MICHIGAN DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT
AIR QUALITY DIVISION

August 13, 2010

PERMIT TO INSTALL
No. 468-83D

ISSUED TO
Greater Detroit Resource Recovery Facility

LOCATED AT
5700 Russell Street
Detroit, Michigan 48211

IN THE COUNTY OF
Wayne

STATE REGISTRATION NUMBER
M4148

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Natural Resources and Environment. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **May 4, 2010**	
DATE PERMIT TO INSTALL APPROVED: **August 13, 2010**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

C. EMISSION UNIT CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no conditions specific to individual emission units, this section will be left blank.

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EUASH-HANDLING	This emission unit pertains to the ash handling system including removal of grate siftings, bottom ash, and flyash from the boilers and air pollution control systems. Grate siftings and bottom ash from each boiler are discharged to a quench trough and then removed by submerged scraper conveyors (SSC). Fly ash from the tubular air heater hoppers, economizer hoppers, and fabric filter hoppers, is discharged to drag-flight conveyors (DFC). The flyash is transported via the DFCs to a surge bin and from there to a fly ash conditioning system (i.e., a pugmill where only water is added to wet the dry material). Wetted fly ash from this system is discharged onto the bottom ash conveyors and transported to the ash/loadout storage building prior to off-site disposal. Fugitive particulate emissions from the ash/loadout building are controlled by a ventilation exhaust filter system.	05/06/1986	
EUFACILITY-WIDE	This emission unit was developed to address applicable requirements in the facility's air permit that have facility wide implications/applications such as potential sources of odor and fugitive dust.		

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EULIME-FEEDSYS	This emission unit pertains to the Lime Feed System consisting of a lime storage silo with a baghouse fabric filter particulate control system, two lime slakers each equipped with a grit screen, and one lime slurry tank connecting both lines. The lime slurry from the slurry tank is pumped into each boiler's slurry head tank where the slurry is fed by gravity into the spray dry absorber (SDA).	12/17/1992	
EUMSWPROC-LINE1	This emission unit pertains to each process line converting MSW into Refuse Derived Fuel (RDF) consisting of MSW feed conveyor from tipping floor, magnetic separator, primary shredder controlled by a baghouse fabric filter system, screens, secondary shredder controlled by a cyclone followed by a baghouse fabric filter system, conveyor feed to the RDF storage room.	05/07/1986	FGMSWPROC-LINES
EUMSWPROC-LINE2	This emission unit pertains to each process line converting MSW into Refuse Derived Fuel (RDF) consisting of MSW feed conveyor from tipping floor, magnetic separator, primary shredder controlled by a baghouse fabric filter system, screens, secondary shredder controlled by a cyclone followed by a baghouse fabric filter system, conveyor feed to the RDF storage room.	05/07/1986	FGMSWPROC-LINES
EUMSWPROC-LINE3	This emission unit pertains to each process line converting MSW into Refuse Derived Fuel (RDF) consisting of MSW feed conveyor from tipping floor, magnetic separator, primary shredder controlled by a baghouse fabric filter system, screens, secondary shredder controlled by a cyclone followed by a baghouse fabric filter system, conveyor feed to the RDF storage room.	05/07/1986	FGMSWPROC-LINES
EUBOILER011	This emission unit pertains to one of three identical RDF fired spreader-stoker boilers rated at 520 MMBTU/hr heat input and 390,000 lb/hr steam at 900 psig and 825°F. Air contaminant emissions from the combustion process are controlled by a lime slurry injection from the top of each SDA unit followed by a baghouse fabric filter system prior to exhaust into a single common stack. The facility will use natural gas as the primary auxiliary fuel with No. 2 fuel oil as backup for boiler start up and shutdown and other conditions as necessary.	05/06/1986-05/01/1995	FGBOILERS

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EUBOILER012	This emission unit pertains to one of three identical RDF fired spreader-stoker boilers rated at 520 MMBTU/hr heat input and 390,000 lb/hr steam at 900 psig and 825°F. Air contaminant emissions from the combustion process are controlled by a lime slurry injection from the top of each SDA unit followed by a baghouse fabric filter system prior to exhaust into a single common stack. The facility will use natural gas as the primary auxiliary fuel with No. 2 fuel oil as backup for boiler start up and shutdown and other conditions as necessary.	05/06/1986-12/17/1992	FGBOILERS
EUBOILER013	This emission unit pertains to one of three identical RDF fired spreader-stoker boilers rated at 520 MMBTU/hr heat input and 390,000 lb/hr steam at 900 psig and 825°F. Air contaminant emissions from the combustion process are controlled by a lime slurry injection from the top of each SDA unit followed by a baghouse fabric filter system prior to exhaust into a single common stack. The facility will use natural gas as the primary auxiliary fuel with No. 2 fuel oil as backup for boiler start up and shutdown and other conditions as necessary.	05/06/1986-04/18/1994	FGBOILERS
EUSTORAGETANK	This emission unit pertains to a 500,000 gallon fixed roof storage tank for the storage of No.2 fuel oil.	01/01/1986	
EUPARTS-WASHER	Any existing or future new cold cleaner placed into operation after 07/01/1979 that is exempt from NSR permitting by Rule 336.1281(h) or Rule 336.1285 (r)(iv).		FGCOLDCLEANERS
EURULE290	Any existing or future emission unit that emits air contaminants which are exempt from the requirements of R 336.1201 pursuant to R 336.1290.		FGRULE290

D. FLEXIBLE GROUP CONDITIONS

Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGMSWPROC-LINES	This process group includes all activities from receipt of MSW in the facility, weighing, delivery of MSW into the MSW Process Building, unloading in the tipping floor area, MSW loading into RDF process conveyor lines at the tipping floor, MSW conveying into process room, MSW screening and processing into RDF, RDF conveying into storage room, RDF loading into 2 boiler feed conveyor lines, and conveying RDF from storage room into the Power Block Building. Refuse Derived Fuel (RDF) processing starts from loaders feeding MSW into 3 lines each consisting of a feed conveyor, magnetic separator, primary shredder - controlled by a baghouse fabric filter system, screens, secondary shredder - controlled by a cyclone and a baghouse fabric filter system, and conveyor feed into the RDF storage room. Fugitive particulate emissions in the tipping floor room and RDF storage room are controlled by ventilation exhaust fans with vent filters.	EUMSWPROC-LINE1 EUMSWPROC-LINE2 EUMSWPROC-LINE3
FGBOILERS011-013	This flexible group pertains to the operations in the Power Block Building including three identical RDF fired spreader-stoker boilers rated at 520 MMBTU/hr heat input and 390,000 lb/hr steam at 900 psig and 825°F. The Power Block Building also operates an electric generator rated at 68 Megawatts per hour (MW/hr). Air contaminant emissions from the combustion process are controlled by a lime slurry injection from the top of each SDA unit followed by a designated baghouse fabric filter system. The air streams from each baghouse fabric filter system are exhausted into a single common stack. The facility will use natural gas as the primary auxiliary fuel with No. 2 fuel oil as backup for boiler start up and shutdown and other conditions as necessary.	EUBOILER011 EUBOILER012 EUBOILER013
FGCOLDCLEANERS	Any new cold cleaner placed into operation after 07/01/1979 that is exempt from NSR permitting by Rule 336.1281(h) or Rule 336.1285 (r)(iv).	EUPARTS-WASHER

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGRULE290	Any existing or future emission unit that emits air contaminants which are exempt from the requirements of R 336.1201 pursuant to R 336.1290.	

FGBOILERS011-013
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

This flexible group pertains to the Power Block operations primarily comprising of three identical RDF fired spreader-stoker boilers rated at 520 MMBTU/hr heat input, 390,000 lb/hr steam at 900 psig, and 825°F. Power Block operates an electric generator with name plate capacity of 68 MWe to convert unsold steam into power for internal consumption and for sale to the grid. Air contaminant emissions from the combustion process are controlled by a lime slurry injection from the top of each SDA unit followed by a baghouse fabric filter system. The air streams from each baghouse are exhausted into a single common stack. The facility will use natural gas as the primary auxiliary fuel with No. 2 fuel oil as backup for boiler start up and shutdown and other conditions as necessary. The boiler design restricts air flow capacity such that both oil and natural gas cannot be burned simultaneously as the auxiliary fuel. Also included in this flexible group is a cooling tower located on the northwest side of the facility.

