SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

P/C

COMPANY NAME AND ADDRESS

Exide Technologies ID 124838
2700 South Indiana Street
Vernon, CA 90058 mailing and equipment address

EQUIPMENT DESCRIPTION

CHANGES ARE IN INDICATED IN BOLD AND HIGHLIGHTED

APPLICATION NO. 558214 (Previous A/N 520478) APCS 13 MODIFICATION

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 10: REVERB FURNACE FEED ROOM APCS					
BAGHOUSE, NO. 1, WITH 494 BAGS, EACH 5 INCHES DIAMETER X 12 FEET LONG, PTFE MEMBRANE, MAC, MODEL 144MCF494, WITH A 150 HP BLOWER AND A BROKEN BAG DETECTOR, PULSE JET CLEANED A/N: **558214**	C156	~~**D7 D9 D11 D13 D15 D17 D19 D24 D26 D28 D30 D32 D34 D36**~~ **B206** D109 D110 D111 D112 D113 D151 S158 C175 C182 C190 **C200**		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	C6.4, D12.6, D12.7, D12.10, D12.16, D381.1, E102.1, H116.1, H116.4
DUST COLLECTOR, HEPA, WITH 25 PRE-FILTERS, EACH 2 FT. W. X 2 FT. L. X 2 INCHES THICK, WITH, 25 HEPA FILTERS, EACH 2 FT. W. X 2 FT. L. X 1 FT. THICK **A/N: 558214**	**C200**	**C156 S158**		**LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999];** **PM: (9)** **[RULE 404, 2-7-1986]**	D12.19, D182.10, D323.1, E102.1, E448.1, H116.1, H116.2, K171.7

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
BAGHOUSE, NO. 2, WITH 494 BAGS, EACH 5 INCHES DIAMETER X 12 FEET LONG, PTFE MEMBRANE, MAC, MODEL 144MCF494, WITH A 150 HP BLOWER AND A BROKEN BAG DETECTOR, PULSE JET CLEANED A/N: **558214**	C157	~~**D7 D9 D11 D13 D15 D17 D19 D24 D26 D28 D30 D32 D34 D36**~~ **B206** D109 D110 D111 D112 D113 D151 S158 C175 C182 C190 **C201**		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	C6.4, D12.6, D12.7, D12.10, D12.16, D381.1, E102.1, H116.1, H116.4
DUST COLLECTOR, HEPA, WITH 25 PRE-FILTERS, EACH 2 FT. W. X 2 FT. L. X 2 INCHES THICK, WITH, 25 HEPA FILTERS, EACH 2 FT. W. X 2 FT. L. X 1 FT. THICK **A/N: 558214**	**C201**	**C157 S158**		**LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999];** **PM: (9)** **[RULE 404, 2-7-1986]**	D12.19, D182.10, D323.1, E102.1, E448.1, H116.1, H116.2, K171.7
STACK, HEIGHT: 120 FT ; DIAMETER: 6 FT A/N: **558214**	S158	**C200, C201**			D182.5, D182.10 **D182.11 E448.11** D381.1, K171.7

APPLICATION NO. 559499 (Previous A/N 520501) ROTARY DRYER APCS

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 2: FEED DRYING SYSTEM					
DRYER, ROTARY, NATURAL GAS, FEED DRYING, 8 MMBTU/HR A/N: **564346** ***(see p. 24 for A/N 564346)***	D115	C143	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 12-7-1995;** *RULE 2012, 4-9-1999*]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.005 LBS/TON MATERIAL (1) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]	B295.1, C6.1, D12.8, D323.1, H116.2, K67.10
CONVEYOR, SCREW, DRYER DISCHARGE A/N: **564346** ***(see p. 24 for A/N 564346)***	D116	C143		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
CYCLONE, HEIGHT: 17 FT 7 IN; DIAMETER: 5 FT 10 IN A/N: **559499**	C143	D114 D115 D116 C144		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
BAGHOUSE, ~~**WITH 100 H.P. BLOWER,**~~ WITH EXPANDED TEFLON MEMBRANE BAGS WITH TEFLON SUBSTRATES, 5881 SQ.FT.; 312 BAGS A/N: **559499**	C144	C143 C184		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	C6.2, D12.5, D12.6, D381.1, E102.1, E193.1, H116.1, H116.2, H116.4, K67.2
INJECTOR, SIDEWALL WATER SPRAY, WITH 2 FLAMEX F180 NOZZLES, WITH SPARK ARRESTOR CONTROLLER, FLAMEX FMZ4100GAB24, A BATTERY BACK-UP, 8 FUX 3001-E OPTICAL IR SPARK DETECTORS A/N: **559499**	B176				E448.6

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
DUST COLLECTOR, HEPA, WITH 6 PRE-FILTERS EACH 2 FT W. X 2 FT L. X 2 INCHES THICK, WITH 6 HEPA FILTERS EACH 2 FT W. X 2 FT L. X 11.5 INCHES THICK A/N: **559499**	C184	C144 **C199**		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D12.18, D323.1, H116.3
OXIDIZER, REGENERATIVE, OXIDIZERS INC, MODEL OX-2CH-PP02, 8FT W.X14FT L. X14FT-6 IN.H, NATURAL GAS, WITH A MAXON 3 IN. BURNER AND A 10-H.P. COMBUSTION AIR BLOWER, 2.5 MMBTU/HR, WITH A 100-H.P. EXHAUST BLOWER **A/N: 559499**	**C199**	**C184 S145**	**NOX: PROCESS UNIT**; SOX: PROCESS UNIT****	**CO: 2000 PPMV (5) [RULE 407, 4-2-1982]; LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; NOX: 30 PPMV (3) [RULE 2012, 5-6-2005]; PM: (9) [RULE 405, 2-7-1986]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; SOX: 0.83 LBS/MMSCF NATURAL GAS (1) [RULE 2011, 5-6-2005]**	**C8.9 D182.11 D182.12 D182.13** D323.1 K67.12 K171.6
STACK, HEIGHT: 120 FT ; DIAMETER: 3 FT A/N: **559499**	S145	**C199**			D182.5, **D182.11 D182.12 D182.13 E448.11** D381.1, K171.6

APPLICATION NO. 562498 (Previous A/N 374180) and APPLICATION NO. 562503(Previous A/N 374231)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
		(APCS No. 2)		(APCS No. 1)	
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 7: REVERBERATORY AND CUPOLA FURNACE APCS					
TOWER, QUENCH CHAMBER, WATER SPRAY TYPE, HEIGHT: 61 FT ; DIAMETER: 10 FT WITH **A/N: 562503**	D135	D119 D136		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D323.1
FUGITIVE EMISSIONS, MISCELLANEOUS, QUENCH CHAMBER CLEANOUT DOOR	D149	C47		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D323.1
HEAT EXCHANGER, REVERB FURNACE EXHAUST GAS, A-PIPE TYPE, 49 IN. OUTSIDE DIA., 130 FT. TOTAL LENGTH **A/N: 562503**	D136	D135 D137		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D323.1
HEAT EXCHANGER, ,BALLOON TYPE FLUE COOLER, SECTION 1, REVERB FURNACE EXHAUST GAS, 66 IN. W., 48 FT. L., 9 FT. H. **A/N: 562503**	D137	D136 D138		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D323.1
HEAT EXCHANGER, ,BALLOON-TYPE FLUE COOLER, SECTION 2, REVERB FURNACE EXHAUST GAS, 48 IN. W., 66 FT. L., 6 FT. H. **A/N: 562503**	D138	C40 ~~**C41**~~ D137		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D323.1
AFTERBURNER, NATURAL GAS, WITH A 20 HP COMBUSTION AIR BLOWER, 10 MMBTU/HR **NATURAL GAS FIRED ~~AND A 250 HP EXHAUST BLOWER,~~ A/N: 562498**	C44	~~**C45**~~ **D128 D134**	NOX: MAJOR SOURCE** **SOX: MAJOR SOURCE****	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]	C8.1, ~~**C8.8,**~~ D323.1, H116.2, K67.8
DUST COLLECTOR, RTO GAS INLET CONDITIONING, CARTRIDGE TYPE, MAC, MODEL MAC2FLO 4M2F64, WITH 64 CARTRIDGE FILTERS, EACH 2 FT.-6 IN L. X 2 FT.-4.4 IN. DIA., PULSE JET CLEANED. A/N 562498	**C204**	**D133 C205**		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D12.1, D12.17, D323.1 D381.1, E102.1, E193.1, H116.2, H116.4, **K67.13**

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
OXIDIZER, REGENERATIVE, OXIDIZERS INC, MODEL OX-2CH-PP02U,11FT W.X19FT-6IN L. X23FT-11 IN.H, NATURAL GAS, WITH A MAXON 4 IN. BURNER AND A 10-H.P. COMBUSTION AIR BLOWER, 4.6 MMBTU/HR, WITH A 200-H.P. BOOSTER BLOWER **A/N: 562498**	**C205**	**C204** **C41C45** **C174**	**NOX: MAJOR SOURCE**** **SOX: MAJOR SOURCE****	**CO: 2000 PPMV (5) [RULE 407, 4-2-1982];** **LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999];** **PM: (9) [RULE 405, 2-7-1986]; PM: 0.1 GRAINS/SCF (5) [RULE 409, 8-7-1981]; SOX: 0.83 LBS/MMSCF NATURAL GAS (1) [RULE 2011, 5-6-2005]**	**C8.9** D323.1 **K67.12** **D182.12** **D182.13** **E448.14**
TANK, CUPOLA JACKET COOLING, THERMOSIPHON **A/N: 562498**	D134	**C44** D183			
HEAT EXCHANGER, CUPOLA FURNACE EXHAUST GAS, A-PIPE TYPE, 49 IN. OUTSIDE DIA., 130 FT. TOTAL LENGTH **A/N: 562498**	D183	D134 D173		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D323.1
HEAT EXCHANGER, U-TUBE COOLER, FIVE SECTION, WITH 2 HOPPERS, A TUBE BYPASS, A TUBE DAMPER VALVE, AND A HOPPER BY-PASS WITH A DAMPER **A/N: 562498**	D173	C174 D183		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D323.1
CYCLONE, DIAMETER: 4 FT 9 IN **A/N: 562498**	C174	**D7 D9 C41** C45 D173		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	
BAGHOUSE, WITH EXPANDED TEFLON MEMBRANE BAGS WITH TEFLON SUBSTRATES, 21362 SQ.FT.; 510 BAGS, **WITH A 450-H.P. EXHAUST BLOWER** **A/N: 562503**	C40	C42 D138 **C202**		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	C6.3, D12.5, D12.6, D12.11, **D182.14** **D182.15** D381.1, E102.1, E193.1, **E448.14** H116.1, H116.2, H116.4, K67.2

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
BAGHOUSE, WITH EXPANDED TEFLON MEMBRANE BAGS WITH TEFLON SUBSTRATES, 21362 SQ.FT.; 510 BAGS, **WITH A 450-H.P. EXHAUST BLOWER A/N: 562498**	C41	**D7 D9** C42 **D132 ~~D138~~ ~~D173~~ C174 C202**		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	C6.3, D12.5, D12.6, D12.11, **D182.14 D182.15** D381.1, E102.1, E193.1, **E448.14** H116.1, H116.2, H116.4, K67.2
BAGHOUSE, WITH EXPANDED TEFLON MEMBRANE BAGS WITH TEFLON SUBSTRATES, 22620 SQ.FT., **WITH A 450-H.P. EXHAUST BLOWER A/N: 562498**	C45	**D7 D9** C42 **~~C44~~ D173** C174 **C202**		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	C6.3, D12.5, D12.6, D12.11, **D182.14 D182.15** D381.1, E102.1, E193.1, **E448.14** H116.1, H116.2, H116.4, K67.2
SCRUBBER, VENTURI, AIRPOL, MODEL 3970P, HEIGHT: 13 FT 9 IN; DIAMETER: 4 FT **A/N: 562503**	C42	C40 C41 C43 C45		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]; **ROG**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]	C8.2, C8.3, C8.5, C8.6, C8.7, **D182.14 D182.15** D323.1, **E448.14** H116.2, K67.7
SCRUBBER, TRAY**, NEPTUNE AIRPOL, MODEL T-271, WITH 3 TRAYS, ~~WITH 450 HP BLOWER,~~** HEIGHT: 30 FT 9 IN; DIAMETER: 8 FT 6 IN **A/N: 562503**	C43	C42 S139		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]; **ROG**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]	C8.2, C8.3, C8.5, C8.6, C8.7, **D182.14 D182.15** D323.1, H116.2, K67.7

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
SCRUBBER, VENTURI, AIRPOL, MODEL BASIC C-B VENTURI, HEIGHT: 17 FT; DIAMETER: 4 FT 9 IN. A/N: 562498	**C202**	**C40 C41 C45 C203**		**LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]; ROG: (10) [40CFR 63 Subpart X, #01, 1-29-1999]**	**C8.10, C8.12 C8.13 D182.15** D323.1, H116.2, K67.7
SCRUBBER, TRAY, AIRPOL, MODEL BASIC C-B VENTURI, WITH 4 TRAYS, HEIGHT: 35 FT 6 IN; DIAMETER: 11FT. A/N: 562498	**C203**	**S139 C202**		**LEAD: (10) [40CFR 63 Subpart X, #01, 1-29-1999]; PM: (9) [RULE 404, 2-7-1986]; ROG: (10) [40CFR 63 Subpart X, #01, 1-29-1999]**	**C8.11, C8.12 C8.13 D182.15** D323.1, H116.2, K67.7
STACK, COMMON TO REVERB AND CUPOLA, HEIGHT: 112 FT ; DIAMETER: **7 FT 6 IN, WITH AN EXHAUST OUTLET DIAMETER: 5 FT 5 IN. A/N: 562503**	S139	C43 **C203**		**LEAD**: 0.01 LBS/HR (6) [RULE 1420.1, 11-5-2010]	A63.1, D82.1, **D182.11 D182.14** D323.1, **E448.11** K67.9 K171.6

APPLICATION NO. 562499 Previous A/N 533208 (previous A/N 496421)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, NO. 4, NATURAL GAS, HARD LEAD, 2.5 MMBTU/HR **A/N: 562499**	D13	C38 C39 C46 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 5-6-2005**]; **NOX**: 0.077 LBS/LB MATERIAL (1A) [**RULE 2012, 5-6-2005**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 5-6-2005**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 5-6-2005**]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 5-6-2005**]	A63.2, **B59.3** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562500

RECLAIM/TITLE V SIGNIFICANT PERMIT REVISION

APPLICATION NO. 562501 Previous A/N 554906 LEAD SLAG PROCESSING SYSTEM

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 4: LEAD SLAG PROCESSING SYSTEM)					
HOPPER, WEIGH, CUPOLA FURNACE FEED A/N: **562501**	D126	C48		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
HOPPER, CUPOLA FURNACE FEED, EMERGENCY A/N: **562501**	D127			**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
FURNACE, CUPOLA, COKE, NATURAL GAS, LEAD SLAG AND LEAD ACID BATTERY SCRAP, **WITH A 1 MMBTU/HR PORTABLE NATURAL GAS PRE-HEATING BURNER.** A/N: **562501**	D128	C38 C39 C44	NOX: MAJOR SOURCE** **SOX: MAJOR SOURCE****	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.022 GRAINS/SCF (8A) [**40CFR 60 Subpart L, 12-3-1976**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: **1.80** PPMV (3) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]	A63.2, B59.2, B163.2, C1.2, **D12.20 D182.14** D323.1, **E448.12 E448.13** H116.2, K67.5 D182.6 K171.6
TAPPING PORT, LEAD A/N: **562501**	D129	C38 C39 C46		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
LAUNDER, LEAD, CUPOLA TAP A/N: **562501**	D130	C38 C39 C46		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
LAUNDER, LEAD, CUPOLA TAP A/N: **562501**	D131	C38 C39 C46		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
TAPPING PORT, LEAD SLAG A/N: **562501**	D132	C38 C39 **C41 ~~C46~~ C45 C174**		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	**D182.14** D323.1 **E448.12 E448.14**
FUGITIVE EMISSIONS, MISCELLANEOUS, CUPOLA FURNACE THIMBLE, WITH AN AUTOMATIC FEED CHUTE COVER DOOR A/N: **562501**	D133	C38 C39 **~~C46~~ C204**		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	**D182.14 E448.12** D323.1 E448.9

APPLICATION NO. 562502 Previous A/N 533206 (previous A/N 496438)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, NO. 2, NATURAL GAS, HARD LEAD, 2.5 MMBTU/HR **A/N: 562502**	D9	C38 C39 **C41 C45 ~~C46~~ ~~C156~~ ~~C157~~ B206 C174**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 5-6-2005**]; **NOX**: 0.077 LBS/LB MATERIAL (1A) [**RULE 2012, 5-6-2005**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 5-6-2005**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 5-6-2005**]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 5-6-2005**]	A63.2, B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, **E448.12 E448.14** H116.2

APPLICATION NO. 562504 Previous A/N 533207 (previous A/N 496420)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, NO. 3, NATURAL GAS, HARD LEAD, 2.5 MMBTU/HR **A/N: 562504**	D11	C38 C39 C46 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 5-6-2005**]; **NOX**: 0.077 LBS/LB MATERIAL (1A) [**RULE 2012, 5-6-2005**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 5-6-2005**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 5-6-2005**]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 5-6-2005**]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562505 Previous A/N 533209 (previous A/N 496423)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, NO. 5, NATURAL GAS, SPECIALTY LEAD, 2.5 MMBTU/HR **A/N: 562505**	D15	C38 C39 C46 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 5-6-2005**]; **NOX**: 0.077 LBS/LB MATERIAL (1A) [**RULE 2012, 5-6-2005**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 5-6-2005**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 5-6-2005**]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 5-6-2005**]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562506 (Previous A/N 496426)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, NO. 6, NATURAL GAS, SOFT LEAD, 2.5 MMBTU/HR **A/N: 562506**	D24	C38 C39 C47 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 12-7-1995;** *RULE 2012, 4-9-1999*]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 12-7-1995;** *RULE 2012, 4-9-1999*]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562507 Previous A/N 496428

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, NO. 7, NATURAL GAS, SOFT LEAD, 2.5 MMBTU/HR **A/N: 562507**	D26	C38 C39 C47 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 12-7-1995;** *RULE 2012, 4-9-1999*]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 12-7-1995;** *RULE 2012, 4-9-1999*]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562508 Previous A/N 496429

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, NO. 8, NATURAL GAS, SOFT LEAD, 2.5 MMBTU/HR **A/N: 562508**	D28	C38 C39 C47 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 12-7-1995;** *RULE 2012, 4-9-1999*]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 12-7-1995;** *RULE 2012, 4-9-1999*]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562509 Previous A/N 496432

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, NO. 9, NATURAL GAS, SOFT LEAD, 2.5 MMBTU/HR **A/N: 562509**	D30	C38 C39 C47 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 12-7-1995;** *RULE 2012, 4-9-1999*]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 12-7-1995;** *RULE 2012, 4-9-1999*]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562510 Previous A/N 533210 (previous A/N 496424)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, A, NATURAL GAS, HARD LEAD, 2.5 MMBTU/HR **A/N: 562510**	D17	C38 C39 C46 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 5-6-2005**]; **NOX**: 0.077 LBS/LB MATERIAL (1A) [**RULE 2012, 5-6-2005**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 5-6-2005**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 5-6-2005**]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 5-6-2005**]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562511 Previous A/N 533211 (previous A/N 496425)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, B, NATURAL GAS, HARD LEAD, 2.5 MMBTU/HR **A/N: 562511**	D19	C38 C39 C46 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 5-6-2005**]; **NOX**: 0.077 LBS/LB MATERIAL (1A) [**RULE 2012, 5-6-2005**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 5-6-2005**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 5-6-2005**]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 5-6-2005**]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562512 Previous A/N 533213 (previous A/N 496434)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, E, NATURAL GAS, SOFT LEAD, 2.5 MMBTU/HR **A/N: 562512**	D34	C38 C39 C47 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 5-6-2005**]; **NOX**: 0.077 LBS/LB MATERIAL (1A) [**RULE 2012, 5-6-2005**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 5-6-2005**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 5-6-2005**]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 5-6-2005**]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562513 Previous A/N 533214 (previous A/N 496435)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, F, NATURAL GAS, SOFT LEAD, 2.5 MMBTU/HR **A/N: 562513**	D36	C38 C39 C47 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 5-6-2005**]; **NOX**: 0.077 LBS/LB MATERIAL (1A) [**RULE 2012, 5-6-2005**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 5-6-2005**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 5-6-2005**]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 5-6-2005**]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2
MANIFOLD, POT FURNACE BURNER EXHAUST, BASEMENT BURNER ROOM, WITH A 15-H.P. EXHAUST BLOWER	**B206**	**D7 D9 D11 D13 D15 D17 D19 D24 D26 D28 D30 D32 D34 D36 C156 C157**			

