



**Facility Identification Data**

Name: REVERE SMELTING & REFINING CORP  
Address: 65 BALLARD RD  
MIDDLETOWN, NY 10941

**Owner/Firm**

Name: REVERE SMELTING & REFINING CORP  
Address: 2777 STEMMINS FREEWAY - SUITE 1800  
DALLAS, TX 75207, USA  
Owner Classification: Corporation/Partnership

**Permit Contacts**

Division of Environmental Permits:  
Name: MICHAEL D MERRIMAN  
Address: DIVISION OF ENVIRONMENTAL PERMITS  
21 SOUTH PUTT CORNERS RD  
NEW PALTZ, NY 12561-1696  
Phone:8452563054

Division of Air Resources:  
Name: THOMAS M MILLER  
Address: NYSDEC - REG 3  
21 S PUTT CORNERS RD  
NEW PALTZ, NY 12561-1696  
Phone:8452563149

Air Permitting Contact:  
Name: JAMES WALSH  
Address: REVERE SMELTING & REFINING CORP  
65 BALLARD RD  
MIDDLETOWN, NY 10941  
Phone:8456924414

**Permit Description**

**Introduction**

The Title V operating air permit is intended to be a document containing only enforceable terms and conditions as well as any additional information, such as the identification of emission units, emission points, emission sources and processes, that makes the terms meaningful. 40 CFR Part 70.7(a)(5) requires that each Title V permit have an accompanying "...statement that sets forth the legal and factual basis for the draft permit conditions". The purpose for this permit review report is to satisfy the above requirement by providing pertinent details regarding the permit/application data and permit conditions in a more easily understandable format. This report will also include background narrative and explanations of regulatory decisions made by the reviewer. It should be emphasized that this permit review report, while based on information contained in the permit, is a separate document and is not itself an enforceable term and condition of the permit.

**Summary Description of Proposed Project**

Modification 1

Project proposes installation of a short rotary furnace (SRF) to process slag produced by the existing reverberatory furnace. The SRF is sized to process a maximum of 100 tons per day batch of charge material, lead bearing reverberatory slag and reagents. The SRF is designed to operate a 10MMBTU/hour low NOx burner which fires natural gas as fuel. The burner combines pure oxygen with the natural gas to enhance combustion. Controls



supporting the operation of the SRF include a baghouse collector and scrubber. The baghouse collector is required to effectively control particulate and lead emissions. The scrubber is needed to provide sulfur dioxide control efficiency. The operation of the SRF firing natural gas fuel utilizing low NOx burners which combines pure oxygen to the fuel is considered Reasonably Available Control Technology (RACT) for Oxides of Nitrogen (NOx).

Operation of the SRF will eliminate a situation where reverberatory slag generated onsite is shipped (railcar) to sister facilities located in California and Indiana and portion of recovered lead return shipped (railcar / tractor-trailor) to the Revere Smelting & Refining Middletown facility for further refining. The existing reverberatory furnace generates some 1,650 tons of slag per month intended for further processing within the SRF. Past analysis indicate the reverberatory slag contains some 3% sulfur by weight. A low lead content slag will be generated by the SRF which will be sent off site for processing and disposal.

The SRF project anticipates minimal impact to current refinery process elements which include an increase in sodium nitrate (niter) addition and increased natural gas consumption to support the refining kettle operations. These increases are attributable to the quality and mix of the lead refinery product and associated emissions accounted for within permit conditions as appropriate.

The permit application (June 2007 as supplemented December 2007) to install and operate the SRF discusses the concept of process operations currently constrained because of the absence of the proposed SRF. Bottlenecking is the term used to describe this concept. In particular, the question is, does the proposed project impact the operation of existing upstream or downstream process sources. The impact may be considered for either increased or decreased productivity and associated emissions which are therefore attributable to the proposed source project. The following represents a summary evaluation of "bottlenecking" as applied to the installation of the SRF source project.

1. The source project will not enhance upstream capabilities of the existing reverberatory furnace.
2. The source project will impact downstream kettle refining with increase natural gas usage and increased niter addition. Emissions from these processes are therefore accounted for as part of the proposed SRF project as indicated above.

Regulatory review consideration associated with the SRF project include but not limited to applicability of Prevention of Significant Deterioration (40CFR Part 52.21), applicability of non attainment New Source Review (6NYCRR Part 231-2), General Process Emission Sources (6NYCRR Part 212), New Source Performance Standards for Secondary Lead Smelters (40CFR Part 60-L) and National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting (40CFR Part 63-X).

The following summarizes pollutant limits required by the modified Title V permit authorizing the construction and operation of the SRF.

#### Carbon Monoxide

SRF - 22.0 lbs per hr which is 96.36 tons per year  
Natural Gas - 12.8 million cf/yr increase in refining operation which is 0.54 tons per year  
Total project CO emissions ~ 96.90 tons per year < 100 tons per year (40CFR 52.21)

Compliance with short term and annual limit determined by initial and subsequent performance test required on SRF exhaust excluding dryer kiln.

Regulatory limits based on PSD significant project threshold.

#### Oxides of Nitrogen (NOx)

SRF - 6.5 lbs per hr which is 28.47 tons per year  
Natural Gas - 12.8 million cf / yr increase usage in refining operation which is 0.64 tons per year NOx increase.



Sodium Nitrate (Niter) - 22.4 tons per year usage increase in refining operation which is 7.05 tons per year NOx increase.

Total project NOx ~ 36.16 tons per year < 40 tons per year (6NYCRR 231-2)

Compliance with short term limit of 7.7 lbs/hr (6.5 lb/hr + 1.2 lb/hr) determined by the existing EP00001 Continuous Monitoring System (CMS) which measures combined exhaust of kiln dryer and SRF. The 1.2 lb/hr represents baseline emissions established for the existing kiln dryer. CMS design and performance criteria outlined by 40CFR Part 60 Appendix A and F.

Regulatory limits are based on nonattainment New Source Review significant project threshold and Reasonably Available Control Technology. Emissions and performance reporting required quarterly.

#### Sulfur Dioxide (SO2)

SRF - 8.8 lbs per hr which is 38.54 tons per year

Natural gas - negligible

Total project SO2 emissions ~ 38.54 tons per year < 40 tons per year (40CFR 52.21)

Compliance with short term and annual limit determined by new CEM which directly measures exhaust from SRF prior to combining with kiln dryer exhaust within EP00001. CMS design and performance criteria outlined by 40CFR Part 60 Appendix A and F. Emissions and performance reporting required quarterly.

Regulatory limits based on PSD significant project threshold. SO2 Emission Rate Potential of the SRF combined with existing dryer kiln estimated between 100 lbs and 500 lbs per hr. As a General Process Source subject to 6NYCRR Part 212, a 94% degree of air cleaning is required. Initial performance testing is required to confirm removal efficiency. Subsequent performance testing will be required by future Title V permit renewals.

#### PM-10

SRF - 0.0065 gr per dscf which is ~3.34 lbs per hr and ~ 14.64 tons per year

Natural gas - negligible

Total project PM-10 emissions ~ 14.64 tons per year < 15 tons per year (CP-33 and PSD significant project threshold).

Compliance with short term and annual limit determined by initial and subsequent annual performance testing conducted exclusively on SRF exhaust .

#### Particulate

SRF - 0.022 gr per dscf

This limit is based on 40CFR 60.122 Subpart L, Standards of Performance for Secondary Lead Smelters. An initial performance test is required to confirm compliance.

#### Volatile Organic Compound (VOC)

SRF - 3.42 lbs per hr which is 15.0 tons per year

Natural gas - negligible

Total project VOC emissions ~ 15.0 tons per year < 40 tons per year (6NYCRR 231-2)

Compliance with short term and annual limit determined by initial performance testing conducted exclusively on



SRF exhaust . Subsequent performance testing will be required by future Title V permit renewals.

Regulatory limits based on nonattainment New Source Review significant project threshold.

Lead (Pb)

SRF - 0.00026 gr per dscf which is ~ 0.13 lbs per hr and ~ 0.57 tons per year

Natural gas - negligible

Increased kettle refining - negligible (baghouse is a constant outlet concentration control device)

Total project Lead emissions ~ 0.57 tons per year < 0.6 tons per year (40CFR 52.21)

Compliance with short term and annual limit determined by initial and subsequent performance testing conducted exclusively on SRF exhaust outlet concentration control device.

The SRF is subject to 40CFR 63.544 Subpart X, National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting, lead emission limit of 0.00087 gr per dscf. However, the lower limit specified shall govern and is based on PSD significant project threshold.

Arsenic (As)

Combined SRF and Kiln Dryer (EP00001) - 0.0014 lbs per hour

Reverberatory Furnace (EP00017) - 0.0033 lbs per hour

Compliance with short term limit determined by initial performance testing and is based on verifying minimal air toxics impact.