Emission Units:

EUBOILER011, EUBOILER012, EUBOILER013

POLLUTION CONTROL EQUIPMENT

Each combustor is equipped with a lime slurry injection into each dry scrubber connected to each baghouse fabric filter system (Three dry scrubbers and Three Baghouses).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Particulate Matter (PM)	a) 0.010 grains/dscf corrected to 7% oxygen[2]. Compliance with this term or condition shall be considered compliance with all of the following applicable requirement(s)/limit(s) which have been subsumed under this streamlined requirement: **{R 336.1221, R 336.1201(3), 40 CFR 62 Subpart FFF (§ 62.14103(a)(1)), 40 CFR 60 Subpart Cb (§ 60.33b(a)(1)(i)), 40 CFR 60 Subpart Db (§ 60.43b(d)(1)), and R 336.1932}**.	At all times and per boiler while firing **RDF** or a combination of **RDF and natural gas,** or a combination of **RDF and No. 2 Fuel Oil**, **except** during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test: 2-hour ave.)	**(R 336.1221, R 336.1201(3), 40 CFR 62 Subpart FFF (§ 62.14103(a)(1)) 40 CFR 60 Subpart Cb (§ 60.33b(a)(1)(i)), 40 CFR 60 Subpart Db (§ 60.43b(d)(1), R 336.1932, 40 CFR 62.14109, 40 CFR 60 Subpart Eb (§ 60.58b(a)(1))[3])**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
2. Cadmium	a) 37 micrograms per dry standard cubic meter (µg/dscm) corrected to 7% oxygen.[2] Compliance with this term or condition shall be considered compliance with all of the following applicable requirement(s)/limit(s) which have been subsumed under this streamlined requirement: **{R 336.1201(3), R 336.1901, 40 CFR 62 Subpart FFF (§ 62.14103(a)(2)), 40 CFR 60 Subpart Cb (§ 60.33b(a)(2)(i)), R 336.1932}**. (This emission rate will be supplanted on the earlier of: 1) the amendment of the Federal Implementation Plan (FIP) implementing the EPA's emission guidelines promulgated May 10, 2006; or 2) May 10, 2011.)	At all times and per boiler while firing **RDF** or a combination of **RDF and natural gas,** or a combination of **RDF and No. 2 Fuel Oil**, **except** during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test: 2-hour ave.)	**(R 336.1201(3), R 336.1901, 40 CFR 62 Subpart FFF (§ 62.14109 & § 62.14103(a)(2)) R 336.1932(1), 40 CFR 60 Subpart Cb (§ 60.33b(a)(2)(i) & § 60.38b), 40 CFR 60 Subpart Eb (§ 60.58b(a)(1))[3])**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
2. Cadmium (continued)	b) 35 micrograms per dry standard cubic meter (µg/dscm) corrected to 7% oxygen. (This emission rate will only go into effect for this source on the earlier of: 1) the date when a Federal Implementation Plan (FIP) is revised and becomes effective to implement the EPA's emission guidelines promulgated May 10, 2006; or 2) May 10, 2011.)	At all times and per boiler while firing **RDF** or a combination of **RDF and natural gas,** or a combination of **RDF and No. 2 Fuel Oil**, **except** during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b.			**(40 CFR 62 Subpart FFF (§ 62.14109), 40 CFR 60 Subpart Cb (§ 60.33b(a)(2)(i), § 60.38b, & (§ 60.39b(h)), 71 FR 27324 (May 10, 2006), 40 CFR 60 Subpart Eb (§ 60.58b(a)(1))[3])**
3. Hexavalent Chromium	a) 4.2 µg/dscm corrected to 7% oxygen[2].	Per boiler based on a 2-hour average.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test: 2-hour ave.)	**(R 336.1201(3), R 336.1901)**
4. Total Chromium	a) 200 µg/dscm corrected to 7% oxygen[2].	Per boiler based on a 2-hour average.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test: 2-hour ave.)	**(R 336.1201(3), R 336.1901)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
5. Lead	a) 0.440 mg/dscm corrected to 7% oxygen.[2] Compliance with this term or condition shall be considered compliance with all of the following applicable requirement(s)/limit(s) which have been subsumed under this streamlined requirement: **{R 336.1201(3), 40 CFR 52 (§ 52.21(j)), 40 CFR 62 Subpart FFF (§ 62.14103(a)(2)), 40 CFR 60 Subpart Cb (§ 60.33b(a)(4), R 336.1932}**. (This emission rate will be supplanted on the earlier of: 1) the amendment of the Federal Implementation Plan (FIP) implementing the EPA's emission guidelines promulgated May 10, 2006; or 2) May 10, 2011.)	At all times and per boiler while firing **RDF** or a combination of **RDF and natural gas,** or a combination of **RDF and No. 2 Fuel Oil**, **except** during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test: 2-hour ave.)	**(40 CFR 52 (§ 52.21(j)), R 336.1201(3), 40 CFR 62 Subpart FFF (§ 62.14109 & § 62.14103(a)(2)) R 336.1932(1), 40 CFR 60 Subpart Cb (§ 60.33b(a)(4) & § 60.38b), 40 CFR 60 Subpart Eb (§ 60.58b(a)(1))[3])**
	b) 0.400 mg/dscm corrected to 7% oxygen. (This emission rate will only go into effect for this source on the earlier of: 1) the date when a Federal Implementation Plan (FIP) is revised and becomes effective to implement the EPA's emission guidelines promulgated May 10, 2006; or 2) May 10, 2011.)	At all times and per boiler while firing **RDF** or a combination of **RDF and natural gas,** or a combination of **RDF and No. 2 Fuel Oil**, **except** during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b.			**(40 CFR 62 Subpart FFF (§ 62.14109), 40 CFR 60 Subpart Cb (§ 60.33b(a)(4), § 60.38b, & § 30.39b(h)), 71 FR 27324 (May 10, 2006), 40 CFR 60 Subpart Eb (§ 60.58b(a)(1)[3])**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
6. Mercury	a) 80 µg/dscm corrected to 7% oxygen, or 15 % of the potential mercury emission concentration (85% reduction by weight), corrected to 7% oxygen (dry basis), whichever is less stringent. Compliance with this term or condition shall be considered compliance with all of the following applicable requirement(s)/limit(s) which have been subsumed under this streamlined requirement: **{R 336.1201(3), 40 CFR 52.21(j), 40 CFR 62 Subpart FFF (§ 62.14103(a)(3)), 40 CFR 60 Subpart Cb (§ 60.33b(a)(3), R 336.1932}**. (This emission rate will be supplanted on the earlier of: 1) the amendment of the Federal Implementation Plan (FIP) implementing the EPA's emission guidelines promulgated May 10, 2006; or 2) May 10, 2011.)	At all times and per boiler while firing **RDF** or a combination of **RDF and natural gas,** or a combination of **RDF and No. 2 Fuel Oil**, **except** during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test: 2-hour ave.)	**(40 CFR 52 (§ 52.21(j)), R 336.1201(3), 40 CFR 62 Subpart FFF (§ 62.14109 & § 62.14103(a)(3)) R 336.1932(1), 40 CFR 60 Subpart Cb (§ 60.33b(a)(3) & § 60.38b), 40 CFR 60 Subpart Eb (§ 60.58b(a)(1))[3])**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
6. Mercury (continued)	b) 50 µg/dscm corrected to 7% oxygen, or 15 % of the potential mercury emission concentration (85% reduction by weight), corrected to 7% oxygen (dry basis), whichever is less stringent. (This emission rate will only go into effect for this source on the earlier of: 1) the date when a Federal Implementation Plan (FIP) is revised and becomes effective to implement the EPA's emission guidelines promulgated May 10, 2006; or 2) May 10, 2011.)	At all times and per boiler while firing **RDF** or a combination of **RDF and natural gas,** or a combination of **RDF and No. 2 Fuel Oil**, **except** during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b.			**(40 CFR 62.14103(a)(3), 40 CFR 62.14109, 40 CFR 60.33b(a)(3), 71 FR 27324 (May 10, 2006), 40 CFR 30.39b(h), 40 CFR 60.58b(a)(1), 40 CFR 60.38b, 40 CFR 62 Subpart FFF)**
7. Dioxins/Furans (CDD/CDF) – total mass basis	a) 30 ng/dscm corrected to 7% oxygen.[2] Compliance with this term or condition shall be considered compliance with all of the following applicable requirement(s)/limit(s) which have been subsumed under this streamlined requirement: **{40 CFR 52.21(j), R 336.1201(3), 40 CFR 62 Subpart FFF (§ 62.14103(c)(2)), 40 CFR 60 Subpart Cb (§ 60.33b(c)(1)(iii), and R 336.1932}**.	At all times and per boiler while firing **RDF** or a combination of **RDF and natural gas,** or a combination of **RDF and No. 2 Fuel Oil**, **except** during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test: 4-hour ave.)	**(40 CFR 52 (§ 52.21(j)), R 336.1201(3), R 336.1932(1), 40 CFR 62.14103(c)(2), 40 CFR 62.14109, 40 CFR 60.33b(c)(1)(iii) 71 FR 27324 (May 10, 2006), 40 CFR 60.58b(a)(1)[3], 40 CFR 60.38b)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
8. Hydrogen Chloride (HCl)	a) 25 parts per million by volume (ppmv) of exhaust gases (dry basis) corrected to 7% oxygen[2], or 5% of the potential hydrogen Chloride emission concentration (95% reduction by weight or volume), corrected to 7% oxygen (dry basis), whichever is less stringent[2]. Compliance with this term or condition shall be considered compliance with all of the following applicable requirement(s)/limit(s) which have been subsumed under this streamlined requirement: **{40 CFR 52 (§ 52.21(j)), R 336.1201(3), R 336.1901, 40 CFR 62 Subpart FFF (§ 62.14103(b)(2)), 40 CFR 60 Subpart Cb (§ 60.33b(b)(3)(ii), and R 336.1932}**.	At all times and per boiler while firing **RDF** or a combination of **RDF and natural gas,** or a combination of **RDF and No. 2 Fuel Oil**, **<u>except</u>** during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test: 2-hour ave.)	**(40 CFR 52 (§ 52.21(j)), R 336.1201(3), R 336.1901, R 336.1932(1), 40 CFR 62.14103(b)(2), 40 CFR 62.14109, 40 CFR 60.33b(b)(3)(ii), 71 FR 27324 (May 10, 2006), 40 CFR 60.58b(a)(1)[3], 40 CFR 60.38b)**
	b) 405 parts per million by volume (ppmv) of exhaust gases (dry basis) corrected to 7% oxygen.[2]	Per boiler and applicable during scrubber atomizer unit replacement.			**(R 336.1201(3))**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
9. Sulfur Dioxide (SO2)	a) 29 ppmv of exhaust gases (dry basis) corrected to 7% oxygen[2], or 15% of the potential Sulfur Dioxide emission concentration (85% reduction by weight or volume), corrected to 7% oxygen (dry basis), whichever is less stringent. Compliance with this term or condition shall be considered compliance with all of the following applicable requirement(s)/limit(s) which have been subsumed under this streamlined requirement: **{R 336.1201(3), 40 CFR 52.21(j), 40 CFR 62 Subpart FFF (§ 62.14103(b)(1)), 40 CFR 60 Subpart Cb (§ 60.33b(b)(3)(i), and R 336.1932}**.	Per boiler based on a 24-hour daily geometric mean average except during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (CEMS)	**(40 CFR 52.21(j), R 336.1201(3), R 336.1932(1), 40 CFR 62.14103(b)(1), 40 CFR 62.14109, 40 CFR 60.33b(b)(3)(i), 40 CFR 60.58b(a)(1)[3], 40 CFR 60.38b)**
	b) 359 parts per million by volume (ppmv) of exhaust gases (dry basis) corrected to 7% oxygen.[2]	Per boiler and applicable during scrubber atomizer unit replacement.			**(R 336.1201(3))**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
10. Total Fluoride	a) 5 ppmv of exhaust gases (dry basis) corrected to 7% oxygen[2], or 5% of the potential Fluoride emission concentration (85% reduction by weight or volume), corrected to 7% oxygen (dry basis), whichever is less stringent[2].	Per boiler based on a 2-hour average.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test: 2-hour ave.)	**(40 CFR 52.21(j), R 336.1201(3))**
	b) 9 ppmv of exhaust gases (dry basis) corrected to 7% oxygen [2].	Per boiler and applicable during scrubber atomizer unit replacement.			**(40 CFR 52.21(j), R 336.1201(3))**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
11. Carbon Monoxide (CO)	a) 200 ppmv of exhaust gases (dry basis) corrected to 7% oxygen. Compliance with this term or condition shall be considered compliance with all of the following applicable requirement(s)/limit(s) which have been subsumed under this streamlined requirement: **{40 CFR 62 Subpart FFF (§ 62.14104(a)), 40 CFR 60 Subpart Cb (§ 60.34b, and R 336.1932}**. b) 267 ppmv of exhaust gases (dry basis) corrected to 7% oxygen [2]. c) 2500 ppmv of exhaust gases (dry basis) corrected to 7% oxygen[2].	Per boiler based on a 24-hour block daily arithmetic average except during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b. Per boiler based on a 1-hour block average except during periods of startup or shutdown. Per boiler based on a 3-hour block average during periods of startup or shutdown.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (CEMS)	**(40 CFR 62.14104(a), 40 CFR 62.14109, R 336.1932(1), 40 CFR 60.34b, 40 CFR 60.58b(a)(1)[3], 40 CFR 60.38b, R 336.1932)** **(R 336.1221, R 336.1201(3))** **(R 336.1221, R 336.1201(3))**
12. Volatile Organic Compounds (VOC)	a) 65 ppmv of exhaust gases (dry basis) corrected to 7% oxygen[2]	Per boiler based on a three 1-hour block average.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test)	**(R 336.1702(a), R 336.1201(3))**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
13. Nitrogen Oxides (NOx)	a) 247 ppmv of exhaust gases (dry basis) corrected to 7% oxygen[2]. Compliance with this term or condition shall be considered compliance with all of the following applicable requirement(s)/limit(s) which have been subsumed under this streamlined requirement: **{40 CFR 52.21(j), R 336.1201(3), 40 CFR 62 Subpart FFF (§ 62.14103(d)), 40 CFR 60 Subpart Cb (§ 60.33b(d)), and R 336.1932}**.	Per boiler based on a 1-hour block average except during periods of startup or shutdown.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (CEMS)	**(40 CFR 52.21(j), R 336.1201(3), R 336.1932(1), 40 CFR 62.14103(d), 40 CFR 62.14109, 40 CFR 60.33b(d), 40 CFR 60.58b(a)(1)[3], 40 CFR 60.38b)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
14. Visible Emissions (VE)	a) 10% opacity except for uncombined water vapor (6 minute average).[2] Compliance with this term or condition shall be considered compliance with all of the following applicable requirement(s)/limit(s) which have been subsumed under this streamlined requirement: **{40 CFR 52.21(j), R 336.1201(3), 40 CFR 62 Subpart FFF (§ 62.14103(a)(1)), 40 CFR 60 Subpart Cb (§ 60.33b(a)(1)(iii), and R 336.1932}**. b) 20% opacity except for uncombined water vapor (6 minute average).[2]	At all times and per boiler while firing **RDF** or a combination of **RDF and natural gas,** or a combination of **RDF and No. 2 Fuel Oil**, **<u>except</u>** during periods of startup, shutdown, and malfunction as explained in 40 CFR 60.58b(a)(1) and referenced by 40 CFR 60.38b. Per boiler and at all times when firing No. 2 Fuel Oil or natural gas.	EUBOILER011, EUBOILER012, EUBOILER013	Section V, VI (Stack Test – COMS)	**(40 CFR 52.21(j), R 336.1201(3), R 336.1932(1), 40 CFR 62.14103(a)(1), 40 CFR 62.14109, 40 CFR 60.33b(a)(1)(iii) 40 CFR 60.58b(a)(1)[3], \40 CFR 60.38b)** **(40 CFR 52.21(j), R 336.1201(3), R 336.1301(3))**

