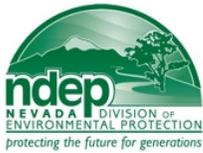
K. Facilities Operation. NAC 445B.227

*The Permittee* may not:

1. Operate a stationary source of air pollution unless the control equipment for air pollution that is required by applicable requirements or conditions of the Mercury Operating Permit to Construct are installed and operating.
2. Disconnect, alter, modify or remove any of the control equipment for air pollution or modify any procedure required by an applicable requirement or condition of the Mercury Operating Permit to Construct.

L. Excess Emissions. NAC 445B.232

1. Scheduled maintenance or testing or scheduled repairs which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.3689, inclusive, must be approved by the Director and performed during a time designated by the Director as being favorable for atmospheric ventilation.
2. The Director must be notified in writing of the time and expected duration at least 24 hours in advance of any scheduled maintenance which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.3689, inclusive.
3. The Director must be notified in writing or by telephone of the time and expected duration at least 24 hours in advance of any scheduled repairs which may result in excess emissions of regulated air pollutants prohibited by NAC 445B.001 to 445B.3689, inclusive.
4. The Director must be notified of any excess emissions within 24 hours after any malfunction or upset of the process equipment or equipment for controlling pollution or during startup or shutdown of such equipment. The telephone number for the notification is (775) 687-9350.
5. *The Permittee*, as the owner or operator of an affected facility, shall provide the Director, within 15 days after any malfunction, upset, startup, shutdown, or human error which results in excess emissions, sufficient information to enable the Director to determine the seriousness of the excess emissions. The information must include at least the following:
  - a. The identity of the stack or other point of emission, or both, where the excess emissions occurred.
  - b. The estimated magnitude of the excess emissions expressed in units of the applicable limitation on emission and the operating data and methods used in estimating the magnitude of the excess emissions.
  - c. The time and duration of the excess emissions.
  - d. The identity of the equipment causing the excess emissions.
  - e. If the excess emissions were the result of a malfunction, the steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of the malfunction.
  - f. The steps taken to limit the excess emissions.
  - g. Documentation that the equipment for controlling air pollution, process equipment, or processes were at all times maintained and operated, to a maximum extent practicable, in a manner consistent with good practice for minimizing emissions.



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## Section I. General Conditions (continued)

M. Construction Requirements. NAC 445B.250

1. Early Reduction Credit (ERC), New, or Modified Thermal Units

The *Permittee* shall provide the Director written notification of:

- a. The date that construction or reconstruction of an affected facility is commenced, postmarked no later than 30 days after such date. This requirement shall not apply to mass-produced facilities which are purchased in completed form.
- b. The anticipated date of initial startup of an affected facility, postmarked not more than 60 days and not less than 30 days prior to such date.
- c. The actual date of initial startup of an affected facility, postmarked within 15 days after such date.

N. Annual Testing. NAC 445B.3679.3

Before the conclusion of each calendar year, *the Permittee* shall:

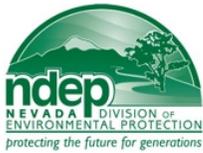
1. Conduct and record a Method 29 (or alternative test method approved by the Director) compliance test for mercury on the exhaust stack of **each system** consisting of three valid runs. Each of the three test runs must collect a sample volume of 1.7 dry standard cubic meters (60 dscf) or be conducted for up to two hours in an effort to collect this sample volume (NAC 445B.3679.3).
2. Simultaneously, during the Method 29 (or alternative test method approved by the Director) compliance test, conduct and record a material assay from **each system**. One representative sample shall be taken during each test run. Total mercury content shall be determined using EPA Method 7471B (cold vapor atomic adsorption analysis) (or alternative test method approved by the Director) (NAC 445B.3679.3).
3. Conduct tests of performance under such conditions as the Director specifies to the operator of the plant based on representative performance of the affected facility. The owner or operator shall make available to the Director such records as may be necessary to determine the conditions of the test of performance. Operations during periods of startup, shutdown and malfunction must not constitute representative conditions of a test of performance unless otherwise specified in the applicable standard (NAC 445B.252.3).
4. Give notice to the Director 30 days before the test of performance to allow the Director to have an observer present. A written testing procedure for the test of performance must be submitted to the Director at least 30 days before the test of performance to allow the Director to review the proposed testing procedures (NAC 445B.252.4).
5. Furnish the Director within 60 days after completing the performance tests a written and electronic report of the results of the performance tests. All information and analytical results of testing and sampling must be certified as to the truth and accuracy and as to their compliance with NAC 445B.001 to 445B.3689 (NAC 445B.252.8).