Cadmium (Cd)

Combined SRF and Kiln Dryer (EP00001)- 0.0012 lbs per hour

Compliance with short term limit determined by initial performance testing and is based on verifying minimal air toxics impact.

#### Administrative Record

Application for Construction and Operation of a Short Rotating Furnace submitted by Revere Smelting & Refining June 2007.

NYSDEC letter dated September 28, 2007 to USEPA requesting PSD applicability review.

NYSDEC e-mail dated October 16, 2007 to Revere Smelting & Refining requesting revision to air toxic modeling.

Revised air toxic modeling submitted by ENVIRON on behalf of Revere Smelting & Refining October 30, 2007.

NYSDEC letter dated November 9, 2007 to Revere Smelting & Refining providing comment to permit application.

Title V Permit renewal 1 (existing operation) issued November 15, 2007.

USEPA letter dated November 20, 2007 to Revere Smelting & Refining providing comment to permit application.

Revere Smelting & Refining letter dated December 7, 2007 to NYSDEC transmitting completed Environmental Assessment Form.

Revere Smelting & Refining letter dated December 20, 2007 to USEPA responding to the November 20, 2007 comments.

Revere Smelting & Refining letter dated December 20, 2007 to NYSDEC responding to the November 9, 2007 comments.

NYSDEC e-mail January 8, 2007 to Revere Smelting & Refining outlining options to consider regarding 6NYCRR



**Permit Review Report**

**Permit ID: 3-3352-00145/00049**

**Renewal Number: 1**

**Modification Number: 1 07/22/2008**

Part 231-2 NSR based on SRF as a modification to an existing emission unit.  
 NYSDEC Region 3 telephone communication with NYSDEC Central Office January 9, 2007 affirming 6NYCRR 231-2 review concept of the proposed SRF as modification to an existing emission unit.  
 NYSDEC and USEPA telephone conversation January 10, 2007 concerning past reveratory furnace scrubber control efficiency, permitting of the seventh kettle as aggregating with the proposed SRF and conceptual difference with 6NYCRR 231-2 and 40CFR Part 52 review concepts.  
 Meeting 1/24/2008 with Revere Smelting & Refining at NYSDEC Central Office concerning identification of source project SRF emission unit and emission point associations.  
 Preliminary draft permit provided to Revere Smelting & Refining and USEPA via e-mail February 12, 2008.  
 Revere Smelting & Refining preliminary draft comments received March 6, 2008.  
 AFS application information transmitted March 19, 2008 to Revere Smelting & Refining for review and certification.  
 Internal NYSDEC memorandum April 14, 2008 providing acceptance of air toxics modeling protocol.  
 Revere Smelting & Refining transmit AFS permit application with "mark-up" information received by NYSDEC April 16, 2008.  
 USEPA comment on preliminary draft permit provided via electronic mail April 29, 2008.

**Attainment Status**

REVERE SMELTING & REFINING CORP is located in the town of WALLKILL in the county of ORANGE. The attainment status for this location is provided below. (Areas classified as attainment are those that meet all ambient air quality standards for a designated criteria air pollutant.)

Criteria Pollutant	Attainment Status
Particulate Matter (PM)	ATTAINMENT
Particulate Matter < 10µ in diameter (PM10)	ATTAINMENT
Sulfur Dioxide (SO2)	ATTAINMENT
Ozone*	MODERATE NON-ATTAINMENT
Oxides of Nitrogen (NOx)**	ATTAINMENT
Carbon Monoxide (CO)	ATTAINMENT

\* Ozone is regulated in terms of the emissions of volatile organic compounds (VOC) and/or oxides of nitrogen (NOx) which are ozone precursors.

\*\* NOx has a separate ambient air quality standard in addition to being an ozone precursor

**Facility Description**

Revere Smelting & Refining Corporation operates a secondary lead smelter located in the Town of Wallkill, upper Orange County, New York. The facility operates continuously 24 hours a day, 7 days a week. Incoming raw materials for the secondary lead production process consists primarily of used lead-acid batteries. The majority of these batteries are automotive type, although various types of industrial and specialty type lead-acid batteries are also



received. Other types of lead-bearing materials amenable to facility operations include materials received from lead-acid battery manufacturing plants and scrap metal.

Lead-acid batteries are fed into the battery wrecker where they are mechanically crushed, shredded and hammered for sizing. Solid components of the battery are separated by a sink/float system. Battery electrolyte is collected, and transferred to the scrubber metals co-precipitation process for pH adjustment. The battery case material is washed and pneumatically transferred into trailers for shipment to plastic recyclers.

The metal portion of the battery ("Battery Wrecker Material") is fed to a hopper and then metered to a natural gas fired rotary dryer which serves to reduce the moisture in the charge material. The dried charge material is continuously fed to the reverberatory furnace which is fired by natural gas. Antimony, arsenic, tin, calcium, aluminum, and other alloying elements in the metal are oxidized to the slag while lead is refined to produce a low impurity lead metal. The lead metal is tapped either into molds or directly into refining kettles which are designed to convert the metal produced by the furnace into ingots of specific contents required by customer specifications. Two basic types of metal are produced in the refinery: "Hard Lead" and "Soft Lead." Hard lead contains relatively high amounts of alloying agents such as antimony, and soft lead is nearly pure lead. The compositions of these alloys are adjusted in the refining process to provide for the physical and metallurgical characteristics the customer requires. The facility produced some 104,000 tons of refined lead during calendar year 2006 which was supplied primarily to battery manufacturers.

Revere Smelting & Refining also operates a sodium sulfate crystalizer process which converts liquor from the onsite sulfur dioxide wet scrubbers and neutralized battery electrolyte into sodium sulfate crystals which are sold on the open market.

#### Emission Sources

The main source of emissions at the facility are lead processing activities which include:

- Kiln drying of lead containing material
- Smelting of dried lead containing material
- Smelting of lead bearing reverberatory slag (mod 1)
- Slag Casting
- Refining Kettles, and
- Material Handling & Storage

The lead processing areas are kept under negative pressure to ensure that no fugitive lead and particulate emissions are released from the facility. All point sources are controlled by baghouses. Scrubbers are employed to remove sulfur dioxide from the reverberatory furnace and short rotary furnace. Refinery combustion sources utilize natural gas as fuel. The natural gas fuel is combined with pure oxygen to enhance combustion and reduces the formation of Oxides of Nitrogen (NOx). In a separate by-product recovery operation, the scrubber liquor and neutralized battery electrolyte is processed to form sodium sulfate crystals for resale.

Two diesel generators are used to provide supplemental power when requested by the utility company, and during power outages. The operation of these units is limited to 500 hours per year.

#### Permit Structure and Description of Operations

The Title V permit for REVERE SMELTING & REFINING CORP is structured in terms of the following hierarchy: facility, emission unit, emission point, emission source and process.

A facility is defined as all emission sources located at one or more adjacent or contiguous properties owned or operated by the same person or persons under common control. The facility is subdivided into one or more emission units (EU). Emission units are defined as any part or activity of a stationary facility that emits or has



the potential to emit any federal or state regulated air pollutant. An emission unit is represented as a grouping of processes (defined as any activity involving one or more emission sources (ES) that emits or has the potential to emit any federal or state regulated air pollutant). An emission source is defined as any apparatus, contrivance or machine capable of causing emissions of any air contaminant to the outdoor atmosphere, including any appurtenant exhaust system or air cleaning device. [NOTE: Indirect sources of air contamination as defined in 6 NYCRR Part 203 (i.e. parking lots) are excluded from this definition]. The applicant is required to identify the principal piece of equipment (i.e., emission source) that directly results in or controls the emission of federal or state regulated air pollutants from an activity (i.e., process). Emission sources are categorized by the following types:

- combustion - devices which burn fuel to generate heat, steam or power
- incinerator - devices which burn waste material for disposal
- control - emission control devices
- process - any device or contrivance which may emit air contaminants that is not included in the above categories.

REVERE SMELTING & REFINING CORP is defined by the following emission unit(s):

Emission unit 1SRFKD - SHORT ROTARY FURNACE (SRF) AND ROTATING KILN DRYER. THE SRF IS EQUIPPED WITH A 10 MMBTU/HR LOW NOX BURNER. BOTH COMBUSTION UNITS FIRE NATURAL GAS AS FUEL AND UTILIZE BURNERS WHICH COMBINES PURE OXYGEN TO THE FUEL TO ENHANCE COMBUSTION. BAGHOUSE UNITS (PERMIT IDS B3 AND SRFBH) ARE USED TO CONTROL LEAD AND PARTICULATE EMISSIONS. THESE BAGHOUSE UNITS ARE SUBJECT TO THE PROPER OPERATION OF LEAK DETECTION SYSTEMS. THE SRF IS ALSO EQUIPPED WITH A SCRUBBER DEVICE TO CONTROL SULFUR DIOXIDE EMISSIONS.