II. MATERIAL LIMIT(S)

1. The combined total auxiliary fuels (natural gas and No. 2 Fuel Oil) for EUBOILER011, EUBOILER012, and EUBOILER013 shall not exceed 28,500 MMBtu/year heat input for starting up a third boiler while operating the other two boilers fired with RDF, based on a 12-month rolling average. If a single fuel is used during the 12-month rolling time period, this limit is equivalent to 28.15 million cubic feet of natural gas or 208,000 gallons of No. 2 fuel oil.[2] **(40 CFR 52.21, R 336.1201(3))**

2. The combined total auxiliary fuels (natural gas and No. 2 Fuel Oil) shall not exceed 10% of the annual capacity factor for all purposes, for each boiler (EUBOILER011, EUBOILER012, and EUBOILER013), calculated on a 12-month rolling average. This condition is necessary to exempt the permittee from the applicability of nitrogen oxide emission limits specified in 40 CFR 60, Subpart Db. **(40 CFR 60.44b(c) & (d), R 336.1213(3))**

3. The steam load of EUBOILER011, EUBOILER012, and EUBOILER013, when firing RDF, shall not exceed 383,000 lb/hr.[2] **(R 336.1201(3)), R 336.1932(1), 40 CFR 62.14104(b), 40 CFR 60.34b(b), 40 CFR 60.53b)**