O. SIP Article 2.5.4 (Federally Enforceable SIP Requirement)

1. Breakdown or upset, determined by the Director to be unavoidable and not the result of careless or marginal operations, shall not be considered a violation of these regulations.

P. Expiration and Extension. NAC 445B.3687

1. If construction will occur in one phase, a mercury operating permit to construct for a new or modified thermal unit that emits mercury expires if construction is not commenced within 18 months after the date of issuance thereof or construction of the thermal unit that emits mercury is delayed for 18 months after initiated. The Director may extend the date on which the construction may be commenced upon a showing that the extension is justified.
2. If construction will occur in more than one phase, the projected date of the commencement of construction of each phase of construction must be approved by the Director. A mercury operating permit to construct expires if the initial phase of construction is not commenced within 18 months after the projected date of the commencement of construction approved by the Director. The Director may extend only the date on which the initial phase of construction may be commenced upon a showing that the extension is justified.



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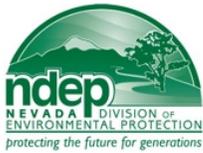
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**Section I. General Conditions (continued)**

Q. Nevada Mercury Control Program Implementation Requirements

1. The NvMACT for **TU4.001 – TU4.003**, each must be implemented not later than 24 months after the issuance of this mercury operating permit to construct (NAC 445B.3679.3(a)(2)(I)).
  - a. The issuance date for **TU4.002 – TU4.003** is **July 22, 2010**.
  - b. The issuance date for **TU4.001** is **Month Date Year**.
2. The Permittee shall provide the Director written notification of:
  - a. The date of implementation of NvMACT for **TU4.001 – TU4.003** each, pursuant to NAC 445B.3679.3(a)(2)(i) postmarked within 15 days after such date (NAC 445B.3679.2(g)).

\*\*\*\*\* **End of General Conditions** \*\*\*\*\*



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## Section II. Specific Operating Conditions

A. **Emission Units #TU4.001** location North 4,460,038 m, East 403,038 mm, UTM (Zone 11)

### System 01 – Reverberatory Furnace

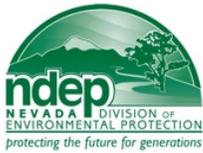
TU 4.001 Reverberatory Furnace manufactured by U.S. Smelting Furnace Co., model (not specified), serial # REV 4000 LPG-24

#### 1. Air Pollution Equipment

- a. Exhaust gases from **TU4.001** shall be ducted to a control system with 100% capture consisting of:  
*(Units are listed in approximate order of placement in exhaust stream)*
  - i. **Wet Electrostatic Precipitator (WESP-001): water (Ducon)**
  - ii. **Carbon Filter System (CF-001) (NvMACT add-on control)**
- b. Stack parameters
  - i. Height: To be determined
  - ii. Diameter: To be determined
  - iii. Stack temperature 150°F
  - iv. Flow: Maximum volume flow rate of 10,000 actual cubic feet per minute (acfm).
  - v. Unit **TU4.001** has its own exhaust stack.

#### 2 Operating Requirements

- a. Limitations of operation which affect mercury emissions. NAC 445B.3679.3
  - i. The maximum allowable throughput for **TU4.001** will not exceed **2.50** tons of charge materials per batch, nor more than **7,500** tons per year.
  - ii. Charge materials shall consist of:
    - (a) Merrill Crowe zinc precipitate that has been retorted in TU4.002 and TU4.003.
    - (b) Fluxing agents.
  - ii. Mercury emissions from **System 01** shall not exceed **1.0 x 10<sup>-5</sup>** grains per dry standard cubic foot (gr/dscf).
  - iii. Hours
    - (a) **TU4.001** will not operate in excess of **10** hours per day.
    - (b) **TU4.001** will not operate in excess of **3,000** hours per calendar year.



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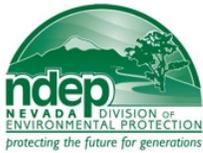
## Section II. Specific Operating Conditions (continued)