APPLICATION NO. 562514 Previous A/N 533215 (previous A/N 496433)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, G, NATURAL GAS, SOFT LEAD, 2.5 MMBTU/HR **A/N: 562514**	D32	C38 C39 C47 ~~**C156**~~ ~~**C157**~~ **B206**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 5-6-2005**]; **NOX**: 0.077 LBS/LB MATERIAL (1A) [**RULE 2012, 5-6-2005**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 5-6-2005**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 5-6-2005**]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 5-6-2005**]	A63.2, **B59.3,** B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, H116.2

APPLICATION NO. 562515 Previous A/N 533205 (previous A/N 496437)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 5: LEAD METAL REFINING SYSTEM					
FURNACE, POT, NO. 1, NATURAL GAS, HARD LEAD, 2.5 MMBTU/HR **A/N: 562515**	D7	C38 C39 **C41 C45 ~~C46~~ ~~C156~~ ~~C157~~ B206 C174**	NOX: PROCESS UNIT**; SOX: PROCESS UNIT**	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **NOX**: 0.017 LBS/LB MATERIAL (1) [**RULE 2012, 5-6-2005**]; **NOX**: 0.077 LBS/LB MATERIAL (1A) [**RULE 2012, 5-6-2005**]; **NOX**: 130 LBS/MMSCF NATURAL GAS (1) [**RULE 2012, 5-6-2005**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: 0.133 LBS/LB MATERIAL (1) [**RULE 2011, 5-6-2005**]; **SOX**: 0.83 LBS/MMSCF NATURAL GAS (1) [**RULE 2011, 5-6-2005**]	A63.2, B295.2, B295.3, D12.8, D323.1, E71.1, E448.7, **E448.12 E448.14** H116.2

APPLICATION NO. 564346 (Previous A/N 559500)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 3: LEAD SMELTING SYSTEM					
CONVEYOR, SCREW, FEED **A/N: 564346**	D197	C38 C39 C47		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D323.1
CONVEYOR, SCREW, FEED A/N: 564346	**D198**	**C38 C39 C47**		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D323.1
FURNACE, REVERBATORY, NATURAL GAS, LEAD ACID BATTERY SCRAP, 30 MMBTU/HR **A/N: 564346**	D119	C38 C39 D135	NOX: MAJOR SOURCE** **SOX: MAJOR SOURCE****	**CO**: 2000 PPMV (5) [**RULE 407, 4-2-1982**]; **LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]; **PM**: 0.022 GRAINS/SCF (8A) [**40CFR 60 Subpart L, 12-3-1976**]; **PM**: 0.1 GRAINS/SCF (5) [**RULE 409, 8-7-1981**]; **SOX**: **1.80** PPMV (3) [**RULE 2011, 12-7-1995;** *RULE 2011, 4-9-1999*]	A63.2, B59.1, B163.1, C1.3, C1.4, C303.1, D12.2, D12.3, D12.4, D12.8, **D12.20** D323.1, **E448.13** H116.2, K67.11
TAPPING PORT, LEAD **A/N: 564346**	D120	C38 C39 C47		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
LAUNDER, LEAD, REVERB TAP **A/N: 564346**	D121	C38 C39 C47		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
LAUNDER, LEAD, REVERB TAP **A/N: 564346**	D122	C38 C39 C47		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
LAUNDER, LEAD, REVERB TAP **A/N: 564346**	D123	C38 C39 C47		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
TAPPING PORT, LEAD SLAG **A/N: 564346**	D124	C38 C39 C47		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1
FUGITIVE EMISSIONS, MISCELLANEOUS, SLAG HANDLING SYSTEM **A/N: 564346**	D125	C38 C39 C47		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 405, 2-7-1986**]	D323.1

APPLICATION NO. 564348 (Previous A/N 558213)

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: SECONDARY METALS, LEAD SMELTING PROCESS					
System 8: CUPOLA AND HARD LEAD REFINERY FURNACES APCS					
BAGHOUSE, WITH 450 HP BLOWER, 64000 SQ.FT. **A/N: 564348**	C46	~~**D7**~~ D8 ~~**D9**~~ D10 D11 D12 D13 D14 D15 D16 D17 D18 D19 D20 D129 D130 D131 ~~**D132**~~ D133 C177 C196		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D12.6, D12.7, D12.10, D12.11, D182.10, D381.1, E102.1, E193.1, H116.1, H116.2, H116.4, K67.3, K171.7
DUST COLLECTOR, HEPA, 8 SECTIONS, WITH 72 PRE-FILTERS TOTAL, EACH 2 FT. W. X 2 FT. L. X 2 INCHES THICK, WITH, 72 HEPA FILTERS TOTAL, EACH 2 FT. W. X 2 FT. L. X 1 FT. THICK **A/N: 564348**	C196	C46 S140		**LEAD**: (10) [**40CFR 63 Subpart X, #01, 1-29-1999**]; **PM**: (9) [**RULE 404, 2-7-1986**]	D12.19, D182.10, D323.1, E102.1, E448.1, H116.1, H116.2, K171.7
STACK, HEIGHT: 112 FT ; DIAMETER: 6 FT 11 IN **A/N: 564348**	S140	C196			D182.10, **D182.11** D381.1 **E448.11** K171.7

HISTORY

The following table describes the status and description of the submitted applications:

The tables below and on the following pages summarize the recent permit history regarding the subject equipment (note: individual P/O numbers listed below are only for internal administrative purposes since this is a Title V facility):

AIR POLLUTION CONTROL SYSTEM NO. 13: (device nos. C156, C157, S158)	
558214	**Received 11-14-2013 for the installation of HEPA filter dust collectors on the outlets of each reverb furnace feed room baghouse (new devices C200 and C201).**
520478	Received 3/30/2011 to increase stack height of "MAC" baghouse, correct permit description, and replace bags with PTFE membrane type bags. P/C issued 6-24-2011.
500784	Received 7/16/2009 to add one additional overhead hood in RMPS building. P/O G14038 issued 6-30-2011.
496416	Received 3/13/2009 for alteration to 374248 - add venting of 14 pot burner exhausts and one overhead hood in South corridor building. Cancelled after P/O was issued for A/N 520478.
374248	Exide change of ownership (C/O) application received 8/31/2000 - P/C pending.
344815	P/C issued 1/27/1999 to GNB for new APCS No. 13.

ROTARY DRYER AIR POLLUTION CONTROL SYSTEM	
559499	**Received 1-9-2014 for an alteration to this system by the addition of a regenerative thermal oxidizer (RTO) (device C199) on the outlet of the HEPA filter dust collector in this system.**
520501	Received 3/30/2011 to increase stack height of rotary dryer baghouse. P/C issued 6-24-2011.
516866	Received 12/3/2010 pursuant to Rule 1420.1 to install a HEPA filter on the outlet of the rotary dryer baghouse. Proposed P/C under 45 day EPA review as of 3/31/2011. Superseded by A/N 520501.
500786	Received 7/16/2009 to install a new spark arrestor in the rotary dryer furnace baghouse inlet. It is required by the O/A issued under case no. 3151-21. P/C issued 3-30-2010. P/O G14039 issued 6-30-2011 (for database update purposes only).
374221	Received 9/14/2000 for C/O by Exide for rotary dryer APCS consisting of cyclone C143 and baghouse C144. P/O F36706 issued 1/15/2001.
272981	Received 9/16/1992 -- P/C issued to GNB on 10/6/1992, P/O F10946 issued to GNB on 12/19/1997.

AIR POLLUTION CONTROL SYSTEM NO. 2	
562498	**Received 4-10-2014 for a modification of this APCS by the addition of a new venturi (device C202) and tray-type (device C203) scrubber, with larger air flow capacity, and by the re-purposing of the baghouse of device C41 (formerly reverb baghouse no. 2) to serve as a second baghouse mainly for the control of emissions from the cupola furnace slag tapping port (device D132) enlarged hood and from the pot furnaces of devices D7 and D9. It will also provide some additional air flow capacity to the equipment in APCS 2, in general. The two cupola furnace baghouses (C45 and C41) will have combined exhaust gas streams connected to the new venturi scrubber (C202) and the existing venturi scrubber (C42).**
374180	received 8/31/2000 for change of ownership/alteration to APCS No. 2
374224	received 9-14-2000, P/O F36713 1-25-2001
362494	received 11-30-1999, cancelled 3-20-2002
304592	received 5-30-1995, P/O D92485 issued 8-1-1995 GNB
293851	received 6-6-1994, P/O D90352 issued 5-1-1995 GNB

FURNACE 4 (device no. D13)	
562499	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
533208	Received 3-7-2012 for change of conditions to change NOx factor for $NaNO_3$ reagent.
496421	Received 3/13/2009 for alteration to 374211 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009. P/O G14024 issued (in database) on 6/30/2011. Official TV Facility Permit issued (Section D) on 7-28-2011.
374211	P/O F36576 issued 1/24/2001
178392	P/O D22934 issued 4/11/1990

CUPOLA FURNACE (DEVICE D128) PERMIT UNIT	
562501	**Received 4-10-2014 for an alteration to this furnace by the venting of this furnace to the modified APCS 2 of A/N 562498.**
554906	Received 8-7-2013. This application is for change of condition to source test condition no. D182.6 by a change in the due date for the final source test report to October 4, 2013.
548251	Received 3-12-2013. This application submitted to install a cover on top of the feed chute which is part of the cupola furnace thimble. This alteration is proposed as one step to reduce arsenic emissions collected by the Hard Lead Baghouse which vents fugitive emissions from the thimble area on top of the cupola furnace. P/C issued 3-28-2013.
374225	Received 8-31-2000 for change of ownership between GNB ID 44551 and Exide ID 124838. P/O F36697 issued 1-25-2001 in Title V Facility Permit. The P/O number is for internal administrative purposes only since this facility is currently a RECLAIM/Title V facility.
307425	Received 9-15-1995 following the end of the stipulated Order For Abatement (O/A) issued under Case No. 3151-3. P/O F10947 issued 12-19-1997.

CUPOLA FURNACE (DEVICE D128) PERMIT UNIT	
261786	Received 1-31-1992, Denied 5-8-1992. GNB filed A/N's 261786-8 to cover unpermitted alterations to the reverberatory and cupola furnaces, and the reverb dryer baghouse. Denial based on expected violations attributed to unpermitted addition of oxygen enrichment (excess NOx emissions), Rule 401 visible emissions, and Reg XIII violations. GNB entered into the stipulated Order for Abatement (O/A) of Case No. 3151-3 on 7-8-1992 in order to continue operation of this facility following the denial of the permanent equipment modifications which, in part, resulted in the denial of the equipment permit applications serving as temporary operating permits.
127247	Received 11-14-1984, P/O M56003 issued 4-9-1987
123778	Received 6-25-1984, P/O M34465 issued 8-29-1984 to GNB, ID 44551
C33321	Received 7-14-1980, P/O M38605 issued to Gould Inc., Metals Div. 6-8-1984, ID 7568

FURNACE 2 (device no. D9)	
562502	**Received 4-10-2014 for an alteration of pot furnace no. 2 (device D 9) by the re-routing of the ventilation of this furnace from the hard lead baghouse (device C46) to the modified APCS 2 of A/N 562498. This pot furnace will be used in conjunction with arsenic metal additions.**
533206	Received 3-7-2012 for change of conditions to change NOx factor for $NaNO_3$ reagent.
496438	Received 3/13/2009 for alteration to 374208 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009. P/O G14036 issued (in database) on 6/30/2011. Official TV Facility Permit issued (Section D) on 7-28-2011.
374208	P/O F36584 issued 1/24/2001 for C/O
178390	P/O D34308 issued 11/29/1990

AIR POLLUTION CONTROL SYSTEM NO. 1	
562503	**Received 4-10-2014 for an alteration to APCS 1 venting the reverberatory furnace by the removal of the physical connections of reverb baghouse no. 2 (device C41) and re-purposing this baghouse to APCS 2 serving the cupola furnace slag tapping hood and the two pot furnaces of devices D7 and D9. These two pot furnaces will be used in conjunction with arsenic metal additions.**
374231	Received 9-14-2000, P/O F36714 issued 1-25-2001
328455	Received 5-23-1997, P/O F10948 issued 12-19-1997
275775	Received 12-21-1992, P/O D67392 issued 12-23-1992
178893	Received 11-21-1988, P/O D36340 issued 2-21-1991
159460	Received 8-4-1987, P/O M61227 issued 3-20-1988
127246	Received 11-14-1984, P/O M56002 issued 4-9-1987
123777	Received 6-25-1984, P/O M40002 issued 8-29-1984

FURNACE 3 (device no. D11)	
562504	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
533207	Received 3-7-2012 for change of conditions to change NOx factor for $NaNO_3$ reagent.
496420	Received 3/13/2009 for alteration to 374210 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009. P/O G14023 issued (in database) on 6/30/2011. Official TV Facility Permit issued (Section D) on 7-28-2011.
374210	P/O F36577 issued 1/24/2001 for C/O
178391	P/O D23196 issued 4/18/1990

FURNACE 5 (device no. D15)	
562505	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
533209	Received 3-7-2012 for change of conditions to change NOx factor for $NaNO_3$ reagent.
496423	Received 3/13/2009 for alteration to 374212 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009. P/O G14025 issued (in database) on 6/30/2011. Official TV Facility Permit issued (Section D) on 7-28-2011.
374212	P/O F36575 issued 1/24/2001 for C/O
178393	P/O D22931 issued 4/11/1990

FURNACE 6 (device no. D24)	
562506	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
496426	received 3/13/2009 for alteration to 374214 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009.
414800	received 4/30/2003 to change NOx factor for $NaNO_3$ reagent - P/O pending
374214	P/O F36574 issued 1/24/2001 for C/O
178394	P/O D34309 issued 11/29/1990

FURNACE 7 (device no. D26)	
562507	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
496428	received 3/13/2009 for alteration to 374215 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009.
415067	received 5/07/2003 to change NOx factor for $NaNO_3$ reagent - P/O pending
374215	P/O F36570 issued 1/24/2001 for C/O
178395	P/O D34310 issued 11/29/1990

FURNACE 8 (device no. D28)	
562508	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
496429	received 3/13/2009 for alteration to 374216 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009.
415069	received 5/07/2003 to change NOx factor for $NaNO_3$ reagent - P/O pending
374216	P/O F36707 issued 1/25/2001 for C/O
178396	P/O D34311 issued 11/29/1990

FURNACE 9 (device no. D30)	
562509	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
496432	received 3/13/2009 for alteration to 374217 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009.
415071	received 5/07/2003 to change NOx factor for $NaNO_3$ reagent - P/O pending
374217	P/O F36708 issued 1/25/2001 for C/O
178397	P/O D34312 issued 11/29/1990

FURNACE A (device no. D17)	
562510	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
533210	Received 3-7-2012 for change of conditions to change NOx factor for $NaNO_3$ reagent.
496424	Received 3/13/2009 for alteration to 374199 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009. P/O G14026 issued (in database) on 6/30/2011. Official TV Facility Permit issued (Section D) on 7-28-2011.
374199	P/O F36597 issued 1/24/2001 for C/O
178384	P/O D22935 issued 4/11/1990

FURNACE B (device no. D19)	
562511	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
533211	Received 3-7-2012 for change of conditions to change NOx factor for $NaNO_3$ reagent.
496425	Received 3/13/2009 for alteration to 374200 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009. P/O G14027 issued (in database) on 6/30/2011. Official TV Facility Permit issued (Section D) on 7-28-2011.
374200	P/O F36581 issued 1/24/2001 for C/O
178385	P/O D22932 issued 4/11/1990

FURNACE E (device no. D34)	
562512	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
533213	Received 3-7-2012 for change of conditions to change NOx factor for $NaNO_3$ reagent.
496434	Received 3/13/2009 for alteration to 374201 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009. P/O G14033 issued (in database) on 6/30/2011. Official TV Facility Permit issued (Section D) on 7-28-2011.
374201	P/O F36579 issued 1/24/2001 for C/O
178386	P/O D22933 issued 4/11/1990

FURNACE F (device no. D36)	
562513	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
533214	Received 3-7-2012 for change of conditions to change NOx factor for $NaNO_3$ reagent.
496435	Received 3/13/2009 for alteration to 374202 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009. P/O G14034 issued (in database) on 6/30/2011. Official TV Facility Permit issued (Section D) on 7-28-2011.
374202	P/O F36569 issued 1/24/2001 for C/O
178387	P/O D23197 issued 4/18/1990

FURNACE G (device no. D32)	
562514	**Received 4-10-2014 for change of condition to prohibit the charging of arsenic metal to this furnace.**
533215	Received 3-7-2012 for change of conditions to change NOx factor for $NaNO_3$ reagent.
496433	Received 3/13/2009 for alteration to 374204 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009. P/O G14032 issued (in database) on 6/30/2011. Official TV Facility Permit issued (Section D) on 7-28-2011.
374204	P/O F36578 issued 1/24/2001 for C/O
178388	P/O D23195 issued 4/18/1990

FURNACE 1 (device no. D7)	
562515	**Received 4-10-2014 for an alteration of pot furnace no. 1 (device D 7) by the re-routing of the ventilation of this furnace from the hard lead baghouse (device C46) to the modified APCS 2 of A/N 562498. This pot furnace will be used in conjunction with arsenic metal additions.**
533205	Received 3-7-2012 for change of conditions to change NOx factor for $NaNO_3$ reagent.
496437	Received 3/13/2009 for alteration to 374206 by the venting of the burner exhaust to dust collector of 496416. P/C issued 6/24/2009. P/O G14035 issued (in database) on 6/30/2011. Official TV Facility Permit issued (Section D) on 7-28-2011.
374206	P/O F36585 issued 1/24/2001 for C/O
178389	P/O D34293 issued 11/29/1990

LEAD SCRAP MELTING SYSTEM NO. 1	
564346	**Received 5-23-2014 for an alteration the reverberatory furnace by the venting of this furnace to the modified APCS 1 of A/N 562503.**
559500	Received 1-9-2014 to replace the reverberatory furnace ram feeders with a screw conveyor
374176	Received 8/31/2000 for change of ownership/alteration to reverb feed drying system. P/O G12581 issued 3/23/2011.
374246	Received 9/14/2000, P/O F36741 issued to Exide 1/25/2001 for change of ownership
362493	Received 11/30/1999 for feed system alteration by GNB - cancelled
337317	Received 3/4/1998, P/O F17704 issued to GNB on 11/30/1998

AIR POLLUTION CONTROL SYSTEM NO. 5 (HARD LEAD BAGHOUSE)	
564348	**Received 5-23-2014 for an alteration by the removal of the ventilation of the cupola furnace thimble hoods and two lead refining pot furnaces and the re-routing of the affected ventilation points to the new modified APCS 2 of A/N 562498.**
558213	Received 11/14/2013 to add a HEPA filter dust collector to outlet of baghouse.
501060	Received 7/30/2009 to add additional venting by installing a new exhaust duct from this baghouse to the new rotary dryer total enclosure building. P/C issued 3/30/2010. P/O G14042 issued 6/30/2011.
374194	Application received on 9/14/2000 for C/O. P/O F73819 issued 2/18/2005 to Exide.
123780	Application received on 8/29/1984. P/O M40004 issued on 8/29/1984 to GNB

PROCESS DESCRIPTION

BACKGROUND

In accordance with the California Air Toxics "Hot Spots" Act (AB2588), Exide submitted a health risk assessment (HRA) for the Exide Technologies facility located at 2700 South Indiana Street, Vernon, California. The report was prepared by a consulting group, ENVIRON International Corporation (ENVIRON), hired for this task by Exide. ENVIRON prepared a draft AB2588 Health Risk Assessment (HRA) for Exide using the emission data from source tests conducted in 2010; this draft report was submitted to SCAQMD on March 1, 2012 (since this report was started in 2011 and has been referred as 2011 report in various communications and presentations, hereinafter, it is referred as the "2011 Draft Report").

Per the review comments on the 2011 Draft Report by SCAQMD, ENVIRON prepared a revised report. ENVIRON also included the emission data from the source tests conducted for the Hard Lead Baghouse and Neptune Scrubber stacks in 2012 by using the averages of the 2010 and 2012 source test data per the instruction of SCAQMD staff.

The amended HRA was submitted on 1-15-2013. This HRA was reviewed by the SCAQMD AB2588 group. Corrections to the initial analysis were performed by the SCAQMD and the results were transmitted to Exide in a March 1, 2013 HRA letter.

After making corrections to the final HRA report submitted by Exide, the SCAQMD reported the following results in the 3-1-2013 HRA letter:

1. Maximum individual worker cancer risk (MICRw) = 156 in a million at a worker receptor 300 meters northeast of the facility

2. Maximum individual residential cancer risk (MICRr) = 22 in a million at a residential receptor 1,400 meters north of the facility

3. Cancer burden of 10.

4. Maximum chronic hazard index (HIC) = 63 at the same worker receptor

5. Maximum acute hazard index (HIA) = 3.8 along eastern fence line

The main driver of these health risk effects is arsenic. Arsenic emissions account for about 90% of the cancer risk effects.