4. The steam load of EUBOILER011, EUBOILER012, and EUBOILER013, when firing No. 2 fuel oil only or natural gas only, shall not exceed 296,000 lb/hr.[2] **(R 336.1201(3)), R 336.1932(1), 40 CFR 62.14104(b), 40 CFR 60.34b(b), 40 CFR 60.53b)**

5. The steam load of EUBOILER011, EUBOILER012, and EUBOILER013, when firing RDF or natural gas or No. 2 fuel oil only, shall not exceed 110 percent the highest load level (4-hour arithmetic average) demonstrated during the most recent dioxin/furan testing during which compliance with the emission limit was demonstrated, whichever is most restrictive. Compliance shall be determined on a 4-hour average by a continuous monitoring system, installed and calibrated to be representative of the maximum design capacity.[2] **(R 336.1201(3)), R 336.1932(1), 40 CFR 62.14104(b), 40 CFR 60.34b(b), 40 CFR 60.53b)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Periods of startup or shutdown are defined as the period when the facility commences the process of continuously burning Refuse Derived Fuel (RDF) in a boiler or begins the process of discontinuing the continuous burning of RDF in a boiler, respectively, and does not include any period when the facility is combusting only natural gas or only No. 2 fuel oil. The periods of startup or shutdown shall not exceed three hours per occurrence.[2] In instances of loss of boiler water level or loss of combustion air control, the periods of startup or shutdown shall not exceed fifteen hours. **(R 336.1201(3)), 40 CFR 62 Subpart FFF (§ 62.14109), R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(a)(1)[3])**

2. Permittee shall not fire RDF in any boiler at a combustion zone temperature less than 1800 degrees Fahrenheit, on a 1-hour basis. At no time shall the temperature be less than 1600 degree Fahrenheit. Any time the temperature approaches the minimum temperature or 1600 degrees Fahrenheit, auxiliary fuel, shall be added to the process. In the event that it is not possible to maintain this temperature of at least 1600 degrees Fahrenheit, all RDF feed shall be terminated immediately. Auxiliary fuel shall be used during boiler shutdown process to maintain 1600 degrees Fahrenheit temperature while RDF is still combusting. Compliance with the combustion zone temperature requirements shall be determined by a continuous monitoring system installed and calibrated to be representative of the combustion zone temperature.[2] **(40 CFR 52.21(j), R 336.1201(3))**

3. Permittee shall not operate any boiler with a flue gas oxygen content of less than 4 percent by volume prior to the dry scrubber. Compliance shall be determined on a 1-hour average (wet gas basis), as determined by a continuous monitoring system.[2] **(40 CFR 52.21(j), R 336.1201(3))**

4. The exhaust gas temperature at the fabric filter inlet shall not exceed 400^{o}F or 30 ^{o}F over the maximum demonstrated fabric filter inlet temperature established during the most recent dioxin/furan test which demonstrated compliance with the applicable dioxin/furan limit for municipal combustor, whichever is lower. Compliance with the temperature limitation shall be determined on a 4-hour block arithmetic average.[2] **(40 CFR 52.21(j), 40 CFR 60.34b(b), 40 CFR 60.53b(c)[3], 40 CFR 60.58b(i)(7)[3], R 336.1201(3), R 336.1932, 40 CFR 62.14104(b))**

5. The RDF feed to any boiler shall cease as soon as practicable consistent with the safe operating procedures and the Greater Detroit Resources Recovery Facility "Abnormal Condition Startup/Shutdown Malfunction Abatement Plan", dated November 2009 and revisions thereto, upon initiation of the associated collector bypass. Permittee shall not introduce RDF into a boiler unless the fabric filter for that boiler is installed, on-line, and operating properly, except during emergency conditions which results in any of the following conditions:

    a. A flue gas temperature in excess of 400^{o}F at the inlet to fabric filter; or
    b. A flue gas temperature of less than 200^{o}F at the inlet to the fabric filter; or
    c. A differential pressure across the fabric filter in excess of 10 inches of water.

    Introduction of RDF into the affected boiler, will cease immediately upon initiation of the bypass of the fabric filter. The RDF feed to the boiler shall not restart until the associated collector is back on line and functioning properly. The fabric filter for boiler may be bypassed during start-up in the unit, prior to the introduction of RDF into the boiler.[2] **(R 336.1221, R 336.1201(3), 40 CFR 52.21(j), R 336.1901)**

6. The maximum sulfur content of the fuel oil fired in the boilers shall not exceed 0.3 percent sulfur content, by weight.[2] **(R 336.1201(3))**

7. The maximum heat input from the combustion of natural gas or No. 2 fuel oil in each boiler shall not exceed 250 million BTUs per hour.[2] **(R 336.1201(3))**

8. Permittee shall not burn any waste oil at the facility.[2] **(R 336.1201(3))**

9. Permittee shall monitor and record the scrubber slurry feed rate on a continuous manner with instrumentation acceptable to the Air Quality Division[2]. **(R 336.1201(3), 40 CFR 52.21(j), R 336.1901)**

10. The lime slurry feed system shall be modulated by interfacing with the sulfur dioxide continuous emission monitor. In the event of a malfunction or failure of the sulfur dioxide continuous emission monitor, the Permittee shall operate the lime slurry feed system such that, at a minimum, 800 pounds per hour of pebble lime shall be added. Once daily, during the period of monitor malfunction or failure, the permittee shall manually determine the slurry density[2]. **(R 336.1201(3), 40 CFR 52.21(j), R 336.1901)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Permittee shall not operate any individual boiler unless its associated dry scrubber and fabric filter collector are installed and operating properly.[2] **(R 336.1201(3), R 336.1910, R 336.1221, 40 CFR 52.21(j), R 336.1901)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

1. Once each calendar year (no less than 9 months and no more than 15 calendar months following the previous performance test), permittee shall verify the particulate matter, cadmium, hexavalent chromium, total chromium, lead, mercury, dioxin/furan, inlet and outlet sulfur dioxide, inlet and outlet fluorides, carbon monoxide, volatile organic compounds and nitrogen oxide emission rates from each boiler, when firing only RDF at the maximum allowable load level rate, by testing, at owner's expense, in accordance with Air Quality Division requirements. Unless the applicable requirement changes, permittee shall verify the inlet and/or outlet Hydrogen Chloride emission rates (based on permittee's choice of compliance determination) and fugitive dust on an annual basis (no more than 12 calendar months following the previous performance test). Permittee must complete five performance tests in each 5-year calendar period. Verification of emission rates/levels includes the submittal of an executive summary and a complete report of the test results.[2] For applicable pollutants, Permittee can utilize continuous emissions monitoring system (CEMS) data in lieu of stack testing. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

2. When the limit for a pollutant concentration is adjusted to a specific oxygen concentration, the concentration of oxygen will be determined from a sample that was obtained simultaneously with the pollutant sample. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

3. Stack testing procedures, testing dates, the location of stack testing ports, and the emission units to be tested must have prior approval by the Air Quality Division. All test results shall be submitted to the Air Quality Division in an acceptable format within 60 days following the date the test is completed.[2] **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

    a. For the purposes of demonstrating compliance with the particulate matter emission limits, the permittee shall utilize the methods provided in 40 CFR 60, Appendix A, specifically EPA Reference Methods 1 through 5, and shall perform three two hour runs of the sampling test.[2] **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

    b. For the purposes of demonstrating compliance with the hydrogen chloride emission limits, the permittee shall utilize the methods provided in 40 CFR 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 26 or Reference Method 26A, and shall perform three one hour runs of the sampling test.[2] **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

    c. For the purposes of demonstrating compliance with the cadmium emission limits, the permittee shall utilize the methods provided in 40 CFR 60, Appendix A, specifically EPA

Reference Methods 1 through 4 and Reference Method 29, and shall perform three two hour runs of the sampling test.[2] **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

d. For the purposes of demonstrating compliance with the lead emission limits, the permittee shall utilize the methods provided in 40 CFR 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 29, and shall perform three two hour runs of the sampling test.[2] **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

e. For the purposes of demonstrating compliance with the mercury emission limits, the permittee shall utilize the methods provided in 40 CFR 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 29, and shall perform three two hour runs of the sampling test.[2] **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

f. For the purposes of demonstrating compliance with the non-methane hydrocarbons emission limits, the permittee shall utilize the methods provided in 40 CFR 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 25a, and shall perform three one hour runs of the sampling test.[2] **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

g. For the purposes of demonstrating compliance with the total fluorides emission limits, the permittee shall utilize the methods provided in 40 CFR 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 13B, and shall perform three two hour runs of the sampling test.[2] **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

h. For the purposes of demonstrating compliance with the hexavalent chromium emission limits, the permittee shall utilize the methods provided in 40 CFR 60, Appendix A, specifically EPA Reference Methods 1 through 4 and CARB Method M425, and shall perform three two-hour runs of the sampling test.[2] **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

i. For the purposes of demonstrating compliance with the dioxins/furans (PCDD and PCDF) emission limits, the permittee shall utilize the methods provided in 40 CFR 60, Appendix A, specifically EPA Reference Methods 1 through 4 and Reference Method 23, and shall perform three four hour runs of the sampling test.[2] **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