A. **Emission Units #TU4.001** location North 4,460,038 m, East 403,038 mm, UTM (Zone 11)

- b. Work practices which affect mercury emissions. NAC 445B.3679.3
- i. The water flow rate for the venturi pre-scrubber for **WESP-001** shall be maintained at or above **150** gallons per minute (gpm)
  - ii. The water flow rate for **WESP-001** shall be maintained in the system at or above **300** gallons per minute (gpm).
  - iii. The voltage for the **WESP-001** shall be maintained inside the normal operating range of **12 – 24** kilovolts (KV).
  - iv. The pressure drop across **CF-001** shall be less than **4.0** inches water column (in. W.C.).
  - v. **CF-001** shall be equipped with **256** carbon filter trays, with each tray containing approximately **23** pounds of sulfur impregnated carbon. The total weight of sulfur impregnated carbon in **CF-001** shall be no less than **5,888** pounds.
  - vi. Conduct an initial sampling of a randomly chosen carbon filter tray from **CF-001** on the gas inlet side of the system **90** days after initial placement and each subsequent replacement of the carbon in the trays. Representative samples will be taken and analyzed using EPA Method 7471A. The exact tray location of each sample will be recorded. Periodical sampling of the carbon filter trays on the gas inlet side of the system will be undertaken every year after the initial sampling, until the carbon reaches **50%** mercury loading. Quarterly sampling of the first stage in each module will then commence until the carbon reaches **90%** loading. The trays in **CF-001** will be replaced no later than **30** days after reaching **90%** loading to ensure the saturation limit of the carbon is not exceeded for **CF-001**.
  - vii. **CF-001** shall be equipped with the original manufacturer's sulfur impregnated carbon or an equivalent performing sulfur impregnated carbon.

### 3. Compliance Testing, Monitoring, Recordkeeping and Reporting (NAC 445B.3679.3)

- a. Compliance Testing  
Within 180 days of the implementation of NvMACT for **System 01** as required in Section I.Q., the Permittee shall conduct and record a performance test for mercury on the exhaust stack of **System 01** consisting of three valid runs utilizing US EPA Method 29 of 40 CFR part 60 Appendix A.
- b. The *Permittee*, upon the issuance date of this permit will:
- i. Prior to implementation of NvMACT for **TU4.001**, each, install, operate, calibrate and maintain instrumentation to measure the following:
    - (a) The differential pressure drop across **CF-001**, in inches water column.
  - ii. Monitor the batch weight of charge materials, in tons per batch, for **TU4.001** on a daily basis.
  - iii. Monitor the hours of operation for **TU4.001** on a daily basis.
  - iv. Monitor the water flow rate, in gallons per minute for the venturi pre-scrubber for **WESP-001** once per batch when **TU4.001** is in operation.
  - v. Monitor the water flow rate, in gallons per minute for the **WESP-001** once per batch when **TU4.001** is in operation.
  - vi. Monitor the voltage, in kilovolts for the **WESP-001** once per batch when **TU4.001** is in operation.
  - vii. Monitor the pressure drop, in inches water column across **CF-001** once per batch when **TU4.001** is in operation.



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**Section II. Specific Operating Conditions (continued)**

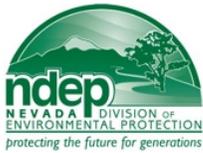
A. **Emission Units #TU4.001** location North 4,460,038 m, East 403,038 mm, UTM (Zone 11)

- c. The required monitoring established in Section A.4.b.i. through Section A.4.b.vii. above will be maintained in a contemporaneous log containing, at a minimum, the following recordkeeping:
  - i. The calendar date of any required monitoring.
  - ii. The total daily batch weight of charge materials in tons per batch, for the corresponding date.
  - iii. The total daily hours of operation for the corresponding date.
  - iv. The measured value of the voltage for **WESP-001** while **TU4.001** is in operation, for the corresponding date.
  - v. The measured value of the water flow rate for **WESP-001** while **TU4.001** is in operation, for the corresponding date.
  - vi. The measured value of the water flow rate to the venturi pre-scrubber for **WESP-001** while **TU4.001** is in operation, for the corresponding date.
  - vii. The measured value for the pressure drop across **CF-001** while **TU4.001** is in operation, for the corresponding date.
  - viii. The percentage mercury loading by weight on the sulfur impregnated carbon sampled from the gas inlet side of the system from **CF-001**.
  - ix. The exact tray location that the sulfur impregnated carbon sample was taken for each module from **CF-001**.
  - x. Carbon manufacturer specifications will be maintained on site for inspection.

d. Reporting

*Permittee* will promptly report to the Director any deviations from the requirements of the Operating Permit to Construct. The report to the Director will include probable cause of all deviations and any action taken to correct deviations. For this Operating Permit to Construct, prompt is defined as submittal of a report within 15 days of said deviation. This definition does not alter any reporting requirements as established for reporting of excess emissions as required under NAC 445B.232 and under condition I.L. of this permit.

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



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**Section III. Amendments**

**This permit:**

1. Is non-transferable. (NAC 445B.287.3)
2. Will be posted conspicuously at or near the stationary source. (NAC 445B.318.5)
3. 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)

**Signature** \_\_\_\_\_  
**Issued by:** Rob Bamford  
Supervisor, Permitting Branch  
Bureau of Air Quality Planning

**Phone:** (775) 687-9330      **Date:** \_\_\_\_\_

*Km*  
*June 20, 2011*