This HRA is the first step required in an ongoing Rule 1402 evaluation by the SCAQMD AB2588 group. These emissions have resulted in an existing cancer risk greater than 25 in a million and a cancer burden greater than 0.5. These risk levels triggered requirements in Rule 1402 for a Risk Reduction Plan (RRP) which is the subject of this evaluation.

Exide has performed extensive source tests, beginning primarily in 2010, and continuing to the present time, which have revealed that the main source of health risk can be attributed to arsenic emissions from the cupola (blast) furnace. SCAQMD has also performed tests in 2013 which have verified this fact and which have provided extensive photographic and videographic evidence during the source tests indicating that while the wet scrubbing system at Exide is adequate for the control of arsenic emissions (the "Neptune scrubber" system), dry filter baghouses, such as the hard lead baghouse (device C46) venting the cupola furnace thimble hoods has limited ability to control arsenic since a significant amount appears to be existing in a gaseous form (primarily sublimed arsenic trioxide) at normal atmospheric temperature and pressure.

Exide previously applied for, and was granted, a Permit to Construct for a thimble cover door to reduce emissions of arsenic from the cupola furnace. However, based on observations in the field, especially as recorded in images and videos, it has been determined that a significant amount of process gases were escaping capture by the Neptune scrubber system due to limitations in air flow rate to the cupola furnace, from various locations on this device, as leaks.

Due to the presence of periodic process gas leaks from the cupola furnace, it has been determined that the source test results on the previous equipment configuration could not be used to demonstrate a reliable, quantifiable, and permanent reduction in health risk due to arsenic emissions.

It has been determined that negative pressure in the smelting furnaces at this facility is required at all times during operation in order to ensure a true reduction in health risk from this operation. Process emissions containing significant amounts of arsenic will be routed to controls which contain venturi and tray scrubbers for the adequate control of arsenic emissions, especially those arsenic emissions existing in the gaseous form.

The following discussion provides specific details of the equipment modifications required to achieve compliance with the risk reduction requirements in the RRP for this facility required by Rule 1402.

PROCESS EQUIPMENT CONFIGURATION

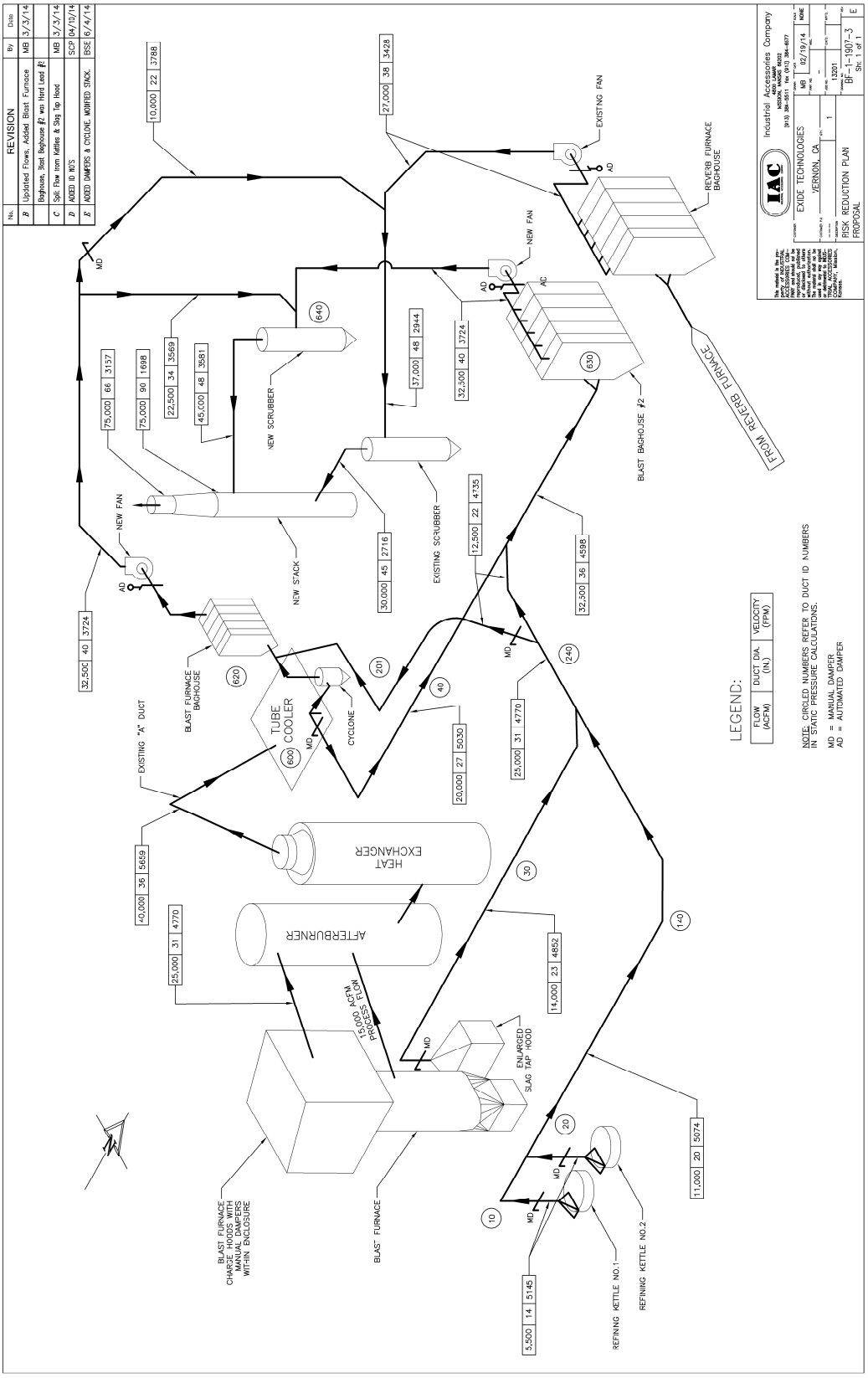
Exide Technologies is a secondary lead smelter. The subject permit applications were submitted to install an additional venturi scrubber and an additional tray type scrubber in air pollution control system no. 2 which vents the blast furnace. The following diagram was submitted by the applicant and shows the equipment configuration following the installation of additional equipment under the initial RRP proposal. This configuration evolved during the course of this evaluation:

PAGES	PAGE
93	35
APPL. NO	DATE
see pp. 1-25	10-15-2014
PROCESSED BY	CHECKED BY
MAP	

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE

APPLICATION PROCESSING AND CALCULATIONS



The afterburner proposed in the diagram on the preceding page is the original afterburner historically in operation at this facility. It is a large structure, approximately 6 feet in diameter and 32 feet tall. The afterburner was originally designed to process approximately 10,000 CFM of exhaust gases very concentrated in carbon monoxide (CO). The concentration of CO was so high that it was possible to maintain a temperature of approximately 2,200 ^{o}F in the afterburner under the original flow rate.

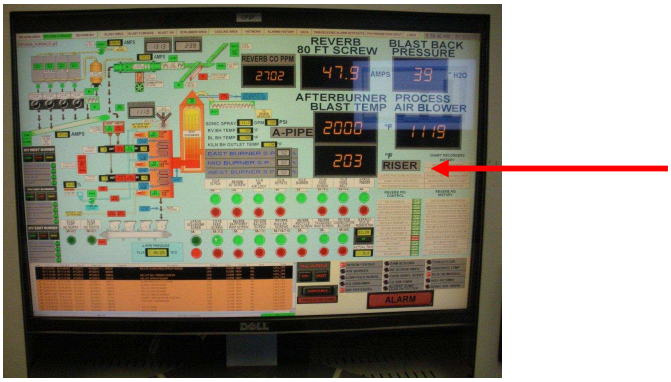
The modification to the air pollution control system serving the cupola furnace initially contained a proposal to increase the exhaust gas load to the afterburner from an initial 10,000 CFM to a final total flow rate of 40,000 CFM (15,000 CFM from the blast furnace and 25,000 CFM from the enhanced cupola furnace thimble hoods and enclosure, as indicated in revision E of the drawing on the previous page of this report.)

In the response letter from Exide to the SCAQMD dated March 4, 2014, Exide included the following excerpt towards the end of the document:

> To be cooled from a nominal afterburner exit of 1500F to below 400F
> Cooling = 147,500 lb/hr * 0.263 *(1500-400) = **42.6 MMBTU/hr**
> Future cooling need is 1.9X current demonstrated performance
> *(current capacity likely higher than current demonstrated performance)*

Exide claimed initially that the cooling of exhaust gases from the proposed system would require the handling of around 43 MMBTU/hr, even though the afterburner could produce only 10 MMBTU/hr. Obviously, some of the extra heat could have been generated by the cupola furnace itself, but the exact amount was in question.

Upon further investigation, it was discovered that the SCAQMD's source testing group made observations of the actual temperature in the "afterburner riser", the conduit connecting the cupola furnace and the afterburner. Several photos of instrument panel displays were taken, such as the following one:



It is apparent from this photograph that the temperature in the riser was approximately 203 ^{o}F on the day that this picture was taken (8/13/2013 at 8:39:40 AM).

Other pictures show similar temperatures generally in the range from 200 ^{o}F to about 250 ^{o}F. This is much cooler than originally anticipated. Apparently, the high temperature gases produced in the cupola furnace crucible are significantly cooled off by the pile of furnace feed present under normal operating conditions and by the water jacket surrounding the cupola furnace. This

leaves very little useful heat for the cupola furnace exhaust gases entering the afterburner riser. This cooling effect is an indicator that the temperature rise in the afterburner is mainly due to secondary exhaust gas combustion (the combustion of CO). The initial coke heat of combustion is almost completely lost to the feed and water jacket heat exchange.

The air temperature above the cupola furnace is expected to be in the range between 80 ^{o}F and about 200 ^{o}F. Therefore, in the worst case (the case requiring the most afterburner heat output), calculations indicate that a minimum of 53 MMBTU/hr firing rating is required for cold furnace startup at full operating flow rate. The 53 MMBTU/hr value agrees more closely with Exide's calculated "cool down" heat load of 43 MMBTU/hr then with the existing afterburner rating of 10 MMBTU/hr.

Exide was informed about this discrepancy between the originally proposed 10 MMBTU/hr afterburner and the calculated heat load required to maintain the minimum temperature of 1400 ^{o}F required for adequate control efficiency for CO, ROG, and toxic organic compounds produced in the cupola furnace. This was accomplished in emails dated 6/19/2014 and 6/20/2014. Exide provided a partial response to the 6/19/2014 email on 6/20/2014. Exide subsequently requested a technical meeting to discuss the issues and a meeting was held at the SCAQMD on 6/27/2014. In this meeting, Exide proposed lowering the air flow rates in the original proposal while increasing the afterburner rating to accommodate the larger air flow rates. Exide also provided new assumptions for heat balance calculations and indicated that additional information would be provided in writing.

On July 1, 2014, Exide sent an email with the additional information indicated in the previous meeting on 6/27/2014 and indicated that they proposed to install a new low NOx burner in the afterburner with a heat output range between 25 MMBTU/hr and possibly as high as 38 MMBTU/hr.

The 25 MMBTU/hr proposal is a minimal proposal required to achieve minimum afterburner temperature with careful process control. However, on 7/9/2014, Exide communicated telephonically to indicate that they were going to implement the 38 MMBTU/hr burner option and that the afterburner tube may be increased by an additional 5 feet in length for additional residence time. Final details such as exact burner model number were pending.

On July 15, 2014, Exide was requested via email to provide a more detailed start-up procedure for the cupola furnace. On July 16, 2014, Exide provided an explanation via email which indicated that they were not planning to run the thimble enclosure ventilation to the afterburner until after lead metal and coke charging was first started in the cupola furnace. On July 18, 2014, AQMD staff responded that it was a violation of permit conditions and rule requirements to use this procedure since it would lead to the release of uncontrolled emissions from the initial metal melting and coke combustion during the startup procedure. Exide was informed that all originally designed air flow rates are required during cold startup and that this would require an afterburner startup with sufficient firing rating of approximately 60 MMBTU/hr.

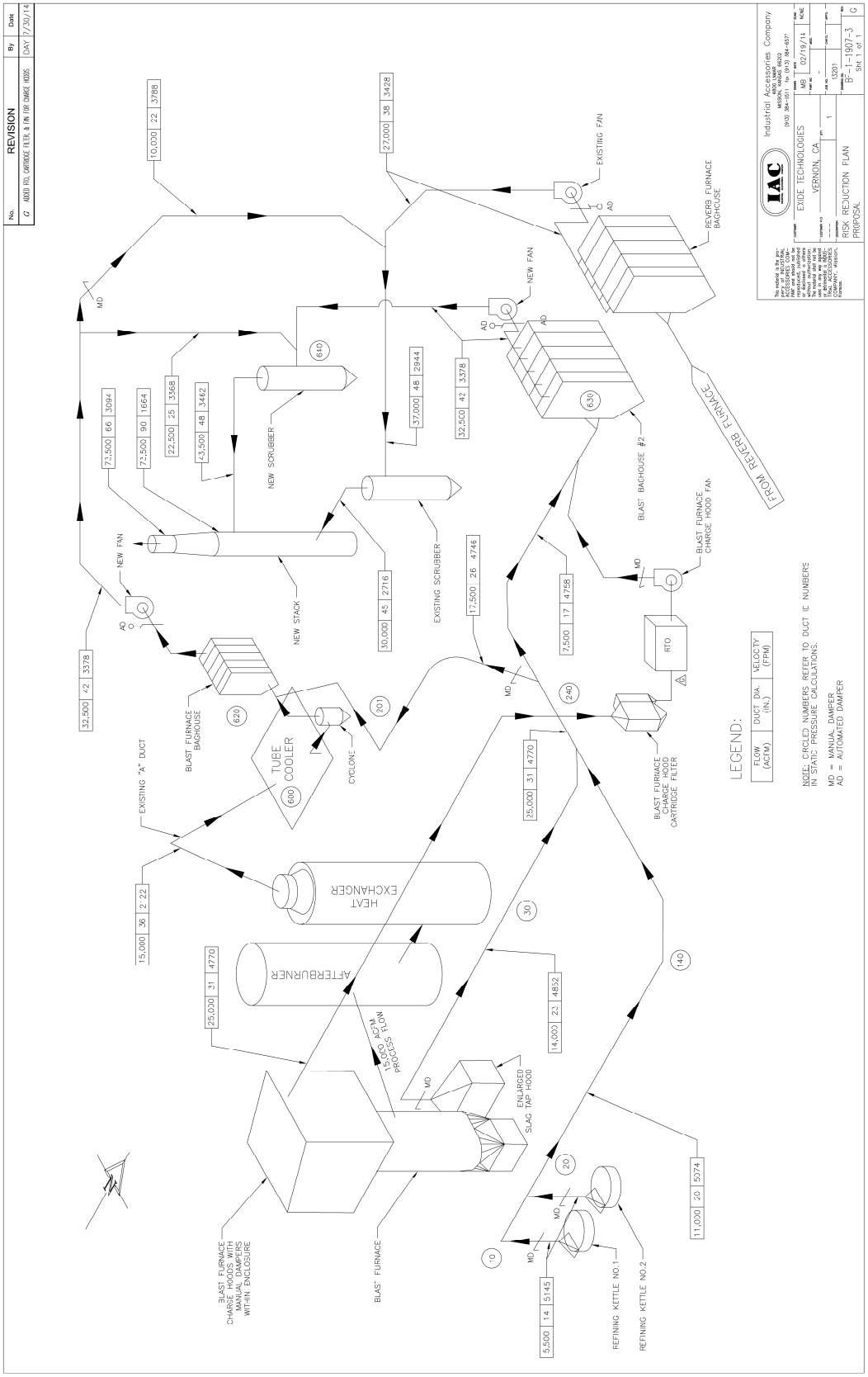
On July 23, 2014, an office conference was held with Exide engineering staff to address the issues raised in the July 18, 2014 email message to Exide. Exide re-iterated that they believed that a 38 MMBTU/hr burner was sufficient since they planned on lower air flow rate demand during the cupola furnace start-up period. Additional technical information was requested from Exide including a heat transfer calculation to verify cooling system capacity to handle higher heat loads resulting from the proposed modification. Exide was informed that the initial compliance requirement for the new system would consist of permit conditions requiring smoke tests on the enhanced cupola furnace thimble enclosure during initial startup and again during full operation.

SCAQMD staff felt that maximum air should be drawn through the thimble hood/enclosure to ensure all the emissions are properly collected and controlled during startup and under normal operating conditions. Exide also indicated that there were major technical issues starting up the blast furnace with full air flow rates - the currently proposed design would make it very difficult to maintain a low air flow rate in the blast furnace and simultaneously maintain a high air flow rate in the thimble enclosure since both air streams merge in the common afterburner and there is no practical method to add damper controls on the afterburner riser connecting the blast furnace and the afterburner. Any object, such as a damper, in the riser could potentially lead to clogs in the riser (this was one of the issues that eventually led to the requirement for this RRP).

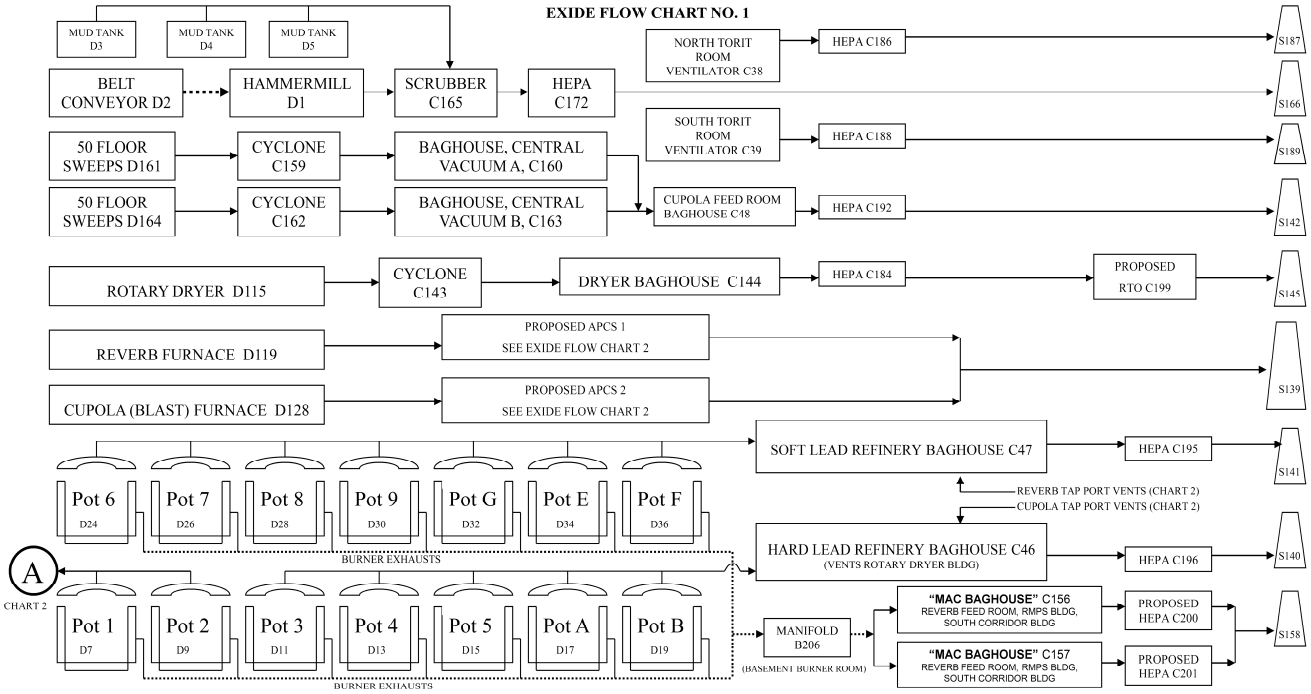
At this point in the analysis of the proposed modifications, it became apparent that a much broader plant re-design would be required to accommodate the substantially larger heat burden resulting from the anticipated afterburner enlargement.