4. The permittee's CEMS will be used to verify compliance with the concentration limits for carbon monoxide when firing only RDF at the maximum allowable load level rate. The permittee shall verify the emission rate/level by utilizing data from the permittee's CO continuous emissions monitor and actual air flow data gathered during stack testing. For the one hour block emission limit, three (3) one hour computations will be made, and averaged. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

5. The permittee's CEMS will be used to verify compliance with the concentration limits for oxides of nitrogen when firing only RDF at the maximum allowable load level rate. The permittee shall verify the emission rate/level by utilizing data from the permittee's NOx continuous emissions monitor and actual air flow data gathered during stack testing. For the one hour block emission limit, three (3) one hour computations will be made, and averaged. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

6. The permittee's CEMS will be used to verify compliance with the concentration limits for sulfur dioxide when firing only RDF at the maximum allowable load level rate. The permittee shall verify the emission rate/level by utilizing data from the permittee's SO2 continuous emissions monitor and actual air flow data gathered during stack testing. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

Relative Accuracy Test Audit (RATA)

7. EPA Test Methods 3A, 6C, 7E and 10 are used as the reference test method procedures for the RATA test program. They are conducted in accordance with 40 CFR 60, Appendix B, Performance Specifications 2, 3, 4/4A, and Appendix F. **(40 CFR 60, Appendix B, Performance Specifications 2, 3, 4/4A, and Appendix F, 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b[3], R 336.1213(3))**

8. A sample is continuously extracted from the effluent stack gas stream. A portion of the sample stream is conveyed to each analyzer for the determination of O_2 or CO_2, SO_2, CO and NOx. For each EPA Reference Method determination, the flue gas is sampled at three traverse points. The difference between the reference method sample and the facility's monitor readings are evaluated from a minimum of nine test runs. **(40 CFR 60, Appendix B, Performance Specifications 2, 3, 4/4A, and Appendix F, 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b[3], R 336.1213(3))**

9. Relative accuracies are calculated on a concentration basis (ppm corrected to 7% O_2) for all pollutant parameters. To satisfy the RATA requirements of 40 CFR 60, Appendix B, the relative accuracy must not exceed 20.0 percent of the mean of the reference method or 10.0 percent of the applicable standard for SO_2 and NOx. For CO the relative accuracy must not exceed 10.0 percent of the mean of the reference method or 5.0 percent of the applicable standard for CO. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b[3])**

10. If the permittee elects to comply with sulfur dioxide limits by showing percent reduction and if actual inlet emissions are less than 100 parts per million dry volume, then the relative accuracy criterion for inlet sulfur dioxide continuous emission monitoring systems should be no greater than 20 percent of the mean value of the reference method test data in terms of the units of the emission standard, or 5 parts per million dry volume absolute value the mean difference between the reference method and the continuous emission monitoring systems, whichever is greater. **(R 336.1213(3), 40 CFR 62 Subpart FFF, 40 CFR 62.14109(b), 40 CFR 60.38b, 40 CFR 60.58b(e)(12)[3])**

Particulate Matter and Opacity

11. The procedures and test methods specified in paragraphs 40 CFR 60.58b(c)(1) through (c)(11) shall be used to determine compliance with the emission limits for particulate matter and opacity under 40 CFR 60.52b(a)(1) and (a)(2). **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(c)[3])**

    a. EPA Reference Method 1 shall be used to select sampling site and number of traverse points. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(c)(1)[3])**

    b. EPA Reference Method 3, 3A or 3B, as applicable, shall be used for gas analysis. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(c)(2)[3])**

    c. EPA reference Method 5 shall be used for determining compliance with the particulate matter emission limit. The minimum sample volume shall be 1.7 cubic meters. The probe and filter holder heating systems in the sample train shall be set to provide a gas temperature no greater than 160 +/- 14 degrees C. An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 5 run. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(c)(3)[3])**

    d. The permittee may request that compliance with the particulate matter emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph (b)(6) of this section. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(c)(4)[3])**

e. As specified under 60.8 of 40 CFR 60, Subpart A, all performance tests shall consist of three test runs. The average of the particulate matter emission concentrations from the three test runs is used to determine compliance. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(c)(5)[3])**

f. In accordance with paragraphs 40 CFR 60.58b(c)(7) and (c)(11), EPA Reference Method 9 shall be used for determining compliance with the opacity limit except as provided under 60.11(e)(5) of 40 CFR 60, Subpart A. This allows for the use of the continuous opacity monitor to demonstrate compliance in lieu of Method 9. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(c)(6)[3])**

Hydrogen Chloride

12. The procedures and test methods specified in paragraphs 40 CFR 60.58b(f)(1) through (f)(8) shall be used for determining compliance with the hydrogen chloride emission limit under 40 CFR 60.52b(b)(2). **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38, 40 CFR 60.58b(f)[3])**

    a. EPA Reference Method 26 or 26A, as applicable, shall be used to determine the hydrogen chloride emission concentration. The minimum sampling time for Method 26 shall be 1 hour per run. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(f)(1)[3])**

    b. An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 26 test run for hydrogen chloride required by paragraph 40 CFR 60.58b(f)(1). **(R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(f)(2)[3])**

    c. Equation 2 of 40 CFR 60.58b(f)(3) shall be used to compute percent reduction in potential hydrogen chloride emissions. **(R 336.1213(3), R 336.1932(1); 40 CFR 62 Subpart FFF, 40 CFR 60.38b; 40 CFR 60.58b(f)(3)[3])**

    d. The permittee may request that compliance with the hydrogen chloride emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(f)(4)[3])**

    e. As specified under 60.8 of 40 CFR 60, Subpart A, all performance tests shall consist of three test runs. The average of the hydrogen chloride emission concentrations or percent reductions from the three test runs is used to determine compliance. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(f)(5)[3])**

Cadmium and Lead

13. Procedures and test methods specified in paragraph 40 CFR 60.58b(d)(1) and (d)(2) shall be used to determine compliance with the emission limits for cadmium and lead under 40 CFR 60.52b(a)(3) and (4). **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(1)[3])**

    a. EPA Reference Method 1 shall be used for determining the location and number of sampling points. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(1)(i)[3])**

    b. EPA reference Method 3, 3A, or 3B, as applicable, shall be used for flue gas analysis. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(1)(ii)[3])**

c. EPA Reference Method 29 shall be used for determining compliance with the cadmium and lead emission limits. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(1)(iii)[3])**

d. An oxygen or carbon dioxide measurement shall be obtained simultaneously with each Method 29 test run for cadmium and lead required under paragraph 40 CFR 60.58b(d)(1)(iii). **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(1)(iv)[3])**

e. The permittee may request that compliance with the lead or cadmium emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(1)(v)[3])**

f. All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the cadmium or lead emission concentrations from three test runs or more shall be used to determine compliance. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(1)(vi)[3])**

Mercury

14. Procedures and test methods specified in paragraphs 40 CFR 60.58b(d)(2)(i) through (d)(2)(xi) shall be used to determine compliance with the mercury emission limit under 40 CFR 60.52b(a)(5). **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(2)[3])**

a. EPA Reference Method 1 shall be used for determining the location and number of sampling points. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(2)(i)[3])**

b. EPA reference Method 3, 3A, or 3B, as applicable, shall be used for flue gas analysis. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(2)(ii)[3])**

c. EPA Reference Method 29 shall be used to determine the mercury emission concentration. The minimum sample volume when using Method 29 for mercury shall be 1.7 cubic meters. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(2)(iii)[3])**

d. An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method test run for cadmium and lead required under paragraph 40 CFR 60.58b(d)(2)(iii). **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(2)(iv)[3])**

e. Equation 1 of 40 CFR 60.58b(d)(2)(v) provides the percent reduction in potential mercury emissions. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(2)(v)[3])**

f. All performance tests shall consist of a minimum of three test runs conducted under representative full load operating conditions. The average of the mercury emission concentrations from three test runs or more shall be used to determine compliance. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(2)(vi)[3])**

g. The permittee may request that compliance with the mercury emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(d)(2)(vii)[3])**