Emission unit 1SRFKD is associated with the following emission points (EP):  
00001

It is further defined by the following process(es):

Process: DRY is located at 1, Building MAIN - KILN DRYING OF LEAD CONTAINING MATERIAL.

Process: SRF is located at Building MAIN - SHORT ROTARY FURNACE WHICH FIRES NATURAL GAS FUEL AND UTILIZES A LOW NOX BURNER WHICH COMBINES PURE OXYGEN TO THE FUEL TO ENHANCE COMBUSTION. THE SHORT ROTARY FURNACE IS USED TO SMELT LEAD BEARING SLAG FROM THE REVERBERATORY FURNACE.

Emission unit 10LEAD - THIS EMISSION UNIT INCLUDES: REVERBERATORY FURNACE SYSTEM, SLAG CASTING, REFINING KETTLES AND ASSOCIATED MATERIAL HANDLING EQUIPMENT. A NEGATIVE PRESSURE SYSTEM IS USED AT THE FACILITY TO CONTROL PROCESS SOURCES (63.543), PROCESS FUGITIVE SOURCES (63.544) AND FUGITIVE DUST SOURCES (63.545). COLLECTED AIR FROM ASSOCIATED SOURCES ARE VENTED TO TWELVE (12) SEPERATE BAGHOUSE UNITS TO CONTROL LEAD AND PARTICULATE EMISSIONS.

NINE (9) BAGHOUSE UNITS ARE USED TO CONTROL LEAD EMISSIONS ASSOCIATED WITH THE YARD BUILDING AREAS, REFINING AREAS, LEAD TAP AND FEED ROOM. EIGHT (8) OF THESE NINE (9) BAGHOUSE UNITS ARE PULSE TYPE HEPA FILTERS (PERMIT ID B6, B7, B8, B9, B10, B11, B12, B13) WITH ONE (1) BAGHOUSE UNIT (PERMIT ID B5) SITUATED UPSTREAM OF HEPA UNITS B6 AND B7.

THE REMAINING THREE (3) BAGHOUSE UNITS (PERMIT ID B1, B2, AND B4) CONTROL LEAD EMISSIONS FROM PROCESS SOURCES INCLUDING REVERBERATORY FURNACE SYSTEM, SLAG CASTING, REFINERY KETTLES AND ASSOCIATED MATERIAL HANDLING EQUIPMENT. THESE BAGHOUSE UNITS ARE SUBJECT TO THE PROPER OPERATION OF LEAK DETECTION SYSTEMS.

A SCRUBBER IS USED REMOVE SULFUR FROM THE REVERBERATORY FURNACE GAS STREAM. A



97% CONTROL EFFICIENCY OF SULFUR DIOXIDE EMISSIONS IS REQUIRED.

Emission unit 10LEAD is associated with the following emission points (EP):  
00002, 00004, 00007, 00008, 00009, 00010, 00011, 00012, 00016, 00017

It is further defined by the following process(es):

Process: DRY is located at 1, Building MAIN - KILN DRYING OF LEAD CONTAINING MATERIAL.

Process: FRN is located at 1, Building MAIN - SMELTING OF DRIED LEAD CONTAINING MATERIAL AND TAPPING FURNACE PRODUCT.

Process: MHSMATERIAL HANDLING AND STORAGE INCLUDES: YARD BUILDING AREA, FEED ROOM, CENTRAL VACUUM SYSTEM AND DROSS BIN.

Process: NIT is located at Building MAIN - ADDITION OF NITER IN SUPPORT OF REFINING LEAD.

Process: REF is located at 1, Building MAIN - REFINING MOLTEN LEAD IN SEVEN KETTLES. NATURAL GAS USED AS FUEL TO SUPPLY HEAT REQUIRED FOR REFINING.

Process: SLG is located at 1, Building MAIN - SLAG CASTING.

Emission unit 2CRYST - SODIUM SULFATE CRYSTALLIZER OPERATION WHICH CONVERTS LIQUOR FROM THE ONSITE SULFUR DIOXIDE WET SCRUBBER AND NEUTRALIZED BATTERY ELECTROLYTE INTO SODIUM SULFATE CRYSTALS.

THIS EMISSION UNIT CONSIST OF TWO PROCESS LINES INCLUDING THE SPRAY DRYER EQUIPPED WITH A BAGHOUSE (EP00024) AND THE DRYER, CYCLONE AND SCRUBBER (EP00014). SODIUM SULFATE PRODUCT IS STORED IN THREE SILOS. THE SILOS ARE EXEMPT SINCE THEY ARE CONNECTED IN SERIES AND VENTED THROUGH A BAGHOUSE COLLECTOR.

THE CRYSTALLIZER OPERATION UTILIZES AN EXEMPT EMERGENCY GENERATOR (EP00020) TO SUPPLY ELECTRIC DURING PERIODS WHEN UTILITY SERVICE IS UNAVAILABLE.

Emission unit 2CRYST is associated with the following emission points (EP):  
00014, 00024

It is further defined by the following process(es):

Process: CRY is located at 1, Building CRYST - CRYSTALLIZATION OF NEUTRALIZED BATTERY ELECTROLYTE AND SCRUBBER LIQUOR TO FORM SODIUM SULFATE CRYSTALS.

Emission unit 3GENER - TWO 30 mmBTU/hr DIESEL GENERATORS ARE USED TO PROVIDE SUPPLEMENTAL POWER WHEN REQUESTED BY THE UTILITY COMPANY, AND DURING POWER OUTAGES. THESE GENERATORS ARE LIMITED TO 500 HOURS (ANNUAL 12 MONTH ROLLING AVERAGE) AS PER APPROVED NOX RACT PLAN.

Emission unit 3GENER is associated with the following emission points (EP):  
00005, 00006

It is further defined by the following process(es):

Process: GEN is located at Building MAIN - TWO DIESEL GENERATORS USED TO PROVIDE SUPPLEMENTAL POWER WHEN REQUESTED BY THE UTILITY COMPANY, AND DURING POWER OUTAGES. MAX OPERATING HOURS PER YEAR LESS THAN 500 HOURS/GENERATOR.

Emission unit 4BOILER - A 12.5 MMBTU/HR BOILER (EP00015) IS USED TO SUPPLY PROCESS HEAT NEEDED TO OPERATE THE CRYSTALLIZATION PROCESS. THE BOILER FIRES NATURAL GAS AND IS EQUIPPED WITH LOW NOX BURNERS AND FLUE GAS RECIRCULATION AS STIPULATED BY THE APPROVED NOX RACT PLAN.

Emission unit 4BOILER is associated with the following emission points (EP):  
00015

It is further defined by the following process(es):

Process: BLR is located at Building CRYST - NATURAL GAS FIRED BOILER RATED AT 12.55 MMBTU/HR WHICH PROVIDES REQUIRED HEAT FOR CRYSTALLIZATION PROCESS.

**Title V/Major Source Status**

REVERE SMELTING & REFINING CORP is subject to Title V requirements. This determination is based on the following information:

**Modification 1**

The Revere Smelting & Refining facility is an existing major source, as defined by 6NYCRR 201, for oxides of nitrogen (NOx) emissions above 100 tons per year. Modification 1 to install a short rotating furnace (SRF) will increase emissions at the facility. Further regulatory review under 6NYCRR 231-2 and 40CFR Part 52.21 does not apply to this modification since non attainment Volatile Organic Compounds, Oxides of Nitrogen and particulate emissions as well as attainment pollutants Lead, Sulfur Dioxide and Carbon Monoxide are limited below the defined significant projects source thresholds. The permit contains federally enforceable conditions to ensure the project source emissions and related increase of existing source emissions do not exceed the limits imposed.

**Existing Facility Operation Prior to Installation of SRF**

Oxides of Nitrogen emissions exceed major stationary source threshold of 100 tons per year. Historical facility wide emissions based on NYSDEC inventory as follows:

Lead emissions - greater than 700 lbs per year but less than 2,000 lbs per year.

Carbon Monoxide - greater than 2,000 lbs per year but less than 4,200 lbs per year.

Particulate emissions - greater than 35,000 lbs per year but less than 90,000 lbs per year.

Sulfur Dioxide - greater than 95,000 lbs per year but less than 160,000 lbs per year.

Oxides of Nitrogen - greater than 450,000 lbs per year but less than 751,000 lbs per year.

Note: A scrubber was installed circa 1998 to provide SO<sub>2</sub> control greater than 97% from the reverberatory furnace.