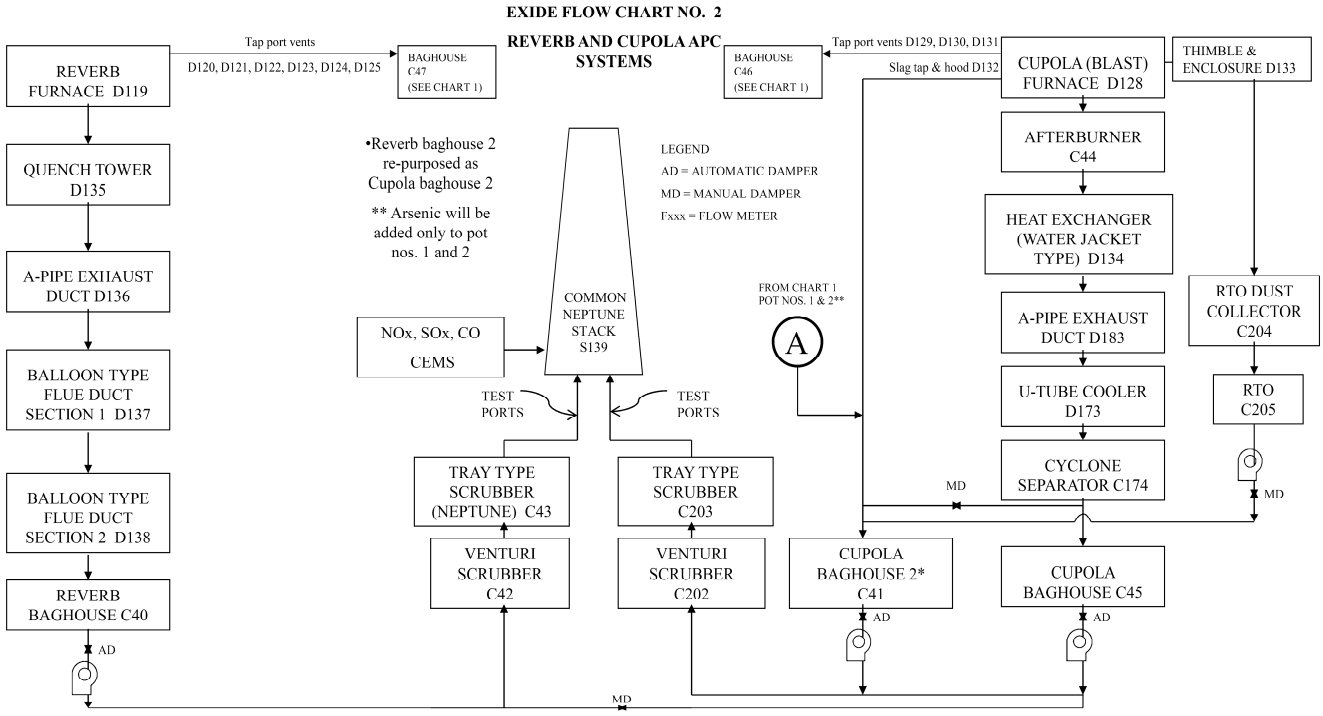
On July 25, 2014, Exide communicated telephonically to indicate that in their early discussions in investigating and preparing their RRP, a new oxidizer for the thimble air was touched on, but it was dismissed because they felt they had an existing afterburner that would only need minor enhancements to fulfill the needs to satisfy the other proposed changes in the RRP. However, with the AQMD's differing opinion on proper ventilation during start up and operation of the blast furnace, the required "enhancement" of the existing afterburner results in a significant and widespread system re-design. In summary, Exide indicated that they were now **reconsidering routing the thimble air to a separate control system (new baghouse & RTO) and then routing that exit stream to the new scrubber system.** The advantage here is they could draw the full maximum thimble air from the very beginning of start up of the blast furnace without inhibiting the actual operational start-up of the blast furnace.

On July 31, 2014, a third meeting was held with Exide engineering staff during which they proposed a separate dust collector and RTO to enable the venting of the originally specified amount of air from the thimble hoods and enclosure during cold startup. The newly revised RRP facility equipment configuration is indicated in the drawing on the following page.


REVISION
No. G
By DAY
Date 7/30/14
ADDED RTO, CARTRIDGE FILTER, & FAN FOR CHARGE HOODS
IAC
Industrial Accessories Company
EXIDE TECHNOLOGIES
VERNON, CA
RISK REDUCTION PLAN
PROPOSAL
LEGEND:
FLOW (ACFM)
DUCT DIA. (IN.)
VELOCITY (FPM)
NOTE: CIRCLED NUMBERS REFER TO DUCT ID NUMBERS IN STATIC PRESSURE CALCULATIONS.
MD = MANUAL DAMPER
AD = AUTOMATED DAMPER
EXISTING FAN
REVERB FURNACE BAGHOUSE
NEW FAN
NEW SCRUBBER
NEW STACK
EXISTING SCRUBBER
BLAST BAGHOUSE #2
FROM REVERB FURNACE
BLAST FURNACE CHARGE HOOD FAN
RTO
BLAST FURNACE BAGHOUSE
TUBE COOLER
CYCLONE
EXISTING "A" DUCT
BLAST FURNACE CHARGE HOOD CARTRIDGE FILTER
HEAT EXCHANGER
AFTERBURNER
15,000 ACFM PROCESS FLOW
ENLARGED SLAG TAP HOOD
BLAST FURNACE CHARGE HOODS WITH MANUAL DAMPERS WITHIN ENCLOSURE
BLAST FURNACE
REFINING KETTLE NO.1
REFINING KETTLE NO.2

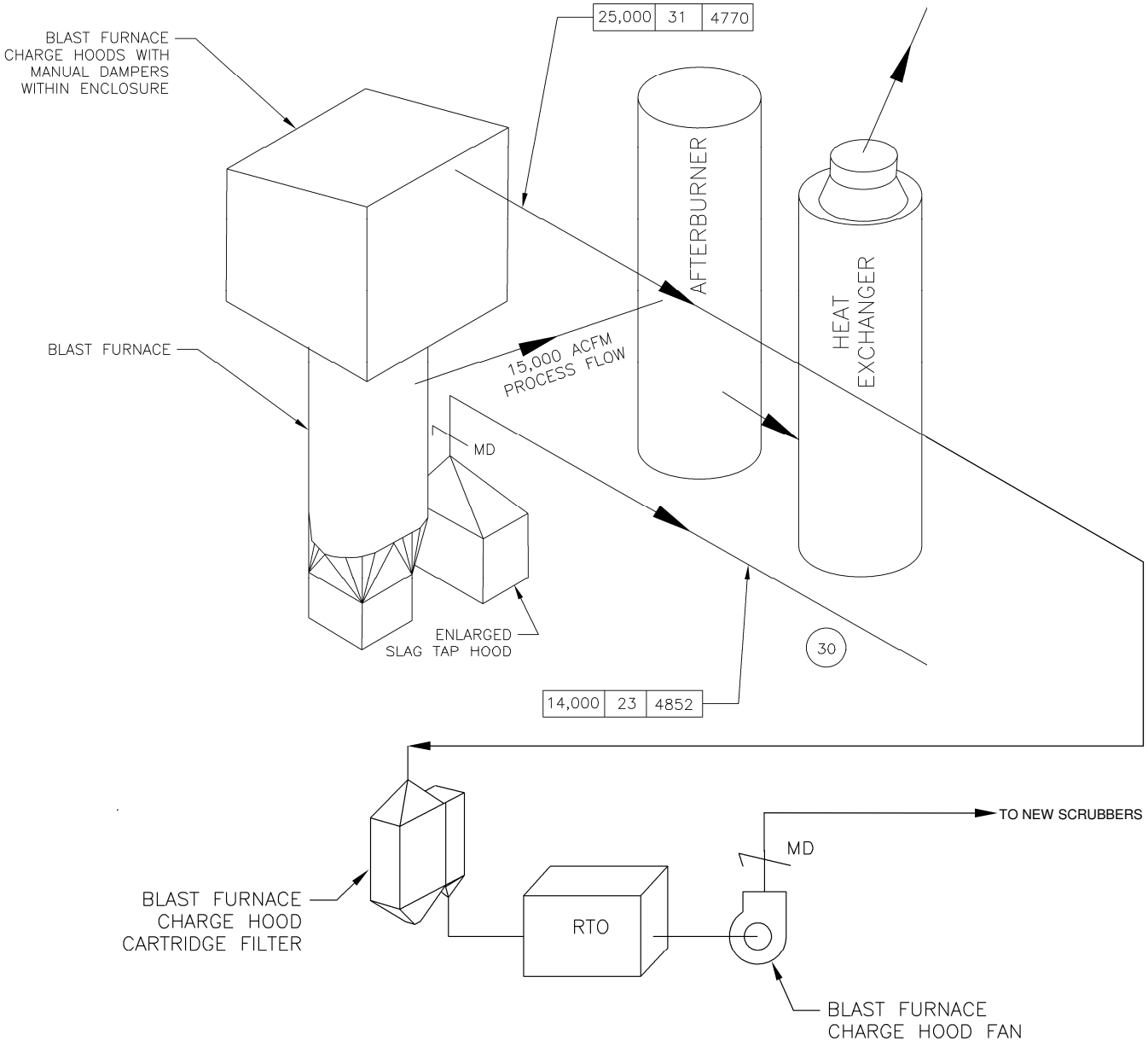
The following flow charts represent the new equipment configuration, along with Title V permit device numbers:



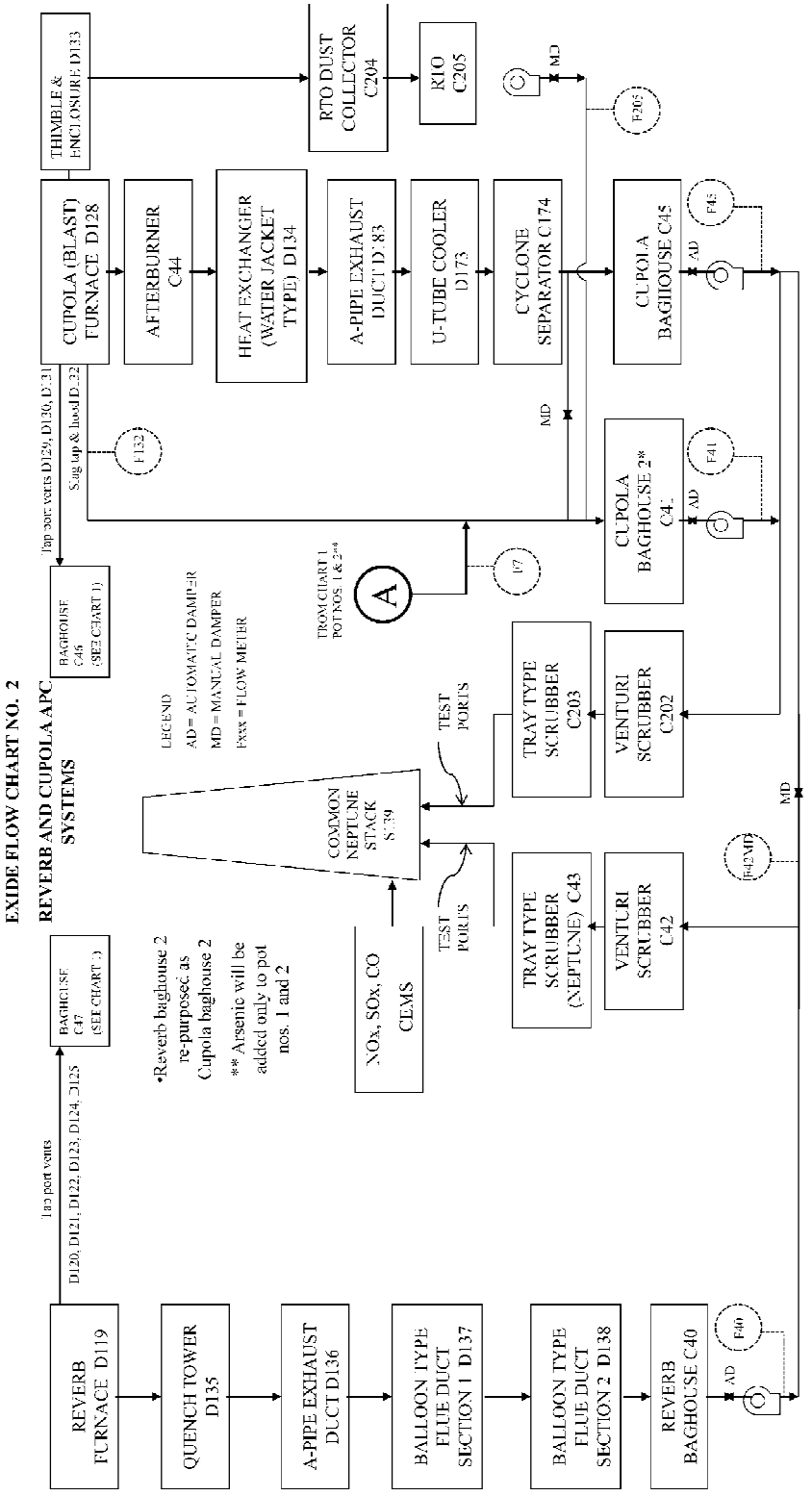


The following drawing is based on the final equipment drawing showing the main elements of the new proposal:

1. Air flow rate from cupola increase from 10,000 CFM to 15,000 CFM (maximum).
2. Enhanced enclosure around thimble charging port on top of cupola furnace. The thimble hoods inside of this enclosure have been re-routed from the hard lead baghouse (device C46) to a new pre-filtering dust collector and RTO (devices C204 and C205).
3. The enhancement of the cupola furnace slag tapping port hood.
4. The venting of pot furnaces where arsenic is added to the enhanced control system where wet scrubbers are used.
5. Increase overall ventilation air flow rates.



Due to the complexity of the exhaust system in the proposed equipment configuration, the flow rates in the various duct branches need to be monitored in order to ensure proper operation of the proposed system. Permit conditions will require flow meters at various locations as specified in the following drawing:



The following sections of this report describe the various elements of the modifications to the air pollution control systems at this facility.

GENERAL PURPOSE OF PROPOSED MODIFICATIONS

The purpose of this project is to ensure that exhaust gas streams containing high levels of arsenic emissions are vented to appropriate air pollution control systems capable of controlling arsenic emissions which exist in gaseous form. They are also designed to control gas streams containing organic air contaminants, carbon monoxide, and oxides of sulfur which previously escaped control because they were vented only to dry filter media or were emitted into the building enclosure due to a lack of sufficient negative pressure in the reverb and cupola furnaces.

MODIFIED AIR POLLUTION CONTROL SYSTEM NO. 1 (REVERB)

This system currently contains two baghouses connected in parallel which are designated to handle the process gases from the reverberatory furnace. One of these baghouses (device C41) will be disconnected from the reverb APC system and connected to the cupola furnace APC system no. 2 as previously indicated in the drawings in this report. The re-purposed baghouse will be used to vent additional equipment vented by proposed APCS 2 including two lead pot furnaces, an RTO exhaust outlet, an enhanced cupola thimble hood enclosure and an enhanced cupola furnace slag tapping hood.

A second venturi/tray scrubber is proposed to increase the air flow rate primarily from the cupola furnace and secondarily to provide additional ventilation to the reverberatory furnace. The increased air flow rates are intended to ensure that negative pressure is maintained in both furnaces.

MODIFIED AIR POLLUTION CONTROL SYSTEM NO. 2 (CUPOLA)

The process air flow rate in the blast furnace will be increased from 10,000 ACFM to as much as 15,000 ACFM (as needed) by pulling more air from this furnace. The increased air flow rate will ensure that negative pressure is maintained in this furnace for compliance with Rule 1420.1. The baghouse of device C41 will be used to serve additional equipment vented by proposed APCS 2 including two lead pot furnaces, an RTO exhaust outlet, an enhanced cupola thimble hood enclosure and an enhanced cupola furnace slag tapping hood. The pot furnaces were previously vented to the hard lead baghouse (device C46). The slag tapping hood is being enlarged to better capture gases which are released during slag tapping operations. In addition, the thimble hood vents, previously connected to device C46 will now be rerouted to the RTO of device C205. The applicant is also proposing to enhance the integrity of the cupola furnace thimble cover enclosure to ensure that fugitive emissions are not released from the top of the blast furnace. 25,000 CFM of air from the thimble enclosure and hoods will be vented to the RTO.

The afterburner firing rate was designed to handle 10,000 CFM of air. It will now handle a maximum of 15,000 CFM of air under the current proposal. The existing burners will be used. The start-up procedure will require a graduated increase in air flow rate until the cupola furnace is fired on a sufficient amount of carbon coke to maintain minimum required temperature in the afterburner. Refer to the calculations section of this report for details regarding the heat balances for the afterburner.

POT FURNACES

The pot furnaces of devices D7 and D9 are being rerouted from the hard lead baghouse ventilation to cupola furnace baghouse no. 2 (device C41). Permit conditions are being modified to prevent the charging of arsenic metal to all pot furnaces except for D7 and D9. The purpose of these modifications is to ensure that any major arsenic emissions are controlled by the wet scrubber system in APCS No. 2.

PRINCIPLE OF ARSENIC EMISSIONS CONTROL

The type of arsenic emissions from the blast furnace has been determined to contain a significant fraction of arsenic compounds in the gas phase. Source tests have shown that a large fraction of the arsenic emissions from the hard lead baghouse are captured in the liquid part of the source sampling impinger trains after going through the dry filter in the sampling train. This implies that the arsenic is passing through the dry filter in the gas phase. The gaseous arsenic, expected to be mainly in the form of arsenic trioxide, based on chemistry, readily dissolves into the water in the impingers. Source tests have also shown that the emission rates of arsenic from the Neptune scrubber stack are extremely small. The historical problem has been with the dry arsenic emissions, in the gas phase, not being captured by the hard lead baghouse. By capturing and sending the gas phase arsenic emissions to the scrubber, the emissions of arsenic will be effectively controlled.

This facility operates 24 hours/day, 7 days/week, and 52 weeks/year. The large furnaces are typically shut down, rebuilt, and restarted about 2 or 3 times per year.

CALCULATIONS

1. CUPOLA AFTERBURNER

A. CALCULATION OF AFTERBURNER OPERATING CONDITIONS AFTER PROPOSED MODIFICATION (INCREASING AIR FLOW RATE TO 15,000 CFM)

Need to achieve 1,400 ^{o}F prior to charging coke or feed to Cupola in order to comply with BACT (ROG and CO), and Rule 1401 risk (due to toxic organics.)

$Q = m \times Cp \times (T_2 - T_1)$

Q = BTU/hr

Cp = BTU/(lb x ^{o}F)

T = ^{o}F

Given: V = 15,000 CFM (not counting thimble enclosure airflow of 25,000 CFM)
Cp = 0.246 BTU/(lbair x ^{o}F)
T_2 = 1,400 ^{o}F
T_1 = 80 ^{o}F

m = 15,000 cf/min. x 0.0734 lb/cf x 60 min/hr = 66,060 lbs air/hr

$Q_{required} = m \times CP \times (T_2 - T_1)$

$Q_{req} = 66{,}060 \times 0.246 \times (1400 - 80) = 21.4 \times 10^6$ BTU/hr

Q available = 10×10^6 BTU/hr (afterburner) + 1×10^6 BTU/hr (cupola) = 11×10^6 BTU/hr Total

Reduced startup flow rate for 1,400 ^{o}F = 11/21.4 x 15,000 CFM = 7,710 CFM

The applicant has stated that a reduced CFM will be used during the cupola furnace startup procedure. Once the afterburner and cupola crucible are up to temperature, coke charging will commence and additional energy will be available from the carbon monoxide produced by the coke combustion:

Data:

For 8/25/2013, the process data log (CP2 report) for the cupola furnace indicated the following coke charge rate:

1. CUPOLA AFTERBURNER

(cont.)

PWcoke = 15,025 lbs/22.62 hours = 664.2 lbs/hr
PWtotal = 151.7 tons/day.

PWcoke max = 664.2 lbs/hr x 178.32 tons/151.7 tons = 780.8 lbs/hr
(PW permit limit = 178.32 tons/day)

CO gas rate max = 780.8 lbs/hr x 0.9 lbs C/lb coke x 28 lbs CO/12 lbs C = 1,640 lbs CO/hr (afterburner inlet)

Q_{CO} = 1,640 lbs/hr x 4,348 BTU/hr = 7.13×10^6 BTU/hr

(For verification purposes, it should be noted that a source test performed in 1993 by Engineering Science during an afterburner malfunction measured a CO emission rate as high as 1,360 lbs/hr from the Neptune scrubber stack.)

It is more accurate to calculate the heat contribution from the coke by calculating the heat of combustion of the CO, since the majority of the coke heat of combustion is removed from the exhaust gas stream by the cupola water jacket heat exchanger prior to the afterburner. The gases going into the afterburner are estimated to be between 200 ^oF and 400 ^oF.

$T_2 = Q/(m \times Cp) + T_1$

m_{200^oF} = (15,000)(0.0601)(60)
= 54,090 lbs/hr

Q_{CO} = 7.13×10^6 BTU/hr
Q afterburner gas = 10.0×10^6 BTU/hr

Q total = 17.13×10^6 BTU/hr

T_2 = $Q/(m \times Cp) + T_1$
= $(17.13 \times 10^6)/(54,090 \times 0.246) + 200$
= 1,487 ^oF

This exceeds the minimum BACT temperature requirement of 1,400 ^oF.

1. CUPOLA AFTERBURNER

(cont.)

It should be noted that the 15,000 CFM flow rate in the RRP proposal is just an upper limit of what the actual flow rate will be. In actual operating conditions, it is expected to be lower than this amount. The minimum temperature can be attained by modulating the air flow rate in addition to the rate of coke charging. In conclusion, it is expected that proper process control will ensure compliance with the minimum temperature limit and the Rule 1420.1 negative furnace pressure requirement given the proposed equipment operating parameters.