Dioxins/furans

15. The procedures and test methods specified in paragraphs 40 CFR 60.58b(g)(1) through (g)(9) shall be used for determining compliance with the dioxin/furan emission limit under 40 CFR 60.52b(c). **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(g)[3])**

    a. EPA Reference Method 1 shall be used for determining the location and number of sampling points. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(g)(1)[3])**

    b. EPA reference Method 3, 3A, or 3B, as applicable, shall be used for flue gas analysis. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(g)(2)[3])**

    c. EPA Reference Method 23 shall be used to determine the dioxin/furan emission concentration. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(g)(3)[3])**

        i. The minimum sample time shall be 4 hours per test run. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(g)(3)(i)[3])**

        ii. An oxygen (or carbon dioxide) measurement shall be obtained simultaneously with each Method 23 test run for dioxins/furans. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(g)(3)(ii)[3])**

    d. As specified under 60.8 of 40 CFR 60, Subpart A, all performance tests shall consist of three test runs. The average of the dioxin/furan emission concentrations from the three test runs is used to determine compliance. **(R 336.1213(3), R 336.1932(1), 40 CFR 62 Subpart FFF, 40 CFR 60.38b, 40 CFR 60.58b(g)(9)[3])**

16. During each performance test of dioxins/furans, permittee shall determine the maximum particulate matter control device inlet temperature and steam load level in accordance with 40 CFR 60.58b(i)(7) and 40 CFR 60.58b(i)(8). **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.58b(i)(7), 40 CFR 60.58b(i)(8)[3])**

17. Permittee shall conduct testing for each batch of fuel oil received for sulfur content. **(R 336.1213(3)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii))**

For each combustor, the permittee shall install, calibrate, maintain, operate, and monitor on a continuous basis, the following:[2]

Continuous Opacity Monitoring System (COMS)

1. The permittee shall install, calibrate, operate, and maintain a continuous opacity monitoring system (COMS following the baghouse) for measuring opacity and shall follow the methods and procedures specified in paragraphs 40 CFR 60.58b(c)(8)(i) through (c)(8)(iv). The continuous monitoring system shall collect and record data at a minimum of 90 percent of the operating hours per month in a manner and with instrumentation as approved by the Air Quality Division.[2]

a) The output of the COMS shall be recorded on a 6-minute average basis.
b) The COMS shall be installed, evaluated, and operated in accordance with 60.13 of 40 CFR 60, Subpart A.
c) The COMS shall conform to Performance Specification 1 in Appendix B of 40 CFR 60.
(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(c)(8)[3])

Sulfur Dioxide (SO2) Continuous Emission Monitoring System (CEMS)

2. The permittee shall install, calibrate, operate, and maintain a CEMS for sulfur dioxide emissions discharged to the atmosphere and record the output of the system.[2] **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(5)[3])**

3. If the permittee elects to comply with sulfur dioxide limits by showing percent reduction, the permittee shall install, calibrate, maintain, and operate a CEMS for measuring sulfur dioxide emissions and diluent concentrations entering the dry scrubber.[2] **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(4)[3])**

4. EPA Reference Method 19, Section 4.3 shall be used to calculate the daily geometric mean sulfur dioxide emission concentration. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(1)[3])**

5. EPA Reference Method 19, Section 5.4, shall be used to determine the daily geometric average percent reduction in the potential sulfur dioxide emission concentration. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(2)[3])**

6. The permittee may request that compliance with the sulfur dioxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(3)[3])**

7. Compliance with the sulfur dioxide emission limit shall be determined based on:

a) the 24-hour daily geometric average of the hourly arithmetic average emission concentrations using CEMS outlet data if compliance is based on an emission concentration; **or**
b) CEMS inlet and outlet data if compliance is based on a percent reduction. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(6)[3])**

8a. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(e)(7)(i) and (e)(7)(ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting MSW.[2]

a) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average.
b) Each sulfur dioxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data.
(R 336.1213(3), R 336.1932(1)[3])

8b. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(e)(7)(i) and (e)(7)(ii) for 90 percent of the operating hours per calendar quarter, and for 95 percent of the operating hours per calendar year that the affected facility is combusting MSW.[2] **(R 336.1213(3), 40 CFR 62.14109(b), 40 CFR 60.38b, 40 CFR 60.58b(e)(7)[3])**

a) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(7)(i)[3])**

b) Each sulfur dioxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(7)(ii)[3])**

9. The 1-hour arithmetic averages required under paragraph 40 CFR 60.58b(e)(6) of this section shall be expressed in parts per million corrected to 7 percent oxygen (dry basis) and used to calculate the 24-hour daily geometric average emission concentrations and daily geometric average emission percent reductions. The 1-hour arithmetic averages shall be calculated using the data points required under 60.13(e)(2) of 40 CFR 60, Subpart A. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(8)[3])**

10. All valid CEMS data shall be used in calculating average emission concentrations and percent reductions even if the minimum CEMS data requirements of paragraph 40 CFR 60.58b(e)(7) are not met. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(9)[3])**

11. The procedures of 60.13 of 40 CFR 60, Subpart A shall be followed for the installation, evaluation, and operation of the CEMS. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(10)[3])**

12. The CEMS shall be operated according to Performance Specification 2 in Appendix B of 40 CFR 60. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(12)[3])**

    a) During each Relative Accuracy Test run of the CEMS required by Performance Specification 2 in Appendix B of 40 CFR 60, sulfur dioxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the CEMS and the test methods specified in paragraphs 40 CFR 60.58b(e)(12)(i)(A) and (e)(12)(i)(B). **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(12)(i)[3])**

        i. For sulfur dioxide, EPA Reference Method 6, 6A, or 6C shall be used. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(12)(i)(A)[3])**

        ii. For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(12)(i)(B)[3])**

    b) The span value of the CEMS at the inlet to the sulfur dioxide control device (if permittee has elected to use the percent reduction to demonstrate compliance) shall be 125 percent of the maximum estimated hourly potential sulfur dioxide emissions of the combustor. The span value of the CEMS at the outlet of the sulfur dioxide control device shall be 50 percent of the maximum estimated hourly potential sulfur dioxide emissions of the combustor. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(e)(12)(ii)[3])**

Nitrogen Oxides (NOx) CEMS

13. EPA Reference Method 19, section 4.1, shall be used for determining the daily arithmetic average nitrogen oxides emission concentration. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(h)(1)[3])**

14. The permittee may request that compliance with the nitrogen oxides emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(h)(2)[3])**

15. The permittee shall install, calibrate, operate, and maintain a CEMS for measuring nitrogen oxides discharged to the atmosphere, and record the output of the system.[2] **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(h)(4)[3])**

16. Following the date that the initial performance test for nitrogen oxides is completed or is required to be completed under 60.8 of 40 CFR 60, Subpart A, compliance with the emission limit for nitrogen oxides required under 40 CFR 60.52b(d) shall be determined based on the 24-hour daily arithmetic average of the hourly emission concentrations using CEMS outlet data. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(h)(5)[3])**

17a. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(h)(6)(i) and (h)(6)(ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting MSW.[2]

a) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average.
b) Each nitrogen oxides 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(R 336.1213(3), R 336.1932(1))**

17b. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(h)(6)(i) and (h)(6)(ii) for 90 percent of the operating hours per calendar quarter, and for 95 percent of the operating hours per calendar year that the affected facility is combusting MSW.[2] **(R 336.1213(3), 40 CFR 62.14109(b), 40 CFR 60.38b, 40 CFR 60.58b(h)(6)[3])**

a) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.58b(h)(6)(i)[3])**
b) At a minimum, each nitrogen oxides 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.58b(h)(6)(ii)[3])**

18. The 1-hour arithmetic averages required by paragraph 40 CFR 60.58b(h)(5) of this section shall be expressed as parts per million by volume (dry basis) and used to calculate the 24-hour daily arithmetic average concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under 60.13(e)(2) of 40 CFR 60, Subpart A. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(h)(7)[3])**

19. All valid CEMS data must be used in calculating emission averages even if the minimum CEMS data requirements of paragraph 40 CFR 60.58b(h)(6) are not met. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(h)(8)[3])**

20. The permittee shall operate the CEMS according to Performance Specification 2 in Appendix B of 40 CFR 60 and shall follow the procedures and methods specified in paragraphs 40 CFR 60.58b(h)(10(i) and (h)(10)(ii). **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(h)(10)[3])**

a) During each Relative Accuracy Test run of the CEMS required by Performance Specification 2 in Appendix B of 40 CFR 60, nitrogen oxides and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the CEMS and the test methods specified in paragraphs 40 CFR 60.58b(h)(10)(i)(A) and (h)(10)(i)(B). **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(h)(10)(i)[3])**

i. For nitrogen oxides, EPA Reference Method 7, 7A, 7C, 7D or 7E shall be used. **(40 CFR 62 Subpart FF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(h)(10)(i)(A)[3])**

ii. For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used.**(40 CFR 62 Subpart FFF, R 336.1932(1**), **40 CFR 60.38b, 40 CFR 60.58b(h)(10)(i)(B)[3])**

b) The span value of the CEMS shall be 125 percent of the maximum estimated hourly potential nitrogen oxide emissions of the combustor. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(h)(10)(ii)[3])**