<b>Stack Test Report dated December 23, 2005</b>				
<b>Emission Point</b>	<b>Lead Emission (gr/dscf)</b>	<b>Lead Emission (lb/hr)</b>	<b>Particulate Emission (gr/dscf)</b>	<b>Particulate Emission (lb/hr)</b>
00001	0.00073	0.13	0.0029	0.5
00002	0.00002	0.0024	0.00023	0.032
00004	0.00001	0.004	0.0001	0.023
00007	0.00001	0.0035	0.0016	0.56
00008	0.00001	0.0016	0.0005	0.11
00009	0.00007	0.02	0.0019	0.58
00010	0.00001	0.0022	< 0.0003	<0.084
00011	0.00001	0.0011	0.0004	0.076
00012	0.00002	0.0073	0.0028	1.2
00014	0.00001	0.0001	0.0029	0.042



**Permit Review Report**

Permit ID: 3-3352-00145/00049

Renewal Number: 1

Modification Number: 1 07/22/2008

00016	0.00002	0.0077	0.00002	1.4
00017	0.00012	0.041	0.0012	0.43
00024	0.00001	0.00033	0.0093	0.19
00001/00017	Control Efficiency SO2 Emissions determined 99.6 %			
Total		0.22		5.23

Total Process Lead Emissions  
 0.22 lbs/hr x 8760 hrs/yr = 1939 lbs/yr

Total Process Particulate Emissions  
 5.23 lbs/hr x 8760 hrs/yr = 45,815 lbs/yr

<b>Stack Test Report dated December 11, 2006</b>				
Emission Point	Lead Emission (gr/dscf)	Lead Emission (lb/hr)	Particulate Emission (gr/dscf)	Particulate Emission (lb/hr)
00001	0.000034		0.00068	

<b>Stack Test Report dated December 11, 2007</b>				
Emission Point	Lead Emission (gr/dscf)	Lead Emission (lb/hr)	Particulate Emission (gr/dscf)	Particulate Emission (lb/hr)
00001	0.000019	0.0039	< 0.0007	< 0.14
00002	0.00004	0.0066	< 0.0006	< 0.096
00004	0.000015	0.0062	< 0.0009	< 0.38
00007	< 0.000019	< 0.0073	< 0.0015	< 0.59
00008	< 0.000017	< 0.0049	< 0.0006	< 0.17
00009	0.000017	0.0048	< 0.0010	< 0.28
00010	< 0.000019	< 0.0049	< 0.0004	< 0.114
00011	< 0.000015	< 0.0037	0.0009	0.23
00012	< 0.000022	< 0.011	< 0.0026	< 1.24
00014	< 0.000015	< 0.00023	0.0053	0.081



**Permit Review Report**

**Permit ID: 3-3352-00145/00049**

**Renewal Number: 1**

**Modification Number: 1 07/22/2008**

00016	< 0.000017	< 0.0075	< 0.0009	< 0.41
00017	< 0.000049	< 0.018	0.0013	0.47
00024	< 0.000014	< 0.00041	0.0034	0.098
00001/00017	Control Efficiency SO2 Emissions determined 99.5 %			
Total		0.0832		4.3
Total Process Lead Emissions $0.0832 \text{ lbs/hr} \times 8760 \text{ hrs/yr} = 728 \text{ lbs/yr}$				
Total Process Particulate Emissions $4.3 \text{ lbs/hr} \times 8760 \text{ hrs/yr} = 37668 \text{ lbs/yr}$				

**Program Applicability**

The following chart summarizes the applicability of REVERE SMELTING & REFINING CORP with regards to the principal air pollution regulatory programs:

Regulatory Program	Applicability
PSD	NO
NSR (non-attainment)	NO
NESHAP (40 CFR Part 61)	NO
NESHAP (MACT - 40 CFR Part 63)	YES
NSPS	YES
TITLE IV	NO



TITLE V	YES
TITLE VI	NO
RACT	YES
SIP	YES

**NOTES:**

**PSD** Prevention of Significant Deterioration (40 CFR 52) - requirements which pertain to major stationary sources located in areas which are in attainment of National Ambient Air Quality Standards (NAAQS) for specified pollutants.

**NSR** New Source Review (6 NYCRR Part 231) - requirements which pertain to major stationary sources located in areas which are in non-attainment of National Ambient Air Quality Standards (NAAQS) for specified pollutants.

**NESHAP** National Emission Standards for Hazardous Air Pollutants (40 CFR 61) - contaminant and source specific emission standards established prior to the Clean Air Act Amendments of 1990 (CAAA) which were developed for 9 air contaminants (inorganic arsenic, radon, benzene, vinyl chloride, asbestos, mercury, beryllium, radionuclides, and volatile HAP's)

**MACT** Maximum Achievable Control Technology (40 CFR 63) - contaminant and source specific emission standards established by the 1990 CAAA. Under Section 112 of the CAAA, the US EPA is required to develop and promulgate emissions standards for new and existing sources. The standards are to be based on the best demonstrated control technology and practices in the regulated industry, otherwise known as MACT. The corresponding regulations apply to specific source types and contaminants.

**NSPS** New Source Performance Standards (40 CFR 60) - standards of performance for specific stationary source categories developed by the US EPA under Section 111 of the CAAA. The standards apply only to those stationary sources which have been constructed or modified after the regulations have been proposed by publication in the Federal Register and only to the specific contaminant(s) listed in the regulation.

**Title IV** Acid Rain Control Program (40 CFR 72 thru 78) - regulations which mandate the implementation of the acid rain control program for large stationary



combustion facilities.

Title VI Stratospheric Ozone Protection (40 CFR 82, Subparts A thru G) - federal requirements that apply to sources which use a minimum quantity of CFC's (chlorofluorocarbons), HCFC's(hydrofluorocarbons)or other ozone depleting substances or regulated substitute substances in equipment such as air conditioners, refrigeration equipment or motor vehicle air conditioners or appliances.

RACT Reasonably Available Control Technology (6 NYCRR Parts 212.10, 226, 227-2, 228, 229, 230, 232, 233, 234, 235, 236) - the lowest emission limit that a specific source is capable of meeting by application of control technology that is reasonably available, considering technological and economic feasibility. RACT is a control strategy used to limit emissions of VOC's and NOx for the purpose of attaining the air quality standard for ozone. The term as it is used in the above table refers to those state air pollution control regulations which specifically regulate VOC and NOx emissions.

SIP State Implementation Plan (40 CFR 52, Subpart HH) - as per the CAAA, all states are empowered and required to devise the specific combination of controls that, when implemented, will bring about attainment of ambient air quality standards established by the federal government and the individual state. This specific combination of measures is referred to as the SIP. The term here refers to those state regulations that are approved to be included in the SIP and thus are considered federally enforceable.

**Compliance Status**

Facility is in compliance with all requirements

**SIC Codes**

SIC or Standard Industrial Classification code is an industrial code developed by the federal Office of Management and Budget for use, among other things, in the classification

of establishments by the type of activity in which they are engaged. Each operating establishment is assigned an industry code on the basis of its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. Larger facilities typically have more than one SIC code.

**SIC Code**

3341

**Description**

SECONDARY NONFERROUS METALS

**SCC Codes**



## Permit Review Report

Permit ID: 3-3352-00145/00049

Renewal Number: 1

Modification Number: 1 07/22/2008

which result in air emissions for the purpose of assessing emission factor information. Each SCC represents a unique process or function within a source category logically associated with a point of air pollution emissions. Any operation that causes air pollution can be represented by one or more SCC's.

SCC Code	Description
1-02-006-02	EXTERNAL COMBUSTION BOILERS - INDUSTRIAL INDUSTRIAL BOILER - NATURAL GAS 10-100 MMBtu/Hr
2-01-001-02	INTERNAL COMBUSTION ENGINES - ELECTRIC GENERATION ELECTRIC UTILITY INTERNAL COMBUSTION ENGINE - DISTILLATE OIL (DIESEL)
3-04-004-10	Reciprocating SECONDARY METAL PRODUCTION SECONDARY METAL PRODUCTION - LEAD
3-04-004-14	Battery Breaking SECONDARY METAL PRODUCTION SECONDARY METAL PRODUCTION - LEAD
3-04-004-99	Kettle Refining: Fugitive Emissions SECONDARY METAL PRODUCTION SECONDARY METAL PRODUCTION - LEAD
3-04-004-02	Other Not Classified SECONDARY METAL PRODUCTION SECONDARY METAL PRODUCTION - LEAD Reverberatory Furnace

### Facility Emissions Summary

In the following table, the CAS No. or Chemical Abstract Series code is an identifier assigned to every chemical compound. [NOTE: Certain CAS No.'s contain a 'NY' designation within them. These are not true CAS No.'s but rather an identification which has been developed by the department to identify groups of contaminants which ordinary CAS No.'s do not do. As an example, volatile organic compounds or VOC's are identified collectively by the NY CAS No. 0NY998-00-0.] The PTE refers to the Potential to Emit. This is defined as the maximum capacity of a facility or air contaminant source to emit any air contaminant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or air contamination source to emit any air contaminant, including air pollution control equipment and/or restrictions on the hours of operation, or on the type or amount or material combusted, stored, or processed, shall be treated as part of the design only if the limitation is contained in federally enforceable permit conditions. The PTE Range represents an emission range for a contaminant. Any PTE quantity that is displayed represents a facility-wide emission cap or limitation for that contaminant. If no PTE quantity is displayed, the PTE Range is provided to indicate the approximate magnitude of facility-wide emissions for the specified contaminant in terms of tons per year (tpy). The term 'HAP' refers to any of the hazardous air pollutants listed in section 112(b) of the Clean Air Act Amendments of 1990. Total emissions of all hazardous air pollutants are listed under the special NY CAS No. 0NY100-00-0. In addition, each individual hazardous air pollutant is also listed under its own specific CAS No. and is identified in the list below by the (HAP) designation.