B. CALCULATION OF AFTERBURNER HEAT REQUIREMENT IF ALL PROCESS AIR IS VENTED TO THE AFTERBURNER

Since part of the critical design of the proposed fugitive emission control system includes the extra air flow rate added by the enhanced cupola furnace thimble enclosure, the present configuration will have to accommodate all 40,000 CFM of air flow. In order to accomplish this and meet the BACT temperature limit of 1,400 ^{o}F, the afterburner will need to have a much higher firing rate at **cold startup**, as calculated below:

$Q = m \times Cp \times (T_2 - T_1)$

Q = BTU/hr

Cp = BTU/(lb x ^{o}F)

T = ^{o}F

Given: V = 40,000 CFM (including thimble enclosure airflow of 25,000 CFM)
Cp = 0.246 BTU/(lbair x ^{o}F)
T_2 = 1,400 ^{o}F
T_1 = 80 ^{o}F

m = 40,000 cf/min. x 0.0734 lb/cf x 60 min/hr = 176,160 lbs air/hr

$Q_{required} = m \times CP \times (T_2 - T_1)$

$Q_{req} = 176{,}160 \times 0.246 \times (1400 - 80) = 57.2 \times 10^6$ BTU/hr

$Q_{cupola} = 1 \times 10^6$ BTU/hr (during start-up)

$Q_{afterburner\ required} = 57.2 \times 10^6$ BTU/hr - 1×10^6 BTU/hr = **56.2×10^6 BTU/hr**

1. CUPOLA AFTERBURNER

(cont.)

It would be physically impractical to install a burner of this size in the existing afterburner since all heat management devices downstream of the afterburner would be significantly affected, resulting in a requirement for complete system redesign. The afterburner tube (combustion chamber) would also need to be increased in height significantly to accommodate the larger burner and to maintain residence time requirements.

Exide has chosen a more practical approach in the final revised RRP proposal - the installation of a regenerative thermal oxidizer (RTO) dedicated to the thimble hoods and enclosure ventilation. This RTO will process the additional 25,000 CFM of air volume proposed in the RRP. This will enable the ventilation of full air flow rate from the thimble hoods and enclosure at all time from cold start to full furnace operation and it will separate the process air stream associated with the cupola furnace from the air stream for the thimble hoods and enclosure. Independent control of the flow rates in the afterburner from the flow rates in the thimble hoods and enclosure will simplify the ability to control parameters needed for maintaining negative pressure in the cupola furnace and the minimum temperature required in the afterburner.

C. CALCULATION OF RESIDENCE TIME FOR PROPOSED OPERATION

For cold start-up:

V (ACFM) = 7,710 ft^3/min. (see page 44)
T1 = 80 ^oF (ambient temperature)
T2 = 1,400 ^oF (BACT requirement)

$$V_{1400\,^oF} = \frac{1,400 + 460}{80 + 460} \times \frac{7,710\ ft^3}{min} = \frac{26,557\ ft^3}{min} = \frac{443\ ft^3}{sec}$$

afterburner volume: H = 31'-9" = 31.75 ft
ID = 6'-0" = 6.00 ft
$V = (1/4)(\Pi)(D^2)(H) = (0.25)(3.141592)(6)^2(31.75) = 898\ ft^3$

residence time: $T_{1400\,^oF} = \frac{898\ ft^3}{1} \times \frac{1\ sec}{443\ ft^3} = 2.03$ seconds

1. CUPOLA AFTERBURNER
(cont.)

For normal operation:

V (ACFM) = 15,000 ft^3/min. (Applicant's Data)
@ T = 200 ^oF = 660 ^oR (estimate based on observations by SCAQMD staff)

$$V_{1487\ ^oF} = \frac{1487 + 460}{660} \times \frac{15{,}000\ ft^3}{min} = \frac{44{,}250\ ft^3}{min} = \frac{738\ ft^3}{sec}$$

afterburner volume: H = 31'-9" = 31.75 ft
ID = 6'-0" = 6.00 ft
$V = (1/4)(\Pi)(D^2)(H) = (0.25)(3.141592)(6)^2(31.75) = 898\ ft^3$

residence time: $T_{1487\ ^oF} = \frac{898\ ft^3}{1} \times \frac{1\ sec}{738\ ft^3} = 1.22$ seconds

This is greater than the minimum BACT 0.3 seconds residence time requirement.

D. AFTERBURNER TEMPERATURE PROBE LOCATIONS:

$$L_{startup} = \frac{0.3\ sec}{2.03\ sec} \times \frac{31.75\ ft}{1} = 4.69\ ft = 4'\text{-}8"$$

(Note: At 1,400 ^oF during startup, the probe would have to be placed 18 feet downstream of the burner location.)

$$L_{normal} = \frac{0.3\ sec}{1.22\ sec} \times \frac{31.75\ ft}{1} = 7.81\ ft = 7'\text{-}10"$$

The worst case is 7'-10", which occurs during normal operation. Therefore, this will be required in permit conditions.

E. AFTERBURNER NOx EMISSIONS AT 10 MMBTU/HR
(No changes to burners)

NOx baseline = final = 10 MMBTU/hr x 0.124 lbs/MMBTU
(max PTE) = 1.24 lbs/hr = 29.76 lbs/day max

NOx emissions are continuously monitored by the NOx CEMS on the common scrubber stack.

1. CUPOLA AFTERBURNER
(cont.)

F. AFTERBURNER MISCELLANEOUS CRITERIA EMISSIONS

Emissions of ROG are negligible and co-mingled with ROG from the cupola furnace. They are accounted for NSR purposes under the cupola furnace.

Emissions of SOx from natural gas combustion are neglible and are further reduced by the SOx scrubber. These emissions are co-mingled with cupola furnace emissions and are accounted under the cupola furnace NSR emissions.

Emissions of CO from natural gas combustion are negligible and comingled with CO from the blast furnace. They are accounted for under the blast furnace. CO emissions are continuously monitored by the CO CEMS on the common scrubber stack.

Emissions of PM10 from natural gas combustion are neglible and are further reduced by the venturi scrubber and baghouse. These emissions are co-mingled with cupola furnace emissions and are accounted under the cupola furnace NSR emissions.

Emissions are summarized in a table on page 55 of this report.

2. REGENERATIVE THERMAL OXIDIZERS (RTO's)

A. CALCULATION OF RESIDENCE TIME FOR ROTARY DRYER RTO

V (ACFM) = 15,200 ft^3/min. (Applicant's Data)
@ T = 220 ^oF = 680 ^oR (Applicant's Data)

$$V1500\ ^oF = \frac{1{,}500 + 460}{680} \times \frac{15{,}200\ ft^3}{min} = \frac{43{,}812\ ft^3}{min} = \frac{730\ ft^3}{sec}$$

RTO combustion chamber volume: W = 6.90 ft.
(Note: Dimensions for 1 chamber) L = 5.93 ft.
(2 chambers total) H = 4.00 ft.
V = W x L x H x 2 = 327 ft^3

residence time: $T_{1500\ ^oF} = \frac{327\ ft^3}{1} \times \frac{1\ sec}{730\ ft^3}$ = 0.45 seconds

B. CALCULATION OF RESIDENCE TIME FOR CUPOLA THIMBLE HOOD RTO

V (ACFM) = 25,000 ft^3/min. (Applicant's Data)
@ T = 120 ^oF = 580 ^oR (Applicant's Data)

$$V1500\ ^oF = \frac{1{,}500 + 460}{580} \times \frac{25{,}000\ ft^3}{min} = \frac{84{,}483\ ft^3}{min} = \frac{1{,}408\ ft^3}{sec}$$

RTO combustion chamber volume: W = 8.00 ft.
(Note: Dimensions for 1 chamber) L = 10.00 ft.
(2 chambers total) H = 6.00 ft.
V = W x L x H x 2 = 960 ft^3

residence time: $T_{1500\ ^oF} = \frac{960\ ft^3}{1} \times \frac{1\ sec}{1{,}408\ ft^3}$ = 0.68 seconds

C. CALCULATION OF REQUIRED COLD STARTUP FIRING RATES FOR RTO's

For rotary dryer RTO:

Tcold = 80 ^{o}F Air density = 0.0734 lb/cf

T1 = Tin = 220 ^{o}F Air density = 0.0584 lb/cf
T2 = Tout = 313 ^{o}F

The required heat input is:
Q_{RTO} = mCp(T2-T1) = (15200*0.0584*60)(0.246)(313-220) = 1.2 MMBtu/hr
The non-regenerative heat requirement for a cold startup would be:
$Q_{non\text{-}RTO}$ = mCp(T2-T1) = (15200*0.0734*60)(0.246)(1500-80) = 23.4 MMBtu/hr
RTO'S have 90% heat recovery. Based on 90% heat recovery, the maximum heat required is:
$Q_{RTO\ MAX}$ = 23.4 MMBtu/hr x (1 - (90/100)) = 23.4 x 0.1 = 2.34 MMBtu/hr
The proposed burner rating is 2.5 MMBtu/hr.
2.5 > 2.34
Therefore, the burner rating is adequate for a cold startup.

For cupola thimble hood RTO:

T1 = Tin = 120 ^{o}F Air density = 0.0684 lb/cf
T2 = Tout = 235 ^{o}F

The required heat input is:
Q_{RTO} = mCp(T2-T1) = (25000*0.0684*60)(0.246)(235-120) = 2.9 MMBtu/hr
The non-regenerative heat requirement for a cold startup would be:
$Q_{non\text{-}RTO}$ = mCp(T2-T1) = (25000*0.0734*60)(0.246)(1500-80) = 38.5 MMBtu/hr
RTO'S have 90% heat recovery. Based on 90% heat recovery, the maximum heat required is:
$Q_{RTO\ MAX}$ = 38.5 MMBtu/hr x (1 - (90/100)) = 38.5 x 0.1 = 3.85 MMBtu/hr

The proposed burner rating is 4.6 MMBtu/hr.
4.6 > 3.85
Therefore, the burner rating is adequate for a cold startup.

D. ROTARY DRYER RTO EMISSIONS FROM NATURAL GAS COMBUSTION

A/N 559499 **HOURS/DAY: 24.00**
DAYS/WEEK: 7.00 **RTO For Rotary Dryer**
WEEKS/YEAR
OPERATING SCHED: : 52.00
(DAILY AND ANNUAL) DAYS/YEAR: 365.00

Max Firing Rate: 2.50000 **(MMbtu/hr)**
Usage factor: 1.00000 **(max PTE)**
Ave Firing Rate: **2.50000** **(MMbtu/hr)**

APCS EFFICIENCY ROG	NOx	SOx	CO	PM10
0.00	0.00	0.00	0.00	0.00

FIRING RATE (MMbtu/hr)	EMISSION TYPE	FACTOR (LB/MMbtu)	R1 EMIS. (LBS/HR)	R2 EMIS. (LBS/HR)
2.50000	ROG	0.0067	0.01675	0.01675
2.50000	NOx	0.0365	0.09117	0.09117
2.50000	SOx	0.0008	0.00198	0.00198
2.50000	CO	0.2960	0.74011	0.74011
2.50000	PM10	0.0071	0.01786	0.01786

EMISSIONS SUMMARY

	ROG	NOx	SOx	CO	PM10
R1, lb/hr	0.0168	0.0912	0.0020	0.7401	0.0179
R1, lb/day	0.4020	2.1881	0.0474	17.7627	0.4286
R2, lb/hr	0.0168	0.0912	0.0020	0.7401	0.0179
R2, lb/day	0.4020	2.1881	0.0474	17.7627	0.4286
R2, lb/day (30 day average)	0.4020	2.1881	0.0474	17.7627	0.4286
R2, lb/year	146.7300	798.6434	17.3120	6483.3763	156.4317
R2, ton/yr	0.0734	0.3993	0.0087	3.2417	0.0782

Note: NOx and CO emission factors based on 30 and 400 PPMv, respectively, @ 3% O2, per manufacturer's data (as stated by the applicant in 5-6-2014 information letter)

E. THIMBLE HOOD RTO EMISSIONS FROM NATURAL GAS COMBUSTION

A/N 562498 **HOURS/DAY: 24.00**
DAYS/WEEK: 7.00 **RTO For Cupola Furnace Thimble Hoods**
OPERATING SCHED: WEEKS/YEAR: 52.00
(DAILY AND ANNUAL) DAYS/YEAR: 365.00

Max Firing Rate: 4.60000 **(MMbtu/hr)**
Usage factor: 1.00000 **(max PTE)**
Ave Firing Rate: **4.60000** **(MMbtu/hr)**

APCS EFFICIENCY ROG	NOx	SOx	CO	PM10
0.00	0.00	0.00	0.00	0.00

FIRING RATE (MMbtu/hr)	EMISSION TYPE	FACTOR (LB/MMbtu)	R1 EMIS. (LBS/HR)	R2 EMIS. (LBS/HR)
4.60000	ROG	0.0067	0.03082	0.03082
4.60000	NOx	0.0365	0.16775	0.16775
4.60000	SOx	0.0008	0.00364	0.00364
4.60000	CO	0.2960	1.36181	1.36181
4.60000	PM10	0.0071	0.03286	0.03286

EMISSIONS SUMMARY

	ROG	NOx	SOx	CO	PM10
R1, lb/hr	0.0308	0.1678	0.0036	1.3618	0.0329
R1, lb/day	0.7397	4.0260	0.0873	32.6833	0.7886
R2, lb/hr	0.0308	0.1678	0.0036	1.3618	0.0329
R2, lb/day	0.7397	4.0260	0.0873	32.6833	0.7886
R2, lb/day (30 day average)	0.7397	4.0260	0.0873	32.6833	0.7886
R2, lb/year	269.9832	1469.5039	31.8540	11929.4123	287.8343
R2, ton/yr	0.1350	0.7348	0.0159	5.9647	0.1439

Note: NOx and CO emission factors based on 30 and 400 PPMv, respectively, @ 3% O2, per manufacturer's data (as stated by the applicant in 5-6-2014 information letter)

3. AFTERBURNER EMISSIONS SUMMARY

A/N 562498 **HOURS/DAY:** 24.00 **Afterburner in APCS 2**
DAYS/WEEK: 7.00
WEEKS/YEAR
OPERATING SCHED: **:** 52.00
(DAILY AND ANNUAL) **DAYS/YEAR:** 365.00

Max Firing Rate: 10.00000 **(MMbtu/hr)**
Usage factor: 1.00000 **(max PTE)**
Ave Firing Rate: **10.00000** **(MMbtu/hr)**

APCS EFFICIENCY ROG	NOx	SOx	CO	PM10
99.00	0.00	99.00	99.00	98.00

FIRING RATE (MMbtu/hr)	EMISSION TYPE	FACTOR (LB/MMbtu)	R1 EMIS. (LBS/HR)	R2 EMIS. (LBS/HR)
10.00000	ROG	0.0067	0.06700	0.00067
10.00000	NOx	0.1238	1.23800	1.23800
10.00000	SOx	0.0008	0.00800	0.00008
10.00000	CO	0.0333	0.33300	0.00333
10.00000	PM10	0.0071	0.07100	0.00142

EMISSIONS SUMMARY

	ROG	NOx	SOx	CO	PM10
R1, lb/hr	0.0670	1.2380	0.0080	0.3330	0.0710
R1, lb/day	1.6080	29.7120	0.1920	7.9920	1.7040
R2, lb/hr	0.0007	1.2380	0.0001	0.0033	0.0014
R2, lb/day	0.0161	29.7120	0.0019	0.0799	0.0341
R2, lb/day (30 day average)	0.0161	29.7120	0.0019	0.0799	0.0341
R2, lb/year	5.8692	10844.8800	0.7008	29.1708	12.4392
R2, ton/yr	0.0029	5.4224	0.0004	0.0146	0.0062

4. VERIFICATION OF BLOWER CAPACITIES AND HORSEPOWER REQUIREMENTS FOR MODIFIED APC SYSTEMS

W = (5.202*V*P)/(33000*E)

where: V = ACFM
P = in. W.C.
W = Shaft Horspower
E = blower efficiency factor 0 < E < 1
(Assume E typical = 0.65) 65% power efficiency

Device	Fan SP, in. W.C.		ACFM		Motor HP	
Reverb BH	56.00	Assumed	27,000	Applicant's Data	450	Applicant's Data
Cupola BH 1	55.79	Applicant's Data	32,500	Applicant's Data	450	Applicant's Data
Cupola BH 2	54.42	Applicant's Data	32,500	Applicant's Data	450	Applicant's Data
Dryer RTO	26.00	Applicant's Data	15,200	Applicant's Data	100	Applicant's Data
Cupola RTO	26.00	Applicant's Data	25,000	Applicant's Data	200	Applicant's Data

Calculations

W = (5.202*V*P)/(33000*E)

Device	V	P	E	W	Motor HP Proposed	Adequate
Reverb BH	27,000	56.00	0.65	367	450	YES
Cupola BH 1	32,500	55.79	0.65	440	450	YES
Cupola BH 2	32,500	54.42	0.65	429	450	YES
Dryer RTO	15,200	26.00	0.65	96	100	YES
Cupola RTO	25,000	26.00	0.65	158	200	YES

The horsepower recommended requirements are preliminary and may be amended at the processing of the P/O, based on final design parameters.

5. EMISSIONS SUMMARY FOR POT FURNACES

Max hourly emissions

Current A/N	Previous A/N	C/O A/N	Previous A/N	Kettle No.	ROG, R1 = R2	NOx, R1 = R2	SOx, R1 = R2	CO, R1 = R2	PM10 R1	PM10 R2
562499	533208	496421	374211	4	0.0088	0.7854	0.06	0.0413	0.7417	0.0148
562502	533206	496438	374208	2	0.0088	0.7854	0.8933	0.0413	0.7417	0.0148
562504	533207	496420	374210	3	0.0088	0.7854	0.06	0.0413	0.7417	0.0148
562505	533209	496423	374212	5	0.0088	0.7854	0.06	0.0413	0.3983	0.008
562506	N/A	496426	374214	6	0.0088	0.7854	0.8933	0.0413	1.7588	0.0352
562507	N/A	496428	374215	7	0.0088	0.7854	0.8933	0.0413	1.7588	0.0352
562508	N/A	496429	374216	8	0.0088	0.7854	0.8933	0.0413	1.7588	0.0352
562509	N/A	496432	374217	9	0.0088	0.7854	0.8933	0.0413	1.7588	0.0352
562510	533210	496424	374199	A	0.0088	0.7854	0.06	0.0413	1.6717	0.0334
562511	533211	496425	374200	B	0.0088	0.7854	0.06	0.0413	1.6717	0.0334
562512	533213	496434	374201	E	0.0088	0.7854	0.06	0.0413	2.3421	0.0468
562513	533214	496435	374202	F	0.0088	0.7854	0.06	0.0413	2.3421	0.0468
562514	533215	496433	374204	G	0.0088	0.7854	0.06	0.0413	2.3421	0.0468
562515	533205	496437	374206	1	0.0088	0.7854	0.8933	0.0413	0.7417	0.0148
Totals, lbs/hr					**0.12**	**11.00**	**5.84**	**0.58**	**20.77**	**0.42**
Totals, lbs/day					**2.94**	**263.89**	**140.16**	**13.86**	**498.47**	**9.96**

EMISSIONS SUMMARY FOR POT FURNACES (cont.)

Max daily emissions

Current A/N	Previous A/N	C/O A/N	Previous A/N	Kettle No.	ROG R1 = R2	NOx R1 = R2	SOx R1 = R2	CO R1 = R2	PM10 R1	PM10 R2
562499	533208	496421	374211	4	0.21	18.85	1.44	0.99	17.8	0.36
562502	533206	496438	374208	2	0.21	18.85	21.44	0.99	17.8	0.36
562504	533207	496420	374210	3	0.21	18.85	1.44	0.99	17.8	0.36
562505	533209	496423	374212	5	0.21	18.85	1.44	0.99	9.56	0.19
562506	N/A	496426	374214	6	0.21	18.85	21.44	0.99	42.21	0.84
562507	N/A	496428	374215	7	0.21	18.85	21.44	0.99	42.21	0.84
562508	N/A	496429	374216	8	0.21	18.85	21.44	0.99	42.21	0.84
562509	N/A	496432	374217	9	0.21	18.85	21.44	0.99	42.21	0.84
562510	533210	496424	374199	A	0.21	18.85	1.44	0.99	40.12	0.8
562511	533211	496425	374200	B	0.21	18.85	1.44	0.99	40.12	0.8
562512	533213	496434	374201	E	0.21	18.85	1.44	0.99	56.21	1.12
562513	533214	496435	374202	F	0.21	18.85	1.44	0.99	56.21	1.12
562514	533215	496433	374204	G	0.21	18.85	1.44	0.99	56.21	1.12
562515	533205	496437	374206	1	0.21	18.85	21.44	0.99	17.8	0.36
Totals, lbs/day					**2.94**	**263.89**	**140.16**	**13.86**	**498.47**	**9.96**
Total, lbs/day 30 day Ave.					**3**	**264**	**140**	**14**	**498**	**10**

EMISSIONS SUMMARY FOR POT FURNACES (cont.)