21. When nitrogen oxide emissions data are not obtained because of CEMS system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the administrator or EPA Method 19 to provide, as necessary, valid emissions data for a minimum of 90 percent of the operating hours per calendar quarter that the affected facility is operated and combusting MSW and for 95 percent of the operating hours per calendar year that the affected facility is operated and combusting MSW. **(40 CFR 62.14109(b), 40 CFR 60.38b, 40 CFR 60.58b(h)(12)[3])**

Carbon Monoxide (CO) CEMS

22. Compliance with the 3-hr block and 24-hr block Carbon Monoxide emission limits shall be determined using a block arithmetic average. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b[3], R 336.1213)**

23. The permittee shall install, calibrate, operate, and maintain a CEMS for measuring carbon monoxide at the combustor outlet and record the output of the system and shall follow the procedures and methods specified in paragraphs 40 CFR 60.58b(i)(3)(i) through (i)(3)(iii) of this section.[2] **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(3)[3])**

a) CEMS shall be operated according to Performance Specification 4A in Appendix B of 40 CFR 60. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(3)(i)[3])**

b) During each Relative Accuracy Test run of the CEMS required by Performance Specification 4A in Appendix B of 40 CFR 60, carbon monoxide and oxygen (or carbon dioxide) data shall be collected concurrently (or within a 30- to 60-minute period) by both the CEMS and the test methods specified in paragraphs 40 CFR 60.58b(i)(3)(ii)(A) and (i)(3)(ii)(B). **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(3)(ii)[3])**

i. For carbon monoxide, EPA Reference Method 10, 10A, or 10B shall be used. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(3)(ii)(A)[3])**

ii. For oxygen (or carbon dioxide), EPA Reference Method 3, 3A, or 3B, as applicable shall be used. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(3)(ii)(B)[3])**

c) The span value of the CEMS shall be 125 percent of the maximum estimated hourly potential carbon monoxide emissions of the combustor. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(3)(iii)[3])**

24. The 3-hour block and 24-hour daily arithmetic average, specified in paragraphs 40 CFR 60.58b(i)(2) of this section, shall be calculated from 1-hour arithmetic averages expressed in ppmv corrected to 7 percent oxygen (dry basis). The 1-hour arithmetic averages shall be calculated using the data points generated by the CEMS. At least 2 data points shall be used to calculate each 1-hour arithmetic average. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(4)[3], R 336.1213)**

25. The permittee may request that compliance with the carbon monoxide emission limit be determined using carbon dioxide measurements corrected to an equivalent of 7 percent oxygen. The relationship between oxygen and carbon dioxide levels for the affected facility shall be established as specified in paragraph 40 CFR 60.58b(b)(6). **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(5)[3])**

26. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(i)(10)(i) and (i)(10)(ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting MSW.[2]

    a) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average.
    b) Each carbon monoxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(R 336.1213(3), R 336.1932(1))**

27. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(i)(10)(i) and (i)(10)(ii) for 90 percent of the operating hours per calendar quarter, and for 95 percent of the operating hours per calendar year that the affected facility is combusting MSW.[2] **(R 336.1213(3), 40 CFR 62.14109(b), 40 CFR 60.38b, 40 CFR 60.58b(i)(10)[3])**

    a) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.58b(i)(10)(i)[3])**
    b) At a minimum, each carbon monoxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.58b(i)(10)(ii)[3])**

28. All valid CEMS data must be used in calculating the parameters specified under paragraph 40 CFR 60.58b(i) even if the minimum data requirements of paragraph 40 CFR 60.58b(i)(10) are not met. When carbon monoxide CEMS data are not obtained because of CEMS system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the administrator or EPA Method 10 to provide, as necessary, the minimum valid emission data. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.58b(i)(11)[3])**

Oxygen or CO2 CEMS

29. Permittee shall install, calibrate, operate, and maintain a CEMS for measuring the oxygen or carbon dioxide content of the flue gas at each location where carbon monoxide, sulfur dioxide, nitrogen oxides emissions, or particulate matter are monitored and record the output of the system and shall comply with the test procedures and test methods specified in 40 CFR 60.58b(b)(1) through 40 CFR 60.58b(b)(8).[2] **(R 336.213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)[3])**

30. The CEMS shall collect and record oxygen (or carbon dioxide) content data for minimum of 90 percent of the operating hours per month in a manner and as approved by the Air Quality Division.[2] **(R 336.1213(3))**

31. The span value of the oxygen (or carbon dioxide) monitor shall be 25 percent. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)(1)[3])**

32. The monitor shall be installed, evaluated, and operated in accordance with 60.13 of 40 CFR 60, Subpart A. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)(2)[3])**

33. The monitor shall conform to Performance Specification 3 in Appendix B of 40 CFR 60 except for section 2.3 (relative accuracy requirement). **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)(4)[3])**

34. The quality assurance procedures of Appendix F of 40 CFR 60 except for section 5.1.1 (relative accuracy test audit) shall apply to the monitor. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)(5)[3])**

35. If carbon dioxide is selected for use in diluent corrections, the relationship between oxygen and carbon dioxide levels shall be established during the initial performance test according to the procedures and methods specified in paragraphs 40 CFR 60.58b(b)(6)(i)through (b)(6)(iv). This

relationship may be reestablished during performance compliance tests. **(40 CFR 62 Subpart FFF, R 336.1932(1)**, **40 CFR 60.38b, 40 CFR 60.58b(b)(6)[3])**

a) The fuel factor equation in Method 3B shall be used to determine the relationship between oxygen and carbon dioxide at a sampling location. Method 3, 3A, or 3B as applicable, shall be used to determine the oxygen concentration at the same location as the carbon dioxide monitor. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)(6)(i)[3])**
b) Samples shall be taken for at least 30 minutes in each hour. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)(6)(ii)[3])**
c) Each sample shall represent a 1-hour average. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)(6)(iii)[3])**
d) A minimum of 3 runs shall be performed. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)(6)(iv)[3]**

36. The relationship between carbon dioxide and oxygen that is established in accordance with paragraph 40 CFR 60.58b(b)(6) shall be submitted to the EPA Administrator as part of the initial performance test report and, if applicable, as part of the annual test report if the relationship is reestablished during the annual performance test. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)(7)[3])**

37. During a loss of boiler water level control or loss of combustion air control malfunction period as specified in 40 CFR 60.58b(a)(1)(iii), a diluent cap of 14 percent for oxygen or 5 percent for carbon dioxide may be used in the emissions calculations for sulfur dioxide and nitrogen oxides. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(b)(8)[3])**

General – all CEMS and COMS as applicable:

38. Permittee shall comply with applicable monitoring requirements in 40 CFR 60.13. **(40 CFR 60.13)**

39. Permittee shall comply with the calibration requirements of 40 CFR 60.13(d)(2). **(40 CFR 60.13(d)(2))**

40. Permittee must check the zero and span calibration drifts of installed CEMS at least once daily in accordance with a written procedure and fulfill all applicable requirements as provided in 40 CFR 60.13(d)(1). **(40 CFR 60.13(d)(1))**

41. Except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems shall be in continuous operation and shall meet minimum frequency of operation as follows:
    a) Opacity: Permittee shall complete a minimum of one cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period; **(40 CFR 60.13(e)(1))**
    a) All other emissions except Opacity: Permittee shall complete one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period; **(40 CFR 60.13(e)(2))(40 CFR 60.13(e))**

42. All continuous monitoring systems or monitoring devices shall be installed such that representative measurements of emissions or process parameters from the affected facility are obtained. Additional procedures for location of continuous monitoring systems contained in the applicable Performance Specifications of Appendix B of 40 CFR 60 shall be used. **(40 CFR 60.13(f))**

43. Initial data reduction shall be in accordance with **40 CFR 60.13(h)**. Subsequent data reduction shall be in accordance with **R 336.2175**. **(40 CFR 60.13(h), R 336.2175)**

44a. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(i)(10)(i) and (i)(10)(ii) for 75 percent of the operating hours per day for 90 percent of the operating days per calendar quarter that the affected facility is combusting MSW.

a) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average.
b) Each carbon monoxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(R 336.1213(3), R 336.1932(1))**