Cas No.	Contaminant Name	PTE	
		lbs/yr	Range
007440-38-2	ARSENIC	pteyear	Y
000630-08-0	CARBON MONOXIDE	pteyear	B
007440-50-8	COPPER	pteyear	A
0NY100-00-0	HAP	pteyear	A
007439-92-1	LEAD	pteyear	Y
0NY210-00-0	OXIDES OF NITROGEN	pteyear	H
0NY075-00-0	PARTICULATES	pteyear	F
0NY075-00-5	PM-10	pteyear	C
007704-34-9	SULFUR	pteyear	A
007446-09-5	SULFUR DIOXIDE	pteyear	G
0NY998-00-0	VOC	pteyear	C



## NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS

### Item A: Emergency Defense - 6NYCRR Part 201-1.5

An emergency constitutes an affirmative defense to an action brought for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

(a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An emergency occurred and that the facility owner and/or operator can identify the cause(s) of the emergency;
- (2) The equipment at the permitted facility causing the emergency was at the time being properly operated;
- (3) During the period of the emergency the facility owner and/or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- (4) The facility owner and/or operator notified the Department within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding, the facility owner and/or operator seeking to establish the occurrence of an emergency has the burden of proof.

(c) This provision is in addition to any emergency or upset provision contained in any applicable requirement.

### Item B: Public Access to Recordkeeping for Title V Facilities - 6NYCRR Part 201-1.10(b)

The Department will make available to the public any permit application, compliance plan, permit, and monitoring and compliance certification report pursuant to Section 503(e) of the Act, except for information entitled to confidential treatment pursuant to 6NYCRR Part 616 - Public Access to records and Section 114(c) of the Act.

### Item C: Timely Application for the Renewal of Title V Permits - 6 NYCRR Part 201-6.3(a)(4)

Owners and/or operators of facilities having an issued Title V permit shall submit a complete application at least 180 days, but not more than eighteen months, prior to the date of permit expiration for



permit renewal purposes.

- Item D: Certification by a Responsible Official - 6 NYCRR Part 201-6.3(d)(12)**  
Any application, form, report or compliance certification required to be submitted pursuant to the federally enforceable portions of this permit shall contain a certification of truth, accuracy and completeness by a responsible official. This certification shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- Item E: Requirement to Comply With All Conditions - 6 NYCRR Part 201-6.5(a)(2)**  
The permittee must comply with all conditions of the Title V facility permit. Any permit non-compliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
- Item F: Permit Revocation, Modification, Reopening, Reissuance or Termination, and Associated Information Submission Requirements - 6 NYCRR Part 201-6.5(a)(3)**  
This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- Item G: Cessation or Reduction of Permitted Activity Not a Defense - 6 NYCRR Part 201-6.5(a)(5)**  
It shall not be a defense for a permittee in an enforcement action to claim that a cessation or reduction in the permitted activity would have been necessary in order to maintain compliance with the conditions of this permit.
- Item H: Property Rights - 6 NYCRR Part 201-6.5(a)(6)**  
This permit does not convey any property rights of any sort or any exclusive privilege.
- Item I: Severability - 6 NYCRR Part 201-6.5(a)(9)**  
If any provisions, parts or conditions of this permit are found to be invalid or are the subject of a challenge, the remainder of this permit shall continue to be valid.
- Item J: Permit Shield - 6 NYCRR Part 201-6.5(g)**  
All permittees granted a Title V facility permit shall be covered under the protection of a permit shield, except as provided under 6 NYCRR Subpart 201-6. Compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the



date of permit issuance, provided that such applicable requirements are included and are specifically identified in the permit, or the Department, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the major stationary source, and the permit includes the determination or a concise summary thereof. Nothing herein shall preclude the Department from revising or revoking the permit pursuant to 6 NYCRR Part 621 or from exercising its summary abatement authority. Nothing in this permit shall alter or affect the following:

- i. The ability of the Department to seek to bring suit on behalf of the State of New York, or the Administrator to seek to bring suit on behalf of the United States, to immediately restrain any person causing or contributing to pollution presenting an imminent and substantial endangerment to public health, welfare or the environment to stop the emission of air pollutants causing or contributing to such pollution;
- ii. The liability of a permittee of the Title V facility for any violation of applicable requirements prior to or at the time of permit issuance;
- iii. The applicable requirements of Title IV of the Act;
- iv. The ability of the Department or the Administrator to obtain information from the permittee concerning the ability to enter, inspect and monitor the facility.

**Item K: Reopening for Cause - 6 NYCRR Part 201-6.5(i)**

This Title V permit shall be reopened and revised under any of the following circumstances:

- i. If additional applicable requirements under the Act become applicable where this permit's remaining term is three or more years, a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless the original permit or any of its terms and conditions has been extended by the Department pursuant to the provisions of Part 201-6.7 and Part 621.
- ii. The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
- iii. The Department or the Administrator determines that the Title V permit must be revised or reopened to assure compliance with applicable requirements.
- iv. If the permitted facility is an "affected source" subject to



the requirements of Title IV of the Act, and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

Proceedings to reopen and issue Title V facility permits shall follow the same procedures as apply to initial permit issuance but shall affect only those parts of the permit for which cause to reopen exists.

Reopenings shall not be initiated before a notice of such intent is provided to the facility by the Department at least thirty days in advance of the date that the permit is to be reopened, except that the Department may provide a shorter time period in the case of an emergency.

**Item L: Permit Exclusion - ECL 19-0305**

The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York (NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

**Item M: Federally Enforceable Requirements - 40 CFR 70.6(b)**

All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

**NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS**

**Item A: General Provisions for State Enforceable Permit Terms and Condition - 6 NYCRR Part 201-5**

Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a



permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

### Regulatory Analysis

Location Facility/EU/EP/Process/ES	Regulation	Condition	Short Description
FACILITY		47	Powers and Duties of the Department with respect to air pollution control
1-0LEAD/-/REF	40CFR 52-A.21	1-19	Prevention of Significant Deterioration
1-SRFKD/00001	40CFR 52-A.21	1-22	Prevention of Significant Deterioration
1-SRFKD/00001/SRF	40CFR 52-A.21	1-25, 1-26, 1-28	Prevention of Significant Deterioration
FACILITY	40CFR 60-L.122 (a)	1-6, 1-7, 1-8, 1-9	Standards of Performance for Secondary Lead Smelters - standard for particulate matter
FACILITY	40CFR 60-L.122 (b)	1-10	Standards of Performance for Secondary Lead Smelters - standard for particulate matter
FACILITY	40CFR 63-A.10	1-11, 34, 35	Recordkeeping and Reporting
FACILITY	40CFR 63-X.541 (b)	37	Subpart X - NESHAP for Secondary Lead Smelting
FACILITY	40CFR 63-X.543	1-12	Subpart X - Standards for Process Sources
FACILITY	40CFR 63-X.544	1-13	Subpart X - Standards for Process Fugitive Sources
FACILITY	40CFR 63-X.544 (b)	1-14	Subpart X - Standards for Process Fugitive Sources
FACILITY	40CFR 63-X.545	41	Subpart X - Standards for Fugitive Dust Sources
FACILITY	40CFR 63-X.548	1-15	
FACILITY	40CFR 68	20	Chemical accident prevention provisions
FACILITY	40CFR 82-F	21	Protection of Stratospheric Ozone - recycling and emissions reduction
FACILITY	6NYCRR 200.6	1	Acceptable ambient air quality.
FACILITY	6NYCRR 200.7	10	
FACILITY	6NYCRR 201-1.4	48	Unavoidable noncompliance and violations
FACILITY	6NYCRR 201-1.7	11	
FACILITY	6NYCRR 201-1.8	22	Prohibition of reintroduction of collected contaminants to the air
FACILITY	6NYCRR 201-3.2 (a)	12	Exempt Activities - Proof of eligibility
FACILITY	6NYCRR 201-3.3 (a)	13	Trivial Activities -