30 day ave. Emissions, lbs/day (math rounding corrected for data entry)

Current A/N	Previous A/N	C/O A/N	Previous A/N	Kettle No.	ROG, R1 = R2	NOx, R1 = R2	SOx, R1 = R2	CO, R1 = R2	PM10 R2
562499	533208	496421	374211	4	0	19	2	1	0
562502	533206	496438	374208	2	0	19	22	1	0
562504	533207	496420	374210	3	0	19	1	1	0
562505	533209	496423	374212	5	1	19	1	1	0
562506	N/A	496426	374214	6	0	18	21	1	1
562507	N/A	496428	374215	7	0	19	22	1	1
562508	N/A	496429	374216	8	0	18	21	1	1
562509	N/A	496432	374217	9	1	19	22	1	1
562510	533210	496424	374199	A	0	19	1	1	1
562511	533211	496425	374200	B	0	19	2	1	1
562512	533213	496434	374201	E	0	19	1	1	1
562513	533214	496435	374202	F	0	19	2	1	1
562514	533215	496433	374204	G	1	19	1	1	1
562515	533205	496437	374206	1	0	19	21	1	1
Total, lbs/day 30 day Ave.					**3**	**264**	**140**	**14**	**10**

EMISSIONS SUMMARY FOR POT FURNACES (cont.)

Max annual emissions, lbs/yr

Current A/N	Previous A/N	C/O A/N	Previous A/N	Kettle No.	ROG R1 = R2	NOx R1 = R2	SOx R1 = R2	CO R1 = R2	PM10 R2
562499	533208	496421	374211	4	76.65	6879.95	525.6	361.35	129.94
562502	533206	496438	374208	2	76.65	6879.95	7825.6	361.35	129.94
562504	533207	496420	374210	3	76.65	6879.95	525.6	361.35	129.94
562505	533209	496423	374212	5	76.65	6879.95	525.6	361.35	69.79
562506	N/A	496426	374214	6	76.65	6879.95	7825.6	361.35	308.13
562507	N/A	496428	374215	7	76.65	6879.95	7825.6	361.35	308.13
562508	N/A	496429	374216	8	76.65	6879.95	7825.6	361.35	308.13
562509	N/A	496432	374217	9	76.65	6879.95	7825.6	361.35	308.13
562510	533210	496424	374199	A	76.65	6879.95	525.6	361.35	292.88
562511	533211	496425	374200	B	76.65	6879.95	525.6	361.35	292.88
562512	533213	496434	374201	E	76.65	6879.95	525.6	361.35	410.33
562513	533214	496435	374202	F	76.65	6879.95	525.6	361.35	410.33
562514	533215	496433	374204	G	76.65	6879.95	525.6	361.35	410.33
562515	533205	496437	374206	1	76.65	6879.95	7825.6	361.35	129.94
Totals lbs/yr					**1073.10**	**96319.24**	**51158.40**	**5058.90**	**3638.83**

6. EMISSIONS SUMMARY FOR REVERB, DRYER, AND CUPOLA FURNACES

A. Summary of final hourly uncontrolled emissions (R1, lbs/hr):

CONTAMINANT	CUPOLA	REVERB	DRYER	REVERB + DRYER
UNROG	4.9000	0.0446	0.0000	0.0446
ROG	26.4000	0.0467	0.0560	0.1030
NOx	1.0400	6.0000	0.9920	6.9900
SOx	24.3000	59.9000	0.1010	60.0000
CO	1250.0000	3.2800	0.2640	3.5400
PM10	32.1000	795.0000	70.4000	866.0000
TOG	31.3000	0.0913	0.0560	0.1470

B. Summary of final hourly controlled emissions (R2, lbs/hr):

CONTAMINANT	CUPOLA	REVERB	DRYER	REVERB + DRYER
UNROG	0.0798	0.0446	0.0000	0.0446
ROG	0.4300	0.0467	0.0560	0.1030
NOx	1.0400	6.0000	0.9920	6.9900
SOx	0.1950	0.4790	0.1010	0.5800
CO	11.7000	3.2800	0.2640	3.5400
PM10	0.4200	1.0300	0.0721	1.1100
TOG	0.5100	0.0913	0.0560	0.1470

C. Summary of uncontrolled emissions (R1, lbs/day)

CONTAMINANT	CUPOLA	REVERB	DRYER	REVERB + DRYER
UNROG	118.00	1.07	0.00	1.07
ROG	633.00	1.12	1.34	2.46
NOx	24.90	144.00	23.80	168.00
SOx	584.00	1440.00	2.41	1440.00
CO	29900.00	78.70	6.34	85.00
PM10	770.00	19100.00	1690.00	20800.00
TOG	751.00	2.19	1.34	3.54

D. Summary of controlled emissions (R2, LBS/DAY)

CONTAMINANT	CUPOLA	REVERB	DRYER	REVERB + DRYER
UNROG	1.92	1.07	0.00	1.07
ROG	10.30	1.12	1.34	2.46
NOx	24.90	144.00	23.80	168.00
SOx	4.67	11.50	2.41	13.90
CO	281.00	78.70	6.34	85.00
PM10	10.10	24.80	1.73	26.50
TOG	12.20	2.19	1.34	3.54

7. GREENHOUSE GAS EMISSIONS

A. Applicant's Data:

SMELTING PRODUCTION REPORT ***Date 8/25/2013***

Supervisor	Marshall
1st Shift 5am to 5pm 12hrs.	

Supervisor	Joe
2nd. Shift 5pm to 5am 12hrs.	

TOTALIZER	391661.6
OXYGEN	0
Charge	313.00
Reverb Bullion	230
Slag, Tons	83
Coke, Tons	3
Coke & Rubber	13.42
Lead/Slag	2.8
% Recovery	73%

24 hr. REVERB FURNACE REPORT

FIRST SHIFT	
START	0
FINISH	152.0
CHARGED	152
SLAG	38
Production	110

SECOND SHIFT	
START	152.0
FINISH	313.0
CHARGE	161
SLAG	45
Production	120

EXIDE TECHNOLOGIES Product Summary for 8/25/2013

ID	Product Name	Charges	Weight
2	REVERB SLAG	45	87365 lbs
7	DROSS	90	174665 lbs
1	COKE	45	15025 lbs
3	LIMEROCK	45	2120 lbs
8	CAST IRON	45	24300 lbs
		270	303475 lbs

151.7

B. Assumptions

Pot Coke Usage = 12.8 lbs/ton reverb feed

Exide pot coke = 439.2 tons reverb feed/day x 1 day/24 hrs x 12.8 lb/ton x 1/14 pots = 16.7 lbs/pot*hr = 0.00837 tons/pot*hr

For 8/25/2013, the process data log (CP2 report) for the cupola furnace indicated the following coke charge rates:

FOR CUPOLA FURNACE:
PWcoke = 15,025 lbs/22.62 hours = 664.2 lbs/hr
PWtotal = 151.7 tons/day.
PWcoke max = 664.2 lbs/hr x (178.32 tons/151.7 tons) x (1 ton/2000 lbs) = 0.39 tons/hr
(PW permit limit = 178.32 tons/day)

FOR REVERB FURNACE:
PWcoke = 16.42 tons/day
PWtotal = 313.6 tons/day.
PWcoke max = (439.2 tons/313.6 tons) x (16.42 tons/day) x (1/24) = 0.96 tons/hr
(PW permit limit = 439.2 tons/day)

(cont.)

7. GREENHOUSE GAS EMISSIONS
(cont.)

SUMMARY OF UNCONTROLLED AND CONTROLLED EMISSION FACTORS FOR THE ROTARY DRYER, CUPOLA AND REVERB FURNACES

(Pre-1994 Data)	UNCONTROLLED EMISSION FACTORS			CONTROLLED EMISSION FACTORS		
CONTAMINANT	CUPOLA R1, LBS/TON	REVERB R1, LBS/TON	DRYER R1, LBS/TON	CUPOLA R2, LBS/TON	REVERB R2, LBS/TON	DRYER R2, LBS/TON
UNROG	0.659	0.002	0.000	0.011	0.002	0.000
ROG	3.550	0.003	0.007	0.058	0.003	0.007
NOx	0.140	0.200	0.124	0.140	0.200	0.124
SOx	3.273	3.273	0.005	0.026	0.026	0.005
CO	167.655	0.179	0.033	1.576	0.179	0.033
PM10	4.319	43.465	3.848	0.057	0.057	0.004
TOG	4.209	0.005	0.007	0.069	0.005	0.007

Note1: ROG, NOx, and CO for dryer is natural gas factor from Form B1 in lbs/mmbtu.
Note2: NOx for reverb is lbs/mmbtu.

Scrubber CO2 factor:

Reverb SO2 (R1) max = 439.2 tons/day x 1 day/24 hrs x 3.273 lbs/ton = 59.9 lbs/hr

Cupola SO2 (R1) max = 178.32 tons/day x 1 day/24 hrs x 3.273 lbs/ton = 24.3 lbs/hr

GHG EMISSION CALCULATIONS

CURRENT A/N	PREVIOUS A/N	PREVIOUS P/O	DEVICE	PROCESS RATES	CO2 EF	UNITS	N2O EF	UNITS	CH4 EF	UNITS	CO2 LBS/HR	CH4 LBS/HR	N2O LBS/HR
559499	520501	G20771	**RD APCS RTO**										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
								FINAL	**559499**	**TOTALS**	**292.45**	**0.00**	**0.01**
562498	374180	G12582	**APCS 2 TO/RTO**										
			NAT'L GAS MMBTU/HR	10	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	1169.80	0.00	0.02
			SCRUBBER SO2, R1 LBS/HR	24.3	0.687	lb CO2/lb SO2		NA		NA	16.69	0.00	0.00
								BASELINE	**562498**	**TOTALS**	**1186.49**	**0.00**	**0.02**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

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PROCESSED BY MAP | CHECKED BY

CURRENT A/N	PREVIOUS A/N	PREVIOUS P/O	DEVICE	PROCESS RATES	CO2 EF	UNITS	N2O EF	UNITS	CH4 EF	UNITS	CO2 LBS/HR	CH4 LBS/HR	N2O LBS/HR
562498	374180	G12582	**APCS 2 TO/RTO**										
			NAT'L GAS MMBTU/HR	14.6	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	1707.91	0.00	0.03
			SCRUBBER SO2, R1 LBS/HR	24.3	0.687	lb CO2/lb SO2		NA		NA	16.69	0.00	0.00
								FINAL	**562498**	**TOTALS**	**1724.60**	**0.00**	**0.03**
								NET CHANGE	**562498**	**TOTALS**	**538.11**	**0.00**	**0.01**
562499	533208	G20776	POT 4										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562499	**TOTALS**	**349.14**	**0.00**	**0.02**
562501	554906	PC	CUPOLA										
			NAT'L GAS MMBTU/HR	4.0	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	467.92	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.39	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	2641.31	0.11	0.83
									562501	**TOTALS**	**3109.23**	**0.11**	**0.83**
562502	533206	G20774	POT 2										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562502	**TOTALS**	**349.14**	**0.00**	**0.02**
562503	374231	F36714	APCS 1										
			NAT'L GAS MMBTU/HR	0	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	0.00	0.00	0.00
			PETROLEUM COKE, TONS/HR	0	6773.00	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	0.00	0.00	0.00
			SCRUBBER SO2, R1 LBS/HR	59.9	0.687	lb CO2/lb SO2		NA		NA	41.15	0.00	0.00
									562503	**TOTALS**	**41.15**	**0.00**	**0.00**
562504	533207	G20775	POT 3										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562504	**TOTALS**	**349.14**	**0.00**	**0.02**
562505	533209	G20777	POT 5										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562505	**TOTALS**	**349.14**	**0.00**	**0.02**
562506	496426	G14028	POT 6										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562506	**TOTALS**	**349.14**	**0.00**	**0.02**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

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CURRENT A/N	PREVIOUS A/N	PREVIOUS P/O	DEVICE	PROCESS RATES	CO2 EF	UNITS	N2O EF	UNITS	CH4 EF	UNITS	CO2 LBS/HR	CH4 LBS/HR	N2O LBS/HR
562507	496428	G14029	POT 7										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562507	**TOTALS**	**349.14**	**0.00**	**0.02**
562508	496429	G14030	POT 8										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562508	**TOTALS**	**349.14**	**0.00**	**0.02**
562509	496432	G14031	POT 9										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562509	**TOTALS**	**349.14**	**0.00**	**0.02**
562510	533210	G20778	POT A										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562510	**TOTALS**	**349.14**	**0.00**	**0.02**
562511	533211	G20779	POT B										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562511	**TOTALS**	**349.14**	**0.00**	**0.02**
562512	533213	G20780	POT E										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562512	**TOTALS**	**349.14**	**0.00**	**0.02**
562513	533214	G20781	POT F										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562513	**TOTALS**	**349.14**	**0.00**	**0.02**
562514	533215	G20782	POT G										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562514	**TOTALS**	**349.14**	**0.00**	**0.02**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE
APPLICATION PROCESSING AND CALCULATIONS

APPL. NO	DATE
see pp. 1-25	10-15-2014
PROCESSED BY	**CHECKED BY**
MAP	

CURRENT A/N	PREVIOUS A/N	PREVIOUS P/O	DEVICE	PROCESS RATES	CO2 EF	UNITS	N2O EF	UNITS	CH4 EF	UNITS	CO2 LBS/HR	CH4 LBS/HR	N2O LBS/HR
562515	533205	G20773	POT 1										
			NAT'L GAS MMBTU/HR	2.5	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	292.45	0.00	0.01
			PETROLEUM COKE, TONS/HR	0.00837	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	56.69	0.00	0.02
									562515	**TOTALS**	**349.14**	**0.00**	**0.02**
564346	559500	PC	Reverb										
			NAT'L GAS MMBTU/HR	38.0	116.98	lbs/MM Btu	0.0002	lbs/MMBtu	0.0022	lbs/MMBtu	4445.24	0.01	0.08
			PETROLEUM COKE, TONS/HR	0.96000	6772.59	lbs/ton	0.2780	lbs/ton	2.1160	lbs/ton	6501.69	0.27	2.03
									564346	**TOTALS**	**10946.93**	**0.27**	**2.11**

GHG EMISSION SUMMARY			MAX PTE						MAX PTE		
CURRENT A/N	DEVICE	STATUS	CO2 LBS/HR	CH4 LBS/HR	N2O LBS/HR	CO2 CO_2e Factor	CH4 CO_2e Factor	N2O CO_2e Factor	CO2 LBS/HR	CH4 CO_2e LBS/HR	N2O CO_2e LBS/HR
559499	RD APCS RTO	FINAL	**292.45**	**0.0005**	**0.0055**	1	25	298	**292.45**	**0.01**	**1.64**
562498	APCS 2 TO/RTO	BASELINE	1,186.49	0.0020	0.0220	1	25	298	1,186.49	0.05	6.56
562498	APCS 2 TO/RTO	FINAL	1,724.60	0.0029	0.0321	1	25	298	1,724.60	0.07	9.57
562498	APCS 2 TO/RTO	**NET CHANGE**	**538.11**	**0.0009**	**0.0101**	1	25	298	**538.11**	**0.02**	**3.02**
562499	POT 4	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562501	CUPOLA	FINAL	3,109.23	0.1092	0.8340	1	25	298	3,109.23	2.73	248.54
562502	POT 2	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562503	APCS 1	FINAL	41.15	0.0000	0.0000	1	25	298	41.15	0.00	0.00
562504	POT 3	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562505	POT 5	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562506	POT 6	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562507	POT 7	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562508	POT 8	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562509	POT 9	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562510	POT A	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562511	POT B	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562512	POT E	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562513	POT F	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562514	POT G	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
562515	POT 1	FINAL	349.14	0.0028	0.0232	1	25	298	349.14	0.07	6.92
564346	Reverb	FINAL	10946.93	0.2745	2.1150	1	25	298	10,946.93	6.86	630.26
TOTALS OF FINAL EMISSIONS, LBS/HR:			**21002.27**	**0.4267**	**3.3116**				**21,002.27**	**10.67**	**986.85**
TOTALS OF FINAL EMISSIONS, TONS/YR:			**91989.95**	**1.8689**	**14.5047**				**91,989.95**	**46.72**	**4,322.40**

TOTAL PERMITTED CO_2e, TONS/YR (MAX PTE):	**96,359.07**
TOTAL PROJECT CO_2e NET CHANCE, TONS/YR (MAX PTE):	**3,658.39**
TOTAL PROJECT CO_2e NET CHANCE, METRIC TONS/YR (MAX PTE):	**3,318.82**

EVALUATION

CEQA

In accordance with the California Environmental Quality Act (CEQA), the South Coast Air Quality Management District (SCAQMD) is the Lead Agency and has prepared a Draft Supplemental Negative Declaration (ND) for the project identified in these permit applications, which tiers off the Final Environmental Assessment (EA) for Proposed Amended Rule (PAR) 1420.1 - Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities (January 2014, SCAQMD No. 131010JK, State Clearinghouse No. 2013101035), which was adopted by the SCAQMD Governing Board on January 10, 2014. The Final EA for Rule 1420.1 evaluated amendments to Rule 1420.1 to ensure attainment of the National Ambient Air Quality Standards (NAAQS) for lead and reduce arsenic, benzene, and 1,3-butadiene emissions.

The Final Environmental Assessment (EA) for Proposed Amended Rule (PAR) 1420.1 - Emission Standards for Lead and Other Toxic Air Contaminants from Large Lead-Acid Battery Recycling Facilities (January 2014, SCAQMD No. 131010JK, State Clearinghouse No. 2013101035) was adopted by the SCAQMD Governing Board on January 10, 2014. The Final EA for PAR 1420.1 evaluated amendments to Rule 1420.1 to ensure attainment of the National Ambient Air Quality Standards (NAAQS) for lead and reduce arsenic, benzene, and 1,3-butadiene emissions. **No significant impacts were identified to any environmental topic in the Final EA.** A Supplemental ND has been prepared because new information about control equipment, which was not known and could not have been known at the time the Final EA for PAR 1420.1 was prepared as identified in air quality permit applications from Exide Technologies. **Based on the analysis of the new information in the Supplemental ND, there would be no change to the significance determinations made in the Final EA for PAR 1420.1.** The proposed project site is not on any of the list enumerated under section 65962.5 of the Government Code (http://www.calepa.ca.gov/sitecleanup/corteselist/SectionA.htm and http://www.calepa.ca.gov/sitecleanup/corteselist/default.htm accessed on July 18, 2014).

A thirty (30) day public notice is required for CEQA purposes. The purpose of this notice is to solicit comments on the environmental analysis contained in the Supplemental ND.

Facility wide permit condition no. F67.1 will ensure compliance with the requirements in the SCAQMD approved Mitigated Negative Declaration for this facility.

RULE 212

The only emissions increases are the Reg XIII exempt emissions from the new RTO's. There are no emission increases large enough to trigger Rule 212 public notification requirements. There are no increases in health risk resulting from the proposed alterations and change of conditions.

Therefore a Rule 212 public notice is not required in this case.

RULE 401

Operation of the subject equipment is not expected to cause visible emissions in excess of the limits in this rule. Therefore, compliance is expected.

RULE 402

Since the process equipment is vented to baghouses and scrubbers at this facility, nuisance complaints due to dust and odors is not expected during normal operation of the subject equipment at this facility.

RULE 404

Previous evaluations have shown compliance with the particulate concentration limits in this rule.

RULE 405

Previous evaluations have shown compliance with the particulate emission limits in this rule.

RULE 407

The cupola furnace is vented to an afterburner and the CO emissions are monitored by a CEMS. Therefore, compliance with the 2000 PPMv 15 minute concentration limit is expected.

The SO_2 emissions from the reverberatory furnace and cupola furnace are vented to scrubbers. Therefore, compliance with the 500 PPMv SO_2 15 minute concentration limit is expected. However, this equipment is exempt from the Rule 407 SO_2 concentration limit because this facility is a RECLAIM facility.

RULE 409

Since the reverb furnace and the rotary dryer are fired on natural gas, and since all process furnaces at this facility are vented to baghouses, compliance with the combustion particulate concentration limit in this rule is expected.

REGULATION XIII

There are no emission increases resulting from these applications. Therefore, emission offsets are not required.

The afterburner temperature limits will ensure compliance with Beast Available Control Technology (BACT) requirements for ROG control.

RULE 1401

There are no emission increases resulting from this set of applications, therefore, no Health Risk Assessment for Rule 1401 purposes is required.

RULE 1402

The previous emissions from this facility have resulted in an existing cancer risk greater than 25 in a million and a cancer burden greater than 0.5. These risk levels trigger requirements in Rule 1402 for a Risk Reduction Plan (RRP). The required risk reduction must be completed no later than 3 years from the initial date of submittal of the RRP. Additional source tests and the proposed equipment modifications are required in conjunction with the RRP and are expected to bring this facility into compliance with Rule 1402 requirements.

RULE 1407

All APC systems venting emissions from lead metal melting operations at this facility have complied with the 98% control efficiency limit for lead emissions in Rule 1420. Therefore, this equipment is exempt from the performance standard in Rule 1407 per the exemption in subpart (i)(6) of this rule.