Permit Review Report

Permit ID: 3-3352-00145/00049

Renewal Number: 1

Modification Number: 1 07/22/2008

FACILITY	6NYCRR 201-6	23, 43, 44	proof of eligibility Title V Permits and the Associated Permit Conditions
FACILITY	6NYCRR 201-6.5 (a) (4)	14	
FACILITY	6NYCRR 201-6.5 (a) (7)	2	
FACILITY	6NYCRR 201-6.5 (a) (8)	15	
FACILITY	6NYCRR 201-6.5 (c)	3	Permit conditions for Recordkeeping and Reporting of Compliance Monitoring
FACILITY	6NYCRR 201-6.5 (c) (2)	4	Permit conditions for Recordkeeping and Reporting of Compliance Monitoring
FACILITY	6NYCRR 201-6.5 (c) (3) (ii)	5	Permit conditions for Recordkeeping and Reporting of Compliance Monitoring
FACILITY	6NYCRR 201-6.5 (d) (5)	16	
FACILITY	6NYCRR 201-6.5 (e)	6	
FACILITY	6NYCRR 201-6.5 (f) (6)	17	
FACILITY	6NYCRR 201-7	1-16, 1-17	Federally Enforceable Emissions Caps
1-OLEAD/-/NIT	6NYCRR 201-7	1-18	Federally Enforceable Emissions Caps
1-OLEAD/-/REF	6NYCRR 201-7	1-19	Federally Enforceable Emissions Caps
1-SRFKD/00001	6NYCRR 201-7	1-22, 1-23	Federally Enforceable Emissions Caps
1-SRFKD/00001/SRF	6NYCRR 201-7	1-25, 1-26, 1-27, 1-28	Federally Enforceable Emissions Caps
FACILITY	6NYCRR 202-1.1	18	
FACILITY	6NYCRR 202-2.1	7	Emission Statements - Applicability
FACILITY	6NYCRR 202-2.5	8	Emission Statements - record keeping requirements.
FACILITY	6NYCRR 211.2	49	General Prohibitions - air pollution prohibited.
FACILITY	6NYCRR 211.3	19	General Prohibitions - visible emissions limited
FACILITY	6NYCRR 212.10	1-3	NOx and VOC RACT required at major facilities
1-SRFKD/-/SRF	6NYCRR 212.10 (a) (2)	1-21	NOx and VOC RACT required at major facilities
FACILITY	6NYCRR 212.11	1-4	
FACILITY	6NYCRR 212.11 (b) (5)	1-5	
FACILITY	6NYCRR 212.4 (c)	1-1	General Process Emission Sources - emissions from new processes and/or modifications
FACILITY	6NYCRR 212.6 (a)	1-2	General Process Emission Sources - opacity of emissions limited
1-OLEAD/00017	6NYCRR 212.9	1-20	
1-SRFKD/00001	6NYCRR 212.9	1-24	
1-OLEAD/00017	6NYCRR 212.9 (a)	1-29	
1-SRFKD/00001	6NYCRR 212.9 (a)	1-30, 1-31	
FACILITY	6NYCRR 215	9	
FACILITY	6NYCRR 225-1.2 (a) (2)	29	Sulfur in Fuel Limitations Post 12/31/87.
FACILITY	6NYCRR 227-1.3 (a)	30	Smoke Emission Limitations.
3-GENER	6NYCRR 227-2.1 (a) (6)	46	Further filtering of applicability
1-OLEAD/-/NIT	6NYCRR 231-2	1-18	New Source Review in Nonattainment Areas and Ozone Transport Region
1-OLEAD/-/REF	6NYCRR 231-2	1-19	New Source Review in



1-SRFKD/00001	6NYCRR 231-2	1-23	Nonattainment Areas and Ozone Transport Region New Source Review in Nonattainment Areas and Ozone Transport Region
1-SRFKD/00001/SRF	6NYCRR 231-2	1-27	New Source Review in Nonattainment Areas and Ozone Transport Region

**Applicability Discussion:**

Mandatory Requirements: The following facility-wide regulations are included in all Title V permits:

ECL 19-301.

This section of the Environmental Conservation Law establishes the powers and duties assigned to the Department with regard to administering the air pollution control program for New York State.

6NYCRR Part 200-.6

Acceptable ambient air quality - prohibits contravention of ambient air quality standards without mitigating measures

6NYCRR Part 200-.7

Anyone owning or operating an air contamination source which is equipped with an emission control device must operate the control consistent with ordinary and necessary practices, standards and procedures, as per manufacturer's specifications and keep it in a satisfactory state of maintenance and repair so that it operates effectively

6NYCRR Part 201-1.4

This regulation specifies the actions and recordkeeping and reporting requirements for any violation of an applicable state enforceable emission standard that results from a necessary scheduled equipment maintenance, start-up, shutdown, malfunction or upset in the event that these are unavoidable.

6NYCRR Part 201-1.7

Requires the recycle and salvage of collected air contaminants where practical

6NYCRR Part 201-1.8

Prohibits the reintroduction of collected air contaminants to the outside air

6NYCRR Part 201-3.2(a)

An owner and/or operator of an exempt emission source or unit may be required to certify that it operates within the specific criteria described in this Subpart. All required records must be maintained on-site for a period of 5 years and made available to department representatives upon request. In addition, department representatives must be granted access to any facility which contains exempt emission sources or units, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

6NYCRR Part 201-3.3(a)



The owner and/or operator of a trivial emission source or unit may be required to certify that it operates within the specific criteria described in this Subpart. All required records must be maintained on-site for a period of 5 years and made available to department representatives upon request. In addition, department representatives must be granted access to any facility which contains trivial emission sources or units subject to this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

6NYCRR Part 201-6

This regulation applies to those terms and conditions which are subject to Title V permitting. It establishes the applicability criteria for Title V permits, the information to be included in all Title V permit applications as well as the permit content and terms of permit issuance. This rule also specifies the compliance, monitoring, recordkeeping, reporting, fee, and procedural requirements that need to be met to obtain a Title V permit, modify the permit and demonstrate conformity with applicable requirements as listed in the Title V permit. For permitting purposes, this rule specifies the need to identify and describe all emission units, processes and products in the permit application as well as providing the Department the authority to include this and any other information that it deems necessary to determine the compliance status of the facility.

6NYCRR 201-6.5(a)(4)

This mandatory requirement applies to all Title V facilities. It requires the permittee to provide information that the Department may request in writing, within a reasonable time, in order to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. The request may include copies of records required to be kept by the permit.

6NYCRR 201-6.5(a)(7)

This is a mandatory condition that requires the owner or operator of a facility subject to Title V requirements to pay all applicable fees associated with the emissions from their facility.

6NYCRR 201-6.5(a)(8)

This is a mandatory condition for all facilities subject to Title V requirements. It allows the Department to inspect the facility to determine compliance with this permit, including copying records, sampling and monitoring, as necessary.

6NYCRR Part 201-6.5(c)

This requirement specifies, in general terms, what information must be contained in any required compliance monitoring records and reports. This includes the date, time and place of any sampling, measurements and analyses; who performed the analyses; analytical techniques and methods used as well as any required QA/QC procedures; results of the analyses; the operating conditions at the time of sampling or measurement and the identification of any permit deviations. All such reports must also be certified by the designated responsible official of the facility.

6NYCRR Part 201-6.5(c)(2)

This requirement specifies that all compliance monitoring and recordkeeping is to be conducted according to the terms and conditions of the permit and follow all QA requirements found in applicable regulations. It also requires monitoring records



and supporting information to be retained for at least 5 years from the time of sampling, measurement, report or application. Support information is defined as including all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

6NYCRR Part 201-6.5(c)(3)(ii)

This regulation specifies any reporting requirements incorporated into the permit must include provisions regarding the notification and reporting of permit deviations and incidences of noncompliance stating the probable cause of such deviations, and any corrective actions or preventive measures taken.

6NYCRR 201-6.5(d)(5)

This condition applies to every Title V facility subject to a compliance schedule. It requires that reports, detailing the status of progress on achieving compliance with emission standards, be submitted semiannually.

6NYCRR Part 201-6.5(e)

Sets forth the general requirements for compliance certification content; specifies an annual submittal frequency; and identifies the EPA and appropriate regional office address where the reports are to be sent.

6NYCRR 201-6.5(f)(6)

This condition allows changes to be made at the facility, without modifying the permit, provided the changes do not cause an emission limit contained in this permit to be exceeded. The owner or operator of the facility must notify the Department of the change. It is applicable to all Title V permits which may be subject to an off permit change.

6NYCRR Part 202-1.1

This regulation allows the department the discretion to require an emission test for the purpose of determining compliance. Furthermore, the cost of the test, including the preparation of the report are to be borne by the owner/operator of the source.

6NYCRR Part 202-2.1

Requires that emission statements shall be submitted on or before April 15th each year for emissions of the previous calendar year.

6NYCRR Part 202-2.5

This rule specifies that each facility required to submit an emission statement must retain a copy of the statement and supporting documentation for at least 5 years and must make the information available to department representatives.

6NYCRR Part 211-.2

This regulation prohibits any emissions of air contaminants to the outdoor atmosphere which may be detrimental to human, plant or animal life or to property, or which unreasonably interferes with the comfortable enjoyment of life or property regardless of the existence of any specific air quality standard or emission limit.

6 NYCRR Part 211.3

This condition requires that the opacity (i.e., the degree to which emissions other than water reduce the transmission of light) of the emissions from any air contamination source be less than 20 percent (six minute average) except for one



continuous six-minute period per hour of not more than 57 percent.

6 NYCRR Part 215

Prohibits open fires at industrial and commercial sites.

40 CFR Part 68.

This Part lists the regulated substances and their applicability thresholds and sets the requirements for stationary sources concerning the prevention of accidental releases of these substances.

40 CFR Part 82, Subpart F

Subpart F requires the reduction of emissions of class I and class II refrigerants to the lowest achievable level during the service, maintenance, repair, and disposal of appliances in accordance with section 608 of the Clean Air Act Amendments of 1990. This subpart applies to any person servicing, maintaining, or repairing appliances except for motor vehicle air conditioners. It also applies to persons disposing of appliances, including motor vehicle air conditioners, refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment. Those individuals, operations, or activities affected by this rule, may be required to comply with specified disposal, recycling, or recovery practices, leak repair practices, recordkeeping and/or technician certification requirements.

**Facility Specific Requirements**

In addition to Title V, REVERE SMELTING & REFINING CORP has been determined to be subject to the following regulations:

40CFR 52-A.21

This citation applies to facilities that are subject to Prevention of Significant Deterioration (PSD) provisions for attainment pollutants listed in 40 CFR 52.21(b)(23)(i). The permit contains numerous conditions which limit pollutant emissions below PSD thresholds. Therefore, PSD does not apply. Reference to this regulation is in the context of capping.

40CFR 60-L.122 (a)

This regulation limits opacity to less than 20% and particulate emissions below 0.022gr/dscf for the SRF and reverberatory furnace sources.

40CFR 60-L.122 (b)

This regulation limits opacity from refining kettles to less than 10%.

40CFR 63-A.10

Section 63.10 contains default general recordkeeping requirements as well as recordkeeping for applicability determinations and continuous monitoring systems. It also contains default reporting requirements for "one shot" items such as performance test results and immediate startup shutdown, malfunction reports. It also contains periodic (semi-annual) reporting requirements for startup, shutdown, and malfunction; excess emissions; and continuous monitoring performance.

40CFR 63-X.541 (b)

This regulation references 40 CFR-A applicability.

40CFR 63-X.543



This regulation establishes an upper lead emission limit associated with the reverberatory furnace.

40CFR 63-X.544

This regulation establishes lead emission limits for various refining sources.

40CFR 63-X.544 (b)

This regulation defines the requirements of operating the general ventilation system.

40CFR 63-X.545

This regulation establishes an upper lead emission limit associated with fugitive dust sources.

40CFR 63-X.548

This regulation requires operation in accordance with Standard Operations Procedures Manual.

6NYCRR 201-7

This regulation outlines enforceable permit limits for NO<sub>x</sub>, CO, SO<sub>2</sub>, PM, VOC, and Pb.

6NYCRR 212 .10

This regulation defines quarterly CEM reporting for the reverberatory furnace.

6NYCRR 212 .10 (a) (2)

This regulation defines SRF NO<sub>x</sub> RACT.

6NYCRR 212 .11

This regulation defines quarterly CEM reporting for the combined dryer kiln and SRF.

6NYCRR 212 .11 (b) (5)

This regulation specifies QA procedures for operating CEMs.

6NYCRR 212 .4 (c)

This regulation defines particulate emissions for various refining sources.

6NYCRR 212 .6 (a)

This regulation defines opacity limits for various refining sources.

6NYCRR 212 .9

This regulation defines SO<sub>2</sub> control efficiency requirements.

6NYCRR 212 .9 (a)

These conditions specify arsenic and cadmium emissions from the combined kiln dryer and short rotary furnace exhaust as well as arsenic emissions from the existing reverberatory furnace. Limits established are based on air toxics monitoring results and are required to confirm minimal impact. An exceedance to the limits specified will require future refined modeling and impact assessment.

6NYCRR 225-1.2 (a) (2)

This regulation prohibits any person from selling, offering for sale, purchasing or using any fuel which contains sulfur in a quantity exceeding the limitations set forth in Table 1, Table 2, or Table 3 of this section.

6NYCRR 227-1.3 (a)

This regulation prohibits any person from operating a stationary combustion installation which emits smoke equal to or greater than 20% opacity except for one six-minute period per hour of not more than 27% opacity.

6NYCRR 227-2.1 (a) (6)



## Permit Review Report

Permit ID: 3-3352-00145/00049

Renewal Number: 1

Modification Number: 1 07/22/2008

This condition limits electric generator time as part of past reasonably available control technology (RACT) determination for oxides of nitrogen (NOx).

6NYCRR 231-2

The provisions of Subpart 231-2 apply to new or modified major facilities. The contaminants of concern state-wide are nitrogen oxides and volatile organic compounds since New York State is located in the ozone transport region and because there are ozone non-attainment areas within the state.

The permit contains numerous conditions which limit pollutant emissions below 231-2 thresholds. Therefore, non attainment New Source Review does not apply. Reference to this regulation is in the context of capping.

**Compliance Certification**

Summary of monitoring activities at REVERE SMELTING & REFINING CORP:

Location Facility/EU/EP/Process/ES	Cond No.	Type of Monitoring
FACILITY	1-6	intermittent emission testing
FACILITY	1-7	monitoring of process or control device parameters as surrogate
FACILITY	1-8	monitoring of process or control device parameters as surrogate
FACILITY	1-9	intermittent emission testing
FACILITY	1-10	monitoring of process or control device parameters as surrogate
FACILITY	1-11	record keeping/maintenance procedures
FACILITY	37	record keeping/maintenance procedures
FACILITY	1-12	intermittent emission testing
FACILITY	1-13	intermittent emission testing
FACILITY	1-14	monitoring of process or control device parameters as surrogate
FACILITY	41	intermittent emission testing
FACILITY	1-15	record keeping/maintenance procedures
FACILITY	5	record keeping/maintenance procedures
FACILITY	6	record keeping/maintenance procedures
1-0LEAD/-/NIT	1-18	record keeping/maintenance procedures
1-0LEAD/-/REF	1-19	work practice involving specific operations
1-SRFKD/00001	1-22	continuous emission monitoring (cem)
1-SRFKD/00001	1-23	continuous emission monitoring (cem)
1-SRFKD/00001/SRF	1-25	intermittent emission testing
1-SRFKD/00001/SRF	1-26	intermittent emission testing
1-SRFKD/00001/SRF	1-27	intermittent emission testing
1-SRFKD/00001/SRF	1-28	intermittent emission testing
FACILITY	7	record keeping/maintenance procedures
FACILITY	1-3	record keeping/maintenance procedures
1-SRFKD/-/SRF	1-21	record keeping/maintenance procedures
FACILITY	1-4	record keeping/maintenance procedures
FACILITY	1-5	record keeping/maintenance



FACILITY	1-1	procedures
FACILITY	1-2	intermittent emission testing
		monitoring of process or
		control device parameters as
		surrogate
1-0LEAD/00017	1-20	intermittent emission testing
1-SRFKD/00001	1-24	intermittent emission testing
1-0LEAD/00017	1-29	intermittent emission testing
1-SRFKD/00001	1-30	intermittent emission testing
1-SRFKD/00001	1-31	intermittent emission testing
FACILITY	29	work practice involving
		specific operations
FACILITY	30	monitoring of process or
		control device parameters as
		surrogate
3-GENER	46	work practice involving
		specific operations

### Basis for Monitoring

#### Niter Addition

Revere Smelting & Refining utilizes an oxidizing process whereby lead, in the presence of sodium hydroxide becomes oxidized by additions of sodium nitrate (Niter). Niter is introduced in the refining kettles to purify (soften) lead by removing impurities such as antimony. The impurities are skimmed from the surface of the molten lead which leads to the formation of a slag or dross material. During the refining process in the refining kettles, Oxides of Nitrogen (NO<sub>x</sub>) is formed when nitrogen molecules in the niter react with oxygen.

Revere Smelting & Refining shall limit addition of niter to 145 tons per year or less based on a rolling twelve month cumulative total. This limit is established as a component of ensuring the short rotating furnace (SRF) project does not exceed significant source nonattainment thresholds defined by 6NYCRR 231-2 and supersedes the previous annual limit of 234 tons per year. Consistent with the June 2007 Short Rotating Furnace (SRF) project application and subsequent supplemental information, Oxides of Nitrogen (NO<sub>x</sub>) emissions are described as follows:

$$145 \text{ tons / year} * 2000 \text{ lbs / ton} * 0.312 \text{ lbs NO}_x \text{ / lb niter} = 90,480 \text{ lbs NO}_x \text{ per year}$$

where,

122.4 tons niter as average use within existing refinery for the baseline period 2005 and 2006 resulting in 22.4 tons per year based on a rolling monthly cumulative total attributable to the SRF project.