Permit conditions will ensure compliance with the instrumentation and housekeeping requirements in this rule.

However, Exide operates some baghouses which exceed the Rule 1407 temperature limit of 360 ^{o}F in (d)(3) of this rule. Therefore, per Rule 1407, the applicant is required to demonstrate that arsenic and cadmium emissions are controlled in these baghouses by at least 99 percent. To demonstrate this, the applicant performed source tests in 1997 for arsenic and cadmium control efficiency in the cupola and reverberatory furnace baghouses. These are the main baghouses at this facility venting metal melting emissions which fall into this high temperature category. The dryer baghouse has a maximum temperature limit of 400 deg F, but operates at an average temperature of 308 deg F (the range is from 250 to 350 deg F, typically.)

In summary, the source tests showed the following results:

Device	Description	Inlet Point Tested	Test Point Inlet Ave Temp, ^{o}F	Baghouse Inlet Ave. Temp, ^{o}F	Compound	Control Eff. %
C40, C41	Reverb furnace baghouses	inlet to balloon flue duct	540	453	Arsenic Cadmium	99.66 99.96
C45	Cupola furnace baghouse	A-pipe inlet to baghouse	789	395	Arsenic Cadmium	99.45 99.82

Baghouses with inlet temperatures greater than 360 ^{o}F (current permit limits are 500 ^{o}F for cupola and reverb furnace baghouses) are expected to comply with a 99% control efficiency requirement in Rule 1407 for arsenic and cadmium emissions based on source test data performed on the cupola and reverb furnace baghouses. Based on all arsenic, cadmium, and/or lead control efficiency tests performed so far, Exide has demonstrated compliance with arsenic and cadmium efficiency requirements in Rule 1407.

Since the baghouse and scrubber systems are being enhanced and redesigned, new source tests are required to demonstrate that the new systems can operate in compliance with these same requirements. Permit conditions will ensure compliance with the source test requirements.

RULE 1420

Previous source tests have demonstrated that all APCS equipment at this facility has at least 98% control efficiency on lead emissions. The addition of the HEPA filters will further reduce lead emissions.

RULE 1420.1

Exide has had previous periodic violations of the 0.15 ug/m^3 lead concentration standard (30 day average) in this rule, and several Notice of Violations have been issued to Exide by the SCAQMD as a result of these violations. Maintenance activities were usually suspected as the cause. Mitigation measures have been put into practice subsequent to the exceedances. There are no current ongoing violations and this facility is currently in compliance with presently applicable requirements in this rule as of the date of this report.

RULE 2011

In RECLAIM, concentration limits are allowed for large sources. This rule does not contain a category for "large" SOx sources. Therefore, the existing concentration limit for SOx for the reverberatory and cupola furnaces in previous versions of the RECLAIM permit needs to be replaced with either a designation for SOx process units or SOx Major Sources.

It is impractical to classify a lead smelting furnace as a SOx process unit due to the requirement for a fixed emission factor in RECLAIM, and due to the fact that the SOx emission profiles from lead smelting furnaces are highly variable in nature. Since Exide already has a CO and NOx CEMS on the common scrubber stack, the most practical and reliable solution to this problem is to change the two smelting furnace permit unit classifications to Major SOx sources. For this reason, a SOx CEMS will be required by new permit conditions.

REGULATION 30, TITLE V

Since the proposed project will result in the addition of a new device subject to lead NESHAP requirements, this revision is considered to be a Title V significant permit revision. A 30 day public notice and a 45 day EPA notice is required.

40CFR60 Subpart L (Standards of Performance For Secondary Lead Smelters)

This performance standard limits the particulate matter concentration from the reverberatory furnace to 50 mg/dscm (0.022 grains/dscf), visible emissions from the reverberatory furnace to no more than 20 percent opacity, and visible emissions from pot furnaces to no more than 10 percent opacity.

Previous source tests on this equipment have demonstrated compliance with the reverberatory furnace particulate concentration limit.

The subject equipment is not expected to release visible emissions into the open atmosphere because it is installed in a total enclosure building maintained under negative pressure (in compliance with 40CFR63 Subpart X), the building is vented to baghouses and dust collectors, and the process gases from the furnaces are vented to air pollution control equipment equipped with baghouses and venturi scrubbers.

Therefore, compliance with the requirements of this rule is expected.

40CFR63 Subpart X (LEAD NESHAP)

The total enclosure buildings at this facility are equipped with negative pressure differential gauges to ensure compliance with the total enclosure negative pressure requirements in this rule. The APC systems have been previously tested and found to be in compliance with the lead concentration limits in this rule. Therefore, compliance with the lead NESHAP has been demonstrated.

CAM

CAM requirements pertain to the requirements of 40 CFR 64, Continuous Assurance Monitoring. The CAM rule contains specific federal monitoring requirements for process equipment which is vented by air pollution control systems where the facilities which are major sources, as defined in Title V (Reg 30). Permit conditions currently ensure compliance with CAM requirements. The following APC systems in operation at Exide are subject to CAM requirements. These APC systems have the following conditions associated with them:

APCS	Device ID	REQUIRED CONDITIONS
APCS #1 Reverb furnace baghouse	C40, C41	C6.3, D12.5, D12.6, D12.11, D381.1, E102.1, E193.1, H116.1, H116.2, H116.4, K67.2

APCS	Device ID	REQUIRED CONDITIONS
APCS #2 Blast furnace baghouse	C45	C6.3, D12.5, D12.6, D12.11, D381.1, E102.1, E193.1, H116.1, H116.2, H116.4, K67.2
APCS #5 Hard lead (pot furnace) baghouse	C46	D12.6, D12.7, D12.10, D12.11, D381.1, E102.1, H116.1, H116.2, H116.4, K67.3, E193.1
APCS #6 Soft lead (pot furnace) baghouse	C47	D12.6, D12.7, D12.10, D12.11, D381.1, E102.1, H116.1, H116.2, H116.4, K67.3, E193.1
Rotary dryer baghouse	C144	C6.2, D12.5, D12.6, D381.1, E102.1, E193.1, H116.1, H116.2, H116.4, K67.2
Blast/Reverb Furnace Common Stack Outlet	S139	A63.1, D82.1, D323.1, K67.9

There are seven new control devices being added to this facility as a part of this project. These devices are the rotary dryer RTO (C199), the MAC baghouses' secondary HEPA filters (C200 and C201), the blast furnace venturi scrubber (C202), the blast furnace tray scrubber (C203), the cupola thimble prefilter dust collector (C204), and the cupola thimble RTO (C205). This project is expected to result in emission reductions of all air contaminants.

Based on currently available data, the sources controlled by these devices are not expected to exceed any new Major Source Threshold (MST) triggering the requirement for a new CAM Plan. A screening source test performed on the rotary dryer baghouse outlet in 2010 indicated that the uncontrolled emission rate for VOC's was 1.72 lbs/hr, equal to 7.5 tons/year. This is less than the MST of 10 tons/year for VOC. Therefore, new CAM applicability for the rotary dryer is not triggered based on current available data. New source tests will verify this information.

DISCUSSION

There are no emissions increases expected with regards to the subject permit applications, except for the new natural gas emissions from the two RTO's which are exempt under Reg XIII.

A comprehensive new set of source tests is required following the rebuild and restart of the upgraded Exide facility. Permit conditions will specify the source tests which are required.

Permit conditions and source tests will ensure compliance with all applicable Rules and Regulations.

RECOMMENDATION

Release for 30 day public notice and 45 day EPA review. Upon successful completion of notice periods and public hearings (if required), issue Permit to Construct subject to the following Facility Permit modifications and change of conditions in Section H:

APPLICATION NO. 562500

Approve Title V Facility Permit modification

APPLICATION NOS. 558214, 559498, 559499, 562498, 562499, 562501, 562502, 562503, 562504, 562505, 562506, 562507, 562508, 562509, 562510, 562511, 562512, 562513, 562514, 562515, 564346, 564348

Add new devices, modify device descriptions, add device connections, and add new permit conditions as indicated in the tables under EQUIPMENT DESCRIPTION above for the described Processes and Systems, and transfer to Section H all existing conditions:

*(Note: additions and changes are shaded and indicated in **bold type**)*

FACILITY WIDE CONDITIONS:

NEW
F67.1 THE FACILITY OPERATOR SHALL COMPLY WITH ALL TERMS AND CONDITIONS SPECIFIED BELOW.

Exide shall comply with all applicable mitigation measures stipulated in the Mitigation Monitoring and Reporting Plan which is part of the SCAQMD approved Mitigated Negative Declaration for this facility.

[CA PRC CEQA, 11-23-1970]

NEW
F67.2 THE FACILITY OPERATOR SHALL COMPLY WITH ALL TERMS AND CONDITIONS SPECIFIED BELOW.

Exide shall comply with all terms and conditions of the Final Revised Rule 1402 Risk Reduction Plan, upon approval, the Order for Abatement of Hearing Board Case No. 3151-29, and all terms, conditions and mitigation measures identified in the Revised Dust Mitigation Plan which is approved under the Order for Abatement issued under Hearing Board Case No. 3151-32.

[RULE 1402, 3-4-2005; RULE 1420.1, 3-7-2014]

DEVICE CONDITIONS:

NEW
B59.3 The operator shall not use the following material(s) in this device :

Arsenic metal and/or chemical additives containing arsenic compounds.

[RULE 1401, RULE 1402, RULE 1407, RULE 1420.1]

[Devices subject to this condition : D11, D13, D15, D17, D19, D24, D26, D28, D30, D32, D34, D36]

MODIFIED

C8.1 The operator shall use this equipment in such a manner that the temperature being monitored, as indicated below, is not less than 1400 Deg F.

A) For the purpose of this condition, the temperature gauge shall be located at a distance not less than 7'-10" (7 feet and 10 inches) downstream of the burner location in the afterburner combustion chamber.

B) For the purpose of this condition, the temperature gauge may be either a fixed installation, a mechanically retractable installation, and/or a manually retractable installation.

C) The operator shall also install and maintain a device to continuously record the parameter being measured.

D) The measuring device or gauge shall be accurate to within plus or minus 42 degrees Fahrenheit. It shall be calibrated once every 12 months.

E) During operation of the cupola furnace (including startup and shutdown), the temperature readings of the temperature gauge described in this condition shall be recorded continuously.

F) During cold startup of the cupola furnace, the temperature gauge shall indicate at least 1400 Degrees Fahrenheit prior to the initiation of carbon coke and/or furnace feed material charging in the cupola furnace.

G) During shutdown of the cupola furnace, the temperature gauge shall indicate at least 1400 Degrees Fahrenheit until all combustion activity in the cupola furnace has ceased. For the purpose of this condition, combustion activity is defined as burning or smoldering of carbon coke and/or any other organic material in the cupola furnace as evidenced by the presence of incandescent light and visible emissions.

H) This condition applies to requirements for afterburner operation. In addition to these requirements, the other parts of the air pollution control system serving the cupola furnace, including but not limited to, baghouses and scrubbers shall remain in full operation as long as there is the presence of any molten lead or molten slag inside of the cupola furnace.

I) During periods of breakdown or malfunction, the operator shall comply with the breakdown and notification requirements in Rule 430. In addition, when a breakdown or malfunction of this equipment results in an event which results in non-compliance with the temperature limit in this condition, the operator shall file a Title V deviation report in accordance with the provisions of Rule 3004.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1401, 12-7-1990; RULE 407, 4-2-1982]
[Devices subject to this condition : C44]

DELETED
C8.8

(Replaced by enhanced condition C8.1)

NEW
C8.9 The operator shall use this equipment in such a manner that the temperature being monitored, as indicated below, is not less than 1500 Deg F.

To comply with this condition, the operator shall install and maintain a(n) temperature gauge to accurately indicate the temperature in the regenerative thermal oxidizer (RTO), in degrees Fahrenheit.

Each temperature measuring device shall be equipped with a chart recorder to continuously monitor and record the temperature in the RTO.

Each temperature measuring device shall be accurate to within plus or minus 45 degrees Fahrenheit. Each device shall be calibrated once every 12 months.

[RULE 1303(a)(1)-BACT, RULE 1401, RULE 407]

[Devices subject to this condition: C199, C205]

NEW
C8.10 The operator shall use this equipment in such a manner that the flow rate being monitored, as indicated below, is not less than 800 gpm.

To comply with this condition, the operator shall install and maintain a(n) flow meter to accurately indicate the flow rate in the liquid supply lines to the venturi scrubber and the tray-type scrubber, in gallons per minute.

[RULE 1303(a)(1)-BACT]

[Devices subject to this condition : C202]

NEW
C8.11 The operator shall use this equipment in such a manner that the flow rate being monitored, as indicated below, is not less than 650 gpm.

To comply with this condition, the operator shall install and maintain a(n) flow meter to accurately indicate the flow rate in the liquid supply lines to the tray-type scrubber, in gallons per minute.

[RULE 1303(a)(1)-BACT]

[Devices subject to this condition : C203]

NEW
C8.12 The operator shall use this equipment in such a manner that the pH being monitored, as indicated below, is not less than 6.5 of the pH scale.

To comply with this condition, the operator shall install and maintain a(n) pH meter to accurately indicate the pH in the recirculation tank serving the scrubber.

[RULE 1303(a)(1)-BACT]

[Devices subject to this condition : C202, C203]

NEW
C8.13 The operator shall use this equipment in such a manner that the differential pressure being monitored, as indicated below, is not less than 35 inches water column.

To comply with this condition, the operator shall install and maintain a(n) differential pressure gauge to accurately indicate the differential pressure across the venturi scrubber and the tray-type scrubber, in total inches water column.

[RULE 1303(a)(1)-BACT, RULE 1401]

[Devices subject to this condition : C202, C203]

NEW

D12.20 The operator shall install and maintain a(n) differential pressure gauge to accurately indicate the differential pressure in the furnace, in inches water column.

A. The pressure differential gauge shall be installed, operated, and maintained pursuant to the requirements in condition E448.13.

B. The furnace shall be operated such that static differential furnace pressure, in inches of water column averaged over 30 minutes, is maintained at a value -0.02 or more negative, except as specified in condition E448.13.

[RULE 1420.1]

[Devices subject to this condition : D119 D128]

MODIFIED

D82.1 The operator shall install and maintain a CEMS to measure the following parameters:

NOx concentration in PPMv

SOx concentration in PPMv

CO concentration in ppmv

The CEMS will convert the actual NOx**, SOx** and CO concentrations to mass emission rates (lbs/hr) and record the hourly emission rates on a continuous basis.

The CEMS shall be installed and maintained to totalize the exhaust gas flow rate, in dry standard cubic feet.

The SOx emissions in the common cupola and reverb scrubber stack outlet shall be quantified based on a concentration limit for SOx and total exhaust gas flow rate measured by the NOx CEMS**, prior to the installation of the SOx CEMS.**

The SOx concentration limit shall be equal to **1.80** PPMv at actual stack conditions**, prior to the installation of the SOx CEMS**. Concentrations and exhaust gas flow rates **measured by the CEMS** shall be based on dry, standard conditions.

Exide shall submit an application and protocol to certify the SOx CEMS to measure SOx emissions, not later than 60 days following the issue date of this permit.

The concentration limits for the reverberatory and cupola furnaces shall not be used for emission reporting purposes subsequent to the certification of the SOx CEMS.

The source test report for the SOx CEMS certification shall be submitted to the SCAQMD not later than 180 days of initial startup of the new venturi scrubber, tray scrubber, and cupola thimble hood enclosure RTO of device nos. C202, C203 and C205, respectively.

Written results shall be submitted to the SCAQMD within 60 days after testing of the SOx CEMS is complete.

[RULE 2011; RULE 2012**; RULE 407**]

[Devices subject to this condition : S139]

DELETED
Condition D182.6

[RULE 1402, 3-4-2005]
[Devices subject to this condition : D128]

NEW
D182.11 The operator shall test this equipment in accordance with the following specifications:

A. This condition defines specific groups of compounds which shall be tested as stated in D182.x conditions, where applicable, contained in this Facility Permit. (For the purposes of this condition, x is the specific condition number.) Refer to each D182.x condition for specific requirements, where applicable.

B. The tests shall be performed to measure the emissions to the atmosphere at the air pollution control system (APCS) stack outlet of the following compounds while the process equipment is operated at maximum capacity and maximum potential to emit.

C. Tests shall include, but may not be limited to, a test for the following compounds in each air pollutant group:

Group 1: Rule 1407 and 1420.1 Toxic Metals:

Total Arsenic
Total Cadmium
Total Lead

Group 2: Additional Toxic Metals

Total Beryllium
Hexavalent Chromium
Total Cobalt
Total Copper
Total Manganese
Total Mercury
Total Nickel
Total Selenium
Total Vanadium

Group 3: Rule 1420.1 Toxic Organic Compounds

Benzene
1,3-Butadiene

Group 4: Additional Toxic Organic Compounds

Carbon Tetrachloride
Chlorobenzene
Chloroform
1,2-Dibromoethane
1,4-Dichlorobenzene
1,2-Dichloroethane
1,1-Dichloroethene
1,4-Dioxane
Ethylbenzene
Methylene Chloride
Styrene
1,1,2,2,-Tetrachloroethane
Tetrachloroethene
Toluene
1,1,2-Trichloroethane
Trichloroethene
Vinyl Chloride
o-Xylene
m,p-Xylenes
Polychlorinated Dibenzo-p-dioxins (PCDD's)
Polychlorinated Dibenzofurans (PCDF's)
Polychlorinated Biphenyls (PCB's)
Polynuclear Aromatic Hydrocarbons (PAH's)
Hydrogen Sulfide
Formaldehyde

Acetaldehyde

Group 5: RECLAIM Emissions

Oxides of Nitrogen
Oxides of Sulfur

Group 6: Criteria Emissions

Total non-methane hydrocarbons
Carbon Monoxide
Particulate Matter Less Than 10 microns (PM10)

[RULE 404, RULE 405, RULE 407, RULE 409, RULE 1401, RULE 1402, RULE 1407, RULE 1420, RULE 1420.1, RULE 2011, RULE 2012, RULE 1303(a)(1)-BACT, RULE 1303(b)(2)-Offset, 40CFR 60 Subpart L, 40CFR 63, Subpart X]

[Devices subject to this condition: S139, S140, S141, S142, S145, S158, S166, S187, S189]

NEW
D182.12 The operator shall test this equipment in accordance with the following specifications:

A) The test(s) shall be conducted and a written report submitted to the SCAQMD not later than 180 days of initial startup of the regenerative thermal oxidizers (RTO's).

B) Triplicate test(s) shall be performed to measure the emissions to the atmosphere of the compounds listed in air pollutant group numbers 1, 3, 5, and 6 defined in condition D182.11. In addition, the test(s) shall measure the inlet emission rates as required in condition D182.13, to determine if the RTO is performing as expected to meet Rule 1402 and BACT requirements.

C) Tests for NOx and SOx shall be performed pursuant to the protocol requirements in Rules 2012 and 2011, respectively.

D) A source testing plan shall be submitted to the SCAQMD for approval at least 60 days prior to testing. All tests shall be conducted in accordance with the plan as approved.

E) Written notice shall be provided to the SCAQMD at least 10 days prior to testing so that an SCAQMD observer may be present during the tests.

F) The source tests shall be performed by a qualified testing laboratory and conducted in accordance with SCAQMD approved procedures.

G) Sampling facilities shall comply with the SCAQMD "Guidelines For The Construction Of Sampling And Testing Facilities", pursuant to Rule 217.

H) Written results shall be submitted to the SCAQMD within 60 days after testing and shall include the items listed in condition E448.11.

[RULE 404, RULE 405, RULE 407, RULE 409, RULE 1401, RULE 1402, RULE 1407, RULE 1420, RULE 1420.1, RULE 2011, RULE 2012, RULE 1303(a)(1)-BACT, RULE 1303(b)(2)-Offset, 40CFR 63, Subpart X]

[Devices subject to this condition: S145, C199, C205]

NEW

D182.13 The operator shall test this equipment in accordance with the following specifications

A) Triplicate tests shall be performed to measure the emissions at the regenerative thermal oxidizer (RTO) inlets for RTO's installed on the outlet of the rotary dryer HEPA filter and the RTO venting the cupola furnace thimble hood enclosure.

B) The respective tests shall be performed while the rotary dryer furnace and reverberatory furnace are operated at maximum capacity in the case of the rotary dryer RTO and while the cupola furnace is operating at maximum capacity in the case of the cupola furnace thimble enclosure RTO.

C) The tests at the rotary dryer RTO inlet shall be performed simultaneously with the tests for these compounds at the rotary dryer RTO outlet.

D) The tests at the cupola thimble hood enclosure RTO inlet shall be performed simultaneously with the tests for these compounds at the common scrubber stack outlet serving the reverberatory and cupola furnace air pollution control systems.

E) The tests shall include, but may not be limited to, a test for:

1,3-Butadiene
Benzene
Total and non-methane hydrocarbons
Carbon Monoxide

[RULE 1401, 3-4-2005; RULE 1402, 3-4-2005]

[Devices subject to this condition: C199, C205]

NEW
D182.14 The operator shall test this equipment in accordance with the following specifications:

A) The test(s) shall be conducted and a written report submitted to the SCAQMD not later than 180 days of initial startup of the new venturi and tray scrubbers.

B) The source tests shall be performed ONLY after the smoke tests demonstrate complete smoke capture as stated in condition E448.12. Source tests performed without the required initial smoke tests shall be considered non-representative and shall be repeated.

C) Triplicate test(s) shall be performed to measure the emissions to the atmosphere of the compounds listed in air pollutant group numbers 1, 2, 3, 4, 5 and 6 defined in condition D182.11. The tests shall be performed at the outlets of the scrubbers of devices C43 and C203, each.

D) Test(s) shall also be performed to measure the inlet emission rates as required in condition D182.15, to determine if the air pollution control systems are performing as expected to meet Rule 1402, Rule 1407, RULE 1420 and BACT requirements.

E) Pursuant to the Risk Reduction Plan and Rule 1402, Exide is required to conduct source tests upon completion of the upgrades. If the above-referenced source tests are conducted at less than 85 percent of its current permitted charge rate limits for each furnace, within 30 days of approval of those source test results by the District, Exide shall submit a permit application to the District requesting a commensurate reduction in its permitted charge rate limits for the applicable furnaces to charge rates such that the source tested charge rates are equivalent to 85 percent of the proposed permitted charge rates.

F) For the purpose of condition E, the daily process weight limit for each furnace shall be calculated by multiplying the average process weight demonstrated during each set of the three test runs for each furnace, in pounds per hour each, by a factor of 24. The calculated average process weight shall be the average of the process weights in the three test runs. The daily limits calculated this way, in pounds per day, for each furnace, shall be divided by a factor of 2,000 and the limit set in the permit in units of tons per day, respectively, for each furnace.

G) Exide shall ensure that the instantaneous process weights for each furnace are recorded during each test run and the total amounts of process weight charged to each furnace is integrated for the duration of each and every test run.

H) If separate sets of triplicate test runs are required for the quantification of metals, and of any other compounds, the average throughput limits calculated pursuant to this condition shall be based on the test runs where arsenic emissions are measured.

I) Exide shall plan the availability of feed materials in advance prior to each set of source tests in order to ensure compliance with the requirements in this condition.

J) Elemental arsenic additions shall be performed in the pot furnaces vented by the baghouse of device C41 during at least one of the source test runs performed to quantify arsenic emissions.

K) Exide shall prepare and submit a detailed log of the elemental arsenic additions made to each of the lead refining furnaces vented to cupola baghouse 2 (Device C41) during each test run. This special log shall be included as part of the source test report submitted to the SCAQMD.

L) The special log of subpart K of this condition shall record the following information:

Calendar date
Test run number
Test run start and stop time
Pot furnace identification(s)
Chronological time
Pounds of elemental arsenic charged to each pot furnace

M) The source tests for metals shall be performed in accordance with ARB Method 436 - Determination of Multiple Metal Emissions from Stationary Sources.

N) Tests for NOx and SOx shall be performed pursuant to the protocol requirements in Rules 2012 and 2011, respectively.

O) Written notice shall be provided to the SCAQMD at least 7 days prior to testing so that an SCAQMD observer may be present during the tests.

P) Sampling facilities shall comply with the attached SCAQMD "guidelines for the construction of sampling and testing facilities", pursuant to rule 217.

Q) Exide shall ensure that there are enough personnel available during each test run to collect and report all of the required information as noted in conditions A through

N. Written results shall be submitted to the SCAQMD within 60 days after testing is completed.

R) A source testing plan shall be submitted to the SCAQMD for approval at least 60 days prior to testing. All tests shall be conducted in accordance with the plan as approved.

S) Written notice shall be provided to the SCAQMD at least 10 days prior to testing so that an SCAQMD observer may be present during the tests.

T) The source tests shall be performed by a qualified testing laboratory and conducted in accordance with SCAQMD approved procedures.

U) Sampling facilities shall comply with the SCAQMD "Guidelines For The Construction Of Sampling And Testing Facilities", pursuant to Rule 217.

V) Written results shall be submitted to the SCAQMD within 60 days after testing and shall include the items listed in condition E448.11.

[RULE 404, RULE 405, RULE 407, RULE 409, RULE 1401, RULE 1402, RULE 1407, RULE 1420, RULE 1420.1, RULE 2011, RULE 2012, RULE 1303(a)(1)-BACT, RULE 1303(b)(2)-Offset, 40CFR 63, Subpart X]

[Devices subject to this condition: C40, C41, C42, C43, C45, D128, D132, D133, S139]

NEW
D182.15 The operator shall test this equipment in accordance with the following specifications

A. Triplicate tests shall be performed to measure the emissions listed in this condition at the inlets of cupola furnace baghouse no. 1 (device C45), cupola furnace baghouse no. 2 (device C41), and the reverberatory furnace baghouse (device C40).

B. The tests on the inlets of cupola baghouse nos. 1 and 2 (devices C41 and C45) shall be performed simultaneously with the tests for these compounds at the new tray scrubber outlet of device C203, prior to the junction with the common stack outlet of device S139.

C. The tests on the inlet of the reverberatory furnace baghouse (device C40) shall be performed simultaneously with the tests for these compounds at the existing tray scrubber outlet of device C43, prior to the junction with the common stack outlet of device S139.

D. Tests shall include, but may not be limited to, a test for:

Total arsenic
Total cadmium
Total lead

E. The tests shall demonstrate a minimum control efficiency of 99 percent, each, on both total arsenic and total cadmium emissions, pursuant to Rule 1407(d)(3).

F. At least three test runs for oxides of sulfur (SOx) shall be performed at the inlets to the two venturi scrubbers of devices C42 and C202.

G. The inlet tests for SOx on the inlet of device C42 shall be performed simultaneously with tests for SOx at the outlet of the tray-type scrubber of device C43.

H. The inlet tests for SOx on the inlet of device C202 shall be performed simultaneously with tests for SOx at the outlet of the tray-type scrubber of device C203.

I. The total number of test runs for SOx shall be determined pursuant to the source test protocol requirements in Rule 2011.

[RULE 1401, RULE 1402, RULE 1407, RULE 1420, RULE 2005, RULE 2011]

[Devices subject to this condition: C40, C41, C42, C43, C45, C202, C203]

MODIFIED

D323.1 The operator shall conduct an inspection for visible emissions from all stacks and other emission points of this equipment whenever there is a public complaint of visible emissions, whenever visible emissions are observed, and on a semi-annual basis, at least, unless the equipment did not operate during the entire semi-annual period. The routine semi-annual inspection shall be conducted while the equipment is in operation and during daylight hours.

If any visible emissions (not including condensed water vapor) are detected that last more than three minutes in any one hour, the operator shall verify and certify within 24 hours that the equipment causing the emission and any associated air pollution control equipment are operating normally according to their design and standard procedures and under the same conditions under which compliance was achieved in the past, and either:

1). Take corrective action(s) that eliminates the visible emissions within 24 hours and report the visible emissions as a potential deviation in accordance with the reporting requirements in Section K of this permit; or

2). Have a CARB-certified smoke reader determine compliance with the opacity standard, using EPA Method 9 or the procedures in the CARB manual "Visible Emission Evaluation", within three business days and report any deviations to AQMD. The operator shall keep the records in accordance with the recordkeeping requirements in Section K of this permit and the following records:

1). Stack or emission point identification;
2). Description of any corrective actions taken to abate visible emissions;
3). Date and time visible emission was abated; and
4). All visible emission observation records by operator or a certified smoke reader.

[RULE 3004(a)(4)-Periodic Monitoring, 8-11-1995]

[Devices subject to this condition : D1, D2, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D19, D20, D24, D25, D26, D27, D28, D29, D30, D31, D32, D33, D34, D35, D36, D37, C42, C43, C44, D58, D59, D60, D61, D62, D63, D64, D65, D66, D67, D68, D69, D74, D75, D76, D77, D78, D79, D80, D81, D82, D83, D84, D85, D86, D87, D88, D89, D90, D91, D92, D93, D94, D95, D96, D97, D109, D110, D111, D112, D113, D114, D115, D116, D117, D118, D119, D120, D121, D122, D123, D124, D125, D126, D127, D128, D129, D130, D131, D132, D133, D135, D136, D137, D138, S139, C143, D149, D151, D152, D153, D154, D155, C159, D161, C162, D164, C165, C172, D173, D183, C184, C186, C188, C196, **D197, D198, C199, C200, C201, C202, C203, C204, C205]**

NEW
E448.11 The operator shall comply with the following requirements:

A Rule 1402 facility-wide health risk assessment (HRA) shall be performed subject to the following conditions:

A) Upon approval of the source test report for the rotary dryer furnace air pollution control system, the two process venturi/tray scrubber systems at this facility, and the HEPA filter systems installed on the MAC baghouses, cupola feed room baghouse, and the soft and hard lead baghouses, detailed dispersion modeling and an HRA shall be performed based on the new emission rate data and based on instructions provided by the SCAQMD subsequent to approval of the source test report.

B) Within 60 days following the SCAQMD approval of the initial source test results, Exide shall submit a revised AB2588 HRA based on the approved source test results to determine the risk level (MICR and hazard indices) and the cancer burden.

C) Two copies of the HRA report shall be submitted to the SCAQMD (Attention: Energy/Public Services/Waste Management/Terminals Permitting.)

D) The HRA report prepared pursuant to this condition shall be used to demonstrate compliance with Rule 1402 requirements in conjunction with the Risk Reduction Plan submitted by Exide to the SCAQMD. The demonstrated risk shall not exceed the action risk levels as defined in Rule 1402 and the demonstration shall be completed within the timeline set forth in the rule.

[RULE 1402, 3-4-2005]

[Devices subject to this condition: S139, S140, S141, S142, S145, S158, S166, S187, S189]

NEW
E448.12 The operator shall comply with the following requirements:

A. Smoke tests shall be performed on the cupola furnace slag tap hood and the cupola furnace thimble enclosure pursuant to the following requirements.

B. A smoke device capable of generating 8,000 cubic feet of smoke shall be used, or an equivalent smoke device as approved by the Executive Officer.

C. Smoke Test Procedure: Place a small open container or metal plate on a stable and flat area inside of the hood enclosure. Place the smoke device inside the container and/or on the plate. After lighting the smoke device, quickly close any access door(s) to avoid smoke from escaping. Let the smoke device completely burn. The entire space inside the enclosure will now be filled with the smoke. Observe for leaks of smoke from each seal, joint, and opening.

D. Using a video camera, record the observations of the smoke test and make a qualitative assessment of any leaks of smoke. The video recording shall include a time stamp identifying the calendar date and the chronological time of each smoke test.

E. Using the procedure in conditions C and D, perform a smoke test on the new cupola furnace thimble enclosure upon the initial cold start-up of the cupola furnace subsequent to the start of natural gas combustion in both the cupola furnace and afterburner, but prior to the initial coke, lead metal, and/or feed charge while the cupola furnace is warming up. Record video observations of the outside of the enclosure. Simultaneously, record video observations of the isolation door inside the enclosure with the existing isolation door video camera.

F. Using the procedure in conditions C and D, perform a smoke test on the new cupola furnace thimble enclosure while the cupola furnace is in full operation and charging is occurring. Record video observations of the outside of the enclosure. Simultaneously, record video observations of the isolation door inside the enclosure with the existing isolation door video camera.

G. Using the procedure in conditions C and D, perform a smoke test on the new slag tapping hood enclosure while the cupola furnace is in full operation. The video records shall indicate that no smoke leaks occur at any point of the enclosure.

H. Using standard titanium tetrachloride smoke sticks, perform smoke tests of the two refining pot furnaces which will be used for arsenic additions. Record video of these events to demonstrate that no fugitive emissions escape capture by the pot furnace hoods.

I. Video files for both the internal and external smoke observations of the cupola furnace thimble hood enclosure, the cupola furnace slag tap smoke tests, and the refining pot furnace smoke tests shall be submitted to the SCAQMD (Attention: Energy/Public Services/Waste Management/Terminals Permitting).

J. The video files shall be submitted on compact disk or DVD in the avi or wmv Microsoft Windows video formats, or authored as standard NTSC MPEG2 DVD video disks.

K. The video files produced shall have calendar date and time stamps visible on each video frame.

L. The date and time stamps on the video files shall be synchronized with the network time associated with data acquisition of the processes at the Exide facility. The precision of the time synchronization for this purpose shall be accurate to within plus or minus 30 seconds.

M. The video records shall demonstrate that no smoke leaks occur from any point of the cupola thimble hood enclosure, the cupola furnace slag tapping port and the cupola charging cart tunnel opening.

[RULE 1401, RULE 1402, RULE 1407, RULE 1420, RULE 2005]

[Devices subject to this condition: D7, D9, D128, D132, D133]

NEW

E448.13 The operator shall comply with the following requirements:

The following requirements shall apply to monitoring of static pressure differential inside of smelting furnaces at this facility for compliance with Rule 1420.1.

A. The monitoring device shall be approved by the Executive Officer pursuant to Rule 1420.1 (f)(4).

B. The monitoring device shall:

- **a. Continuously measure the instantaneous static differential furnace pressure.**
- **b. Have a resolution of at least 0.01 inches water column.**
- **c. Have an increment of measurement of 0.01 inches water column.**
- **d. Have a range from -10 inches to +10 inches water column for the measuring device.**
- **e. Be equipped with ports to allow for periodic calibration in accordance with manufacturer's specifications.**
- **f. Be calibrated according to manufacturer's specifications at a frequency of not less than twice every calendar year.**
- **g. Be equipped with a continuous data acquisition system (DAS). The DAS shall record the data output from the monitoring device at a frequency of not less than once every sixty (60) seconds.**
- **h. Generate data files from the computer system interfaced with each DAS each calendar day. The data file shall be saved in electronic ASCII character format, Microsoft Excel (xls or xlsx) format, PDF format, or other format as approved by the Executive Officer. The file shall contain a table of chronological date and time and the corresponding data output value from the monitoring device in inches of water column. The operator shall prepare a separate data file each day showing the 30-minute average pressure readings recorded by this device each calendar day.**
- **i. Be maintained in accordance with manufacturer's specifications.**

C. A reverberatory furnace may be operated at an alternative static differential furnace pressure if the owner or operator can demonstrate that it can achieve emission reductions that are equivalent to or better than those achieved when operating at a pressure of -0.02 or more negative.

- **a. Demonstration shall be based on source test protocols and source tests conducted pursuant to the requirements of subdivision Rule 1420.1 (k) and approved by the Executive Officer.**
- **b. The alternative static differential furnace pressure shall not exceed 0.4 inches water column and must be approved by the Executive Officer in the Continuous Furnace Pressure Monitoring Plan of Rule 1420 (f)(4).**

[RULE 1420.1]

[Devices subject to this condition : D119, D128]

NEW

E448.14 The operator shall comply with the following requirements:

The following requirements apply to the monitoring of air pollution control system (APCS) exhaust gas flow rates at this facility.

A. The nomenclature used to identify the individual air flow meters and/or pressure differential measuring devices is listed below and shall be used for monitoring, record keeping and reporting under this permit condition. Exhaust gas flow meters and/or pressure differential measuring devices shall be installed on the following exhaust duct locations associated with APCS No. 1 (serving the reverberatory furnace) and APCS No. 2 (serving the cupola furnace).

a. The exhaust duct directly connected to the pot furnaces of Device Nos. D7 and D9, prior to the connection of this duct with any other attached duct. This meter or device shall be identified as Measuring Device F7.

b. The exhaust duct directly connected to the slag tapping hood serving the cupola slag tapping port of Device D132, prior to the connection of this duct with any other attached duct. This meter or device shall be identified as Measuring Device F132.

c. The exhaust duct directly connected to the blower exhaust outlet of the RTO of Device C205, serving the cupola furnace thimble hoods, prior to the connection of this duct with any other attached duct. This meter or device shall be identified as Measuring Device F205.

d. The exhaust duct directly connected to the blower exhaust outlet of cupola furnace baghouse no. 1 of Device C45, serving the cupola furnace, prior to the connection of this duct with any other attached duct. This meter or device shall be identified as Measuring Device F45.

e. The exhaust duct directly connected to the blower exhaust outlet of cupola furnace baghouse no. 2 of Device C41, serving the cupola furnace, prior to the connection of this duct with any other attached duct. This meter or device shall be identified as Measuring Device F41.

f. The exhaust duct directly connected to the blower exhaust outlet of the reverberatory baghouse of Device C40, serving the reverberatory furnace, prior to the connection of this duct with any other attached duct. This meter or device shall be identified as Measuring Device F40.

g. The exhaust duct section directly connected to the manual damper located between the venturi scrubbers of Device C42 and the scrubber of Device C202. This flow meter shall be installed adjacent to the manual damper on the side closest to device C42, prior to the connection of this run of duct with any other attached duct. This meter shall be identified as meter F42MD. This meter shall also be capable of indicating the relative direction of gas flow. A positive gas flow shall be defined as a flow towards device C42.

h. The ducts referenced in a. through g. of this condition shall be inspected at least annually for material build-up or other conditions that may contribute to the obstruction of air flow in the ducts. Any such material build-up or condition found that may contribute to such air flow obstruction shall be removed or remedied such that proper air flows are achieved based on original system design.

B. The operator shall record the following data for the measuring devices designated in this condition as F7, F40, F41, F45, F42MD F132, and F205. This data shall include the following:

a. Date
b. Time
c. Meter Identification
d. Actual meter reading in displayed units
e. The conversion factor from displayed and/or recorded units to flow rate
f. Flow rate in actual cubic feet per minute (ACFM)
g. Initials of person taking each reading, unless automated data is taken

C. The data logging required by this condition shall either be recorded manually or shall be recorded using a digital data acquisition system.

D. If the data is recorded manually, it shall be recorded not less than once per hour. If the data is recorded automatically, it shall be recorded on a one minute interval sampling rate.

E. If automatic monitoring is used, the monitoring devices shall:

a. Continuously measure the instantaneous flow rate.
b. Be calibrated according to manufacturer's specifications at a frequency of not less than once every calendar year.
c. Be equipped with a continuous data acquisition system (DAS). The DAS shall record the data output from the monitoring device at a frequency of not less than once every sixty (60) seconds.
d. Generate data files from the computer system interfaced with each DAS each calendar day. The data file shall be saved in electronic ASCII character format, Microsoft Excel (xls or xlsx) format, PDF format, or other format as

approved by the Executive Officer. The file shall contain a table of the data specified in this condition.

e. Be maintained in accordance with manufacturer's specifications.

F. For the purpose of this condition, Exide has the option of installing alternate parameter measuring devices including, but not limited to, pressure differential gauges and pressure transducers which measure and record a pressure reading which can be converted to a flow rate using appropriate conversion factors as indicated in subpart (B)(e) of this condition. The conversion factor shall be updated at least once every 12 calendar months.

[RULE 1401, RULE 1402, RULE 1407, RULE 1420, RULE 1420.1]

[Devices subject to this condition : D7, D9, C40, C41, C45, C42, D132, C205]

MODIFIED

H116.2 The operator shall be subject to the requirements stated in Rules 1407 and 1420 in order to comply with these rules whenever this equipment is in operation.

[RULE 1407, 7-8-1994; RULE 1420, 9-11-1992]

[Devices subject to this condition : D7, D9, D11, D13, D15, D17, D19, D24, D26, D28, D30, D32, D34, D36, C38, C39, C40, C41, C42, C43, C44, C45, C46, C47, C48, D115, D119, D128, C144, **C196, C200, C201, C202, C203, C204]**

MODIFIED

K67.7 The operator shall keep records, in a manner approved by the **SCAQMD**, for the following parameter(s) or item(s):

A daily operating log documenting venturi and tray scrubber liquid flow rates, in gallons per minute, and liquid pH, with liquid flow rate entries made at intervals not to exceed 1 hour, and liquid pH entries made at intervals not to exceed 4 hours.

A daily operating log documenting venturi and tray scrubber pressure differentials, in inches water column, with entries made at intervals not to exceed 1 hour.

[RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(b)(2)-Offset, 5-10-1996; 40CFR 63 Subpart X, 6-23-2003]

[Devices subject to this condition : C42, C43, **C202, C203]**

NEW

K67.12 The operator shall keep records, in a manner approved by the SCAQMD, for the following parameter(s) or item(s):

Records from the regenerative thermal oxidizer temperature recording device(s).

The dates on which calibrations of the regenerative thermal oxidizer temperature recording device(s) are performed.

[RULE 1303(a)(1)-BACT]
[Devices subject to this condition: C199, C205]

NEW

K67.13 The operator shall keep records, in a manner approved by the SCAQMD, for the following parameter(s) or item(s):

The calendar dates on which calibrations of the triboelectric-type broken filter detector are performed.

A copy of the protocol from the manufacturer used to calibrate the triboelectric-type broken filter detector.

[RULE 1303(a)(1)-BACT, RULE 1407]
[Devices subject to this condition : C204]