SRF project NO<sub>x</sub> emissions from increased niter use is:

$$22.6 \text{ tons / year} * 2000 \text{ lbs / ton} * 0.312 \text{ lbs NO}_x \text{ / lb niter} = 14,102 \text{ lbs NO}_x \text{ per year or } 7.05 \text{ tons NO}_x \text{ per year.}$$

#### NO<sub>x</sub> RACT

Revere Smelting & Refining is an existing major facility based on potential emissions for Oxides of Nitrogen (NO<sub>x</sub>) exceeding 100 tons per year. Therefore, the facility is subject to NO<sub>x</sub> Reasonably Available Control Technology (RACT) specific to General Process Emission Sources under 6NYCRR 212.10.

The proposed 10mmBTU/hr SRF shall be equipped with low NO<sub>x</sub> burners firing natural gas. High purity oxygen shall be combined with the natural gas to enhance combustion. Replacing substantial quantity of ambient air (79% nitrogen) with high purity oxygen for combustion, significantly reduces formation of NO<sub>x</sub> as well improves efficiency.

The facility operates a vacuum switch adsorption (VSA) plant onsite to acquire oxygen from the atmosphere and use as a component of combustion within the existing reveratory furnace. Under a low pressure, atmospheric air is



introduced to molecular sieve which separates oxygen and nitrogen. Under a slight vacuum, the process is essentially reversed and the separated nitrogen is released back into the atmosphere. Plant is capable of supplying 65,000 cubic feet of oxygen per hour. Plant pressure and vacuum is supplied by two electric powered blowers. The plant is not capable of processing liquid oxygen for storage. There are no regulated emissions from this source.

The facility also maintains liquid oxygen storage vessels adjacent to the VSA plant. Liquefied oxygen is fully supplied to the storage by outside contractor and is available for backup should the VSA plant experience unforeseen shutdown.

Revere Smelting & Refining has indicated onsite storage and production capacity of oxygen is sufficient to supply the SRF project.

### **Natural Gas**

Revere Smelting & Refining shall limit natural gas consumption supporting the refining process to 98.13 million cubic feet per year or less. This limit is established as a downstream component of ensuring the short rotating furnace (SRF) project does not exceed significant source attainment and nonattainment thresholds defined under 40 CFR 52-A.21 and 6NYCRR 231-2 respectively.

Consistent with the June 2007 SRF project application and subsequent supplemental information, emissions are described as follows:

$$\text{NOx} - 98.3 \text{ mmcf/yr} * 100 \text{ lbs NOx / mmcf} = 98300 \text{ lbs NOx per year}$$

where,

85.3 mmcf / yr natural gas as average use within existing refinery for the baseline period 2005 and 2006 resulting in 13 mmcf / yr total attributable to the SRF project.

SRF project NOx emissions from increased natural gas use is:

$$13 \text{ mmcf / yr} * 100 \text{ lbs NOx / mmcf} \sim 1300 \text{ lbs NOx per year or } 0.64 \text{ tons NOx per year.}$$

$$\text{CO} - 98.3 \text{ mmcf/yr} * 84 \text{ lbs CO / mmcf} = 8257 \text{ lbs CO per year}$$

where,

85.3 mmcf / yr natural gas as average use within existing refinery for the baseline period 2005 and 2006 resulting in 13 mmcf / yr total attributable to the SRF project.

SRF project CO emissions from increased natural gas use is:

$$13 \text{ mmcf / yr} * 84 \text{ lbs CO / mmcf} \sim 1092 \text{ lbs CO per year or } 0.54 \text{ tons CO per year.}$$

Regulatory review consideration associated with the SRF project include but limited to applicability of Prevention of Significant Deterioration (40CFR Part 52.21), applicability of non attainment New Source Review (6NYCRR Part 231-2), General Process Emission Sources (6NYCRR Part 212), New Source Performance Standards of Performance for Secondary Lead Smelters (40CFR Part 60-L) and National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting (40CFR Part 63-X).

The following summarizes pollutant limits required by the modified Title V permit which are associated with the installation and operation of the SRF.



Carbon Monoxide

SRF - 22.0 lbs per hr which is 96.36 tons per year  
Natural Gas - 12.8 million cf/yr increase in refining operation which is 0.54 tons per year  
Total project CO emissions ~ 96.90 tons per year < 100 tons per year (40CFR 52.21)

Compliance with short term and annual limit determined by initial and subsequent performance test required on SRF exhaust excluding dryer kiln.

Regulatory limits based on PSD significant project threshold.

Oxides of Nitrogen (NOx)

SRF - 6.5 lbs per hr which is 28.47 tons per year  
Natural Gas - 12.8 million cf / yr increase usage in refining operation which is 0.64 tons per year NOx increase.  
Sodium Nitrate (Niter) - 22.4 tons per year usage increase in refining operation which is 7.05 tons per year NOx increase.  
Total project NOx ~ 36.16 tons per year < 40 tons per year (6NYCRR 231-2)

Compliance with short term limit of 7.7 lbs/hr (6.5 lb/hr + 1.2 lb/hr) determined by the existing EP00001 Continuous Monitoring System (CMS) which measures combined exhaust of kiln dryer and SRF. The 1.2 lb/hr represents baseline emissions established for the existing kiln dryer. CMS design and performance criteria outlined by 40CFR Part 60 Appendix A and F.

Regulatory limits are based on nonattainment New Source Review significant project threshold and Reasonably Available Control Technology. Emissions and performance reporting required quarterly.

Sulfur Dioxide (SO2)

SRF - 8.8 lbs per hr which is 38.54 tons per year  
Natural gas - negligible  
Total project SO2 emissions ~ 38.54 tons per year < 40 tons per year (40CFR 52.21)

Compliance with short term and annual limit determined by new CEM which directly measures exhaust from SRF prior to combining with kiln dryer exhaust within EP00001. CMS design and performance criteria outlined by 40CFR Part 60 Appendix A and F. Emissions and performance reporting required quarterly.

Regulatory limits based on PSD significant project threshold. SO2 Emission Rate Potential of the SRF combined with existing dryer kiln estimated between 100 lbs and 500 lbs per hr. As a General Process Source subject to 6NYCRR Part 212, a 94% degree of air cleaning is required. Initial performance testing is required to confirm removal efficiency. Subsequent performance testing will be required by future Title V permit renewals.

PM-10

SRF - 0.0065 gr per dscf which is ~3.34 lbs per hr and ~ 14.64 tons per year  
Natural gas - negligible  
Total project PM-10 emissions ~ 14.64 tons per year < 15 tons per year (CP-33 and PSD significant project threshold).

Compliance with short term and annual limit determined by initial and subsequent annual performance testing conducted exclusively on SRF exhaust .



Particulate

SRF - 0.022 gr per dscf

This limit is based on 40CFR 60.122 Subpart L, Standards of Performance for Secondary Lead Smelters. An initial performance test is required to confirm compliance.

Volatile Organic Compound (VOC)

SRF - 3.42 lbs per hr which is 15.0 tons per year

Natural gas - negligible

Total project VOC emissions ~ 15.0 tons per year < 40 tons per year (6NYCRR 231-2)

Compliance with short term and annual limit determined by initial performance testing conducted exclusively on SRF exhaust. Subsequent performance testing will be required by future Title V permit renewals.

Regulatory limits based on nonattainment New Source Review significant project threshold.

Lead (Pb)

SRF - 0.00026 gr per dscf which is ~ 0.13 lbs per hr and ~ 0.57 tons per year

Natural gas - negligible

Increased kettle refining - negligible (baghouse is a constant outlet concentration control device)

Total project Lead emissions ~ 0.57 tons per year < 0.6 tons per year (40CFR 52.21)

Compliance with short term and annual limit determined by initial and subsequent performance testing conducted exclusively on SRF exhaust outlet concentration control device.

The SRF is subject to 40CFR 63.544 Subpart X, National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting, lead emission limit of 0.00087 gr per dscf. However, the lower limit specified shall govern and is based on PSD significant project threshold.

Arsenic (As)

Combined SRF and Kiln Dryer (EP00001) - 0.0014 lbs per hour

Reverberatory Furnace (EP00017) - 0.0033 lbs per hour

Compliance with short term limit determined by initial performance testing and is based on verifying minimal air toxics impact.

Cadmium (Cd)

Combined SRF and Kiln Dryer (EP00001)- 0.0012 lbs per hour

Compliance with short term limit determined by initial performance testing and is based on verifying minimal air toxics impact.

New York State Department of Environmental Conservation



Permit ID: 3-3352-00145/00049

Permit Review Report  
Renewal Number: 1

Modification Number: 1 07/22/2008