44b. At a minimum, valid continuous monitoring system hourly averages shall be obtained as specified in paragraphs 40 CFR 60.58b(i)(10)(i) and (i)(10)(ii) for 90 percent of the operating hours per calendar quarter, and for 95 percent of the operating hours per calendar year that the affected facility is combusting MSW. **(R 336.1213(3), 40 CFR 62.14109(b), 40 CFR 60.38b, 40 CFR 60.58b(i)(10)[3])**
a) At least 2 data points per hour shall be used to calculate each 1-hour arithmetic average. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.58b(i)(10)(i)[3])**
b) At a minimum, each carbon monoxide 1-hour arithmetic average shall be corrected to 7 percent oxygen on an hourly basis using the 1-hour arithmetic average of the oxygen (or carbon dioxide) CEMS data. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.58b(i)(10)(ii)[3])**

45. All valid CEMS data must be used in calculating the parameters specified under paragraph 40 CFR 60.58b(i) even if the minimum data requirements of paragraph 40 CFR 60.58b(i)(10) are not met. When carbon monoxide CEMS data are not obtained because of CEMS system breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the administrator or EPA Method 10 to provide, as necessary, the minimum valid emission data. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.58b(i)(11)[3])**

46. Block averages must have valid hourly block data for each hour of the block period for there to be a valid block average calculation. **(R 336.1213(3))**

47. Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 in Appendix F 40 CFR 60. (Note, for determining CEMS availability for quarterly reports or minimum daily data collection or otherwise, daily calibration drift tests shall not be considered either outages or hours of operation. A retest of a failed daily calibration drift test or a quarterly accuracy determination that results in the CEMS being offline shall be counted as downtime). **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b[3])**

Other Monitoring:

48. To determine compliance with load level requirements under 40 CFR 60.53b(b), Permittee shall comply with applicable procedures specified in 40 CFR 60.58b(i)(6)(i) through (i)(6)(iv). **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(6)3)**

49. Permittee shall install, calibrate, operate, and maintain a steam flow meter. Permittee shall measure steam flow on a continuous basis and record the output of the monitor. Steam flow shall be calculated in 4-hour block arithmetic averages on a monthly basis in a manner acceptable to the Air Quality Division. The continuous monitoring systems shall collect and record steam rate data at a minimum of 90 percent of the operating hours per month in a manner and with instrumentation as approved by the Air Quality Division.[2] **(R 336.201(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(6)(i)[3])**

50. To determine compliance with the maximum particulate matter control device temperature requirements under 40 CFR 60.53b(c), the permittee shall install, calibrate, operate, and maintain a device for measuring on a continuous basis the temperature of the flue gas stream at the inlet to each particulate matter control device utilized by the affected facility. Temperature shall be calculated in 4-hour block arithmetic averages. The continuous monitoring system shall collect and record temperature data at the fabric filter inlet, a minimum of 90 percent of the operating hours per month in a manner and with instrumentation as approved by the Air Quality Division.[2] **(R 336.1201(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.38b, 40 CFR 60.58b(i)(7)[3])**

51. Permittee shall install, calibrate, maintain, and operate a device for measuring on a continuous basis the temperature of the flue gas stream prior to the boiler bank inlet/after the superheater and at the combustion zone. Temperature shall be calculated in 4-hour block arithmetic averages. The continuous monitoring systems shall collect and record temperature data prior to the boiler bank, at the inlet/after the superheater, and at the combustion zone, a minimum of 90 percent of the operating hours per month in a manner and with instrumentation as approved by the Air Quality Division.[2] **(R 336.201(3))**

52. Permittee shall monitor/calculate and keep records of the hourly natural gas and fuel oil (No. 2 fuel oil) feed rates and if both natural gas and No. 2 fuel oil are used as auxiliary fuels in the same 12 month rolling time period, heat input rates (based on the Higher Heating Value of each fuel) to each boiler and hours of operation of each boiler on a monthly basis in a manner acceptable to the Air Quality Division.[2] **(40 CFR 60.44b(c), R 336.1213(3))**

53. Permittee shall monitor and keep records of the atomizer unit replacement data, including dates, affected boiler emission unit, length of time of replacement, and emission rates during replacement. **(R 336.213(3))**

54. Permittee shall maintain records of the information specified below, as applicable, for each affected facility for at least five (5) years and be available for submittal or on site inspection review by the EPA or State inspector: **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)[3])**
    a) Calendar date of each record. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(1)[3])**
    b) Emission concentrations and parameters measured using CMS as specified in 40 CFR 60.59b(d)(2)(i) and (d)(2)(ii). **(R 336.1213(3), 40 FR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(2)[3])**
        i. The following shall be available for submittal or on-site review by an inspector: **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(i)[3])**
            A. All 6-minute average opacity levels as specified under 40 CFR 60.58b(c). **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(i)(A)[3])**
            B. All 1-hour average sulfur dioxide concentrations as specified under 40 CFR 60.58b(e). **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(i)(B)[3])**
            C. All 1-hour average nitrogen oxides emission concentrations as specified under 40 CFR 60.58b(h). **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(i)(C)[3])**
            D. All 1-hour average carbon monoxide emission concentrations, MSW combustor unit load measurements, and particulate matter control device inlet temperatures as specified under 40 CFR 60.58b(i). **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(i)(D)[3])**
        ii. The average concentrations and percent reductions, as applicable, specified in paragraphs 40 CFR 60.58b(d)(2)(ii)(A) through (D), shall be computed, recorded, and be available for submittal or on-site review by an inspector. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(ii)[3])**
            A. All 24-hour daily geometric average sulfur dioxide emission concentrations and all 24-hour daily geometric average percent reductions in sulfur dioxide emissions as specified under 40 CFR 60.58b(e). **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), CFR 60.39b, 40 CFR 60.59b(d)(2)(ii)(A)[3])**
            B. All 24-hour daily arithmetic average nitrogen oxides emission concentrations as specified under 40 CFR 60.58b(h). **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(ii)(B)[3])**
            C. All 4-hour block or 24-hour daily arithmetic average carbon monoxide emission concentrations, as applicable, as specified under 40 CFR 60.58b(i).

(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(ii)(C)[3])

D. All 4-hour block arithmetic average combustor load levels and particulate matter control device inlet temperatures as specified under 40 CFR 60.58b(i). **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(2)(ii)(D)[3])**

c) Identification of the calendar dates when any of the average emission concentrations, percent reductions (if applicable), operating parameter(s) recorded under paragraphs 40 CFR 60.59b(d)(2)(ii)(A) through (d)(2)(ii)(D) (see above), or the opacity levels recorded under 40 CFR 60.59b(d)(2)(i)(A) are above the applicable limits (see above), with reasons for such exceedances and a description of corrective actions taken. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(3)[3])**

i. This identification shall be completed quarterly, by the 30th day after the end of each calendar quarter. **(R 336.1213(3))**

d) Identification of the calendar dates and times (hours) for which valid hourly data specified in (40 CFR 60.59b(d)(6)(i) through (d)(6)(v)) have not been obtained including reasons for not obtaining the data and a description of the corrective actions taken. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(6)[3])**

i. Sulfur dioxide emissions data. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(6)(i)[3])**

ii. Nitrogen oxide emissions data. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(6)(ii)[3])**

iii. Carbon monoxide emissions data. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(6)(iii)[3])**

iv. Unit load data. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(6)(iv)[3])**

v. Particulate matter control device temperature data. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(6)(v)[3])**

vi. This identification of calendar dates shall be completed quarterly by the 30th day following the end of the calendar quarter. **(R 336.1213(3))**

e) Identification of each occurrence that sulfur dioxide emissions data, nitrogen oxides emissions data, or operational data have been excluded from the calculation of average emission concentrations or parameters, and the reasons for excluding the data. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(7)[3])**

i. This identification shall include all data exclusion due to the failure to have data for an entire block average period. **(R 336.1213(3))**

f) Results of daily drift tests and quarterly accuracy determinations for sulfur dioxide, nitrogen oxides, and carbon monoxide CEMS as required by 40 CFR 60, Appendix F, Procedure 1. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(8)[3])**

g) Test reports documenting the results of the initial performance test and all annual performance tests listed in 40 CFR 60.59b(d)(9)(i) and (d)(9)(ii), shall be recorded along with supporting calculations. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(9)[3])**

i. The results of the initial performance test and all annual performance tests conducted to determine compliance with the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission limits. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(9)(i)[3])**

ii. For the initial dioxin/furan performance test and all subsequent dioxin/furan performance tests, the maximum demonstrated combustor unit load and maximum demonstrated particulate matter control device temperature (for each particulate matter control device). **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(9)(ii)[3])**

h) The following records as specified in 40 CFR 60.59b(d)(12)(i) through (d)(12)(iv): **(R 336.1213(3), 40 CFR 62.14109(a), R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(12)[3])**

i. Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been provisionally certified by ASME or

state-equivalent certification program as required by 40 CFR 60.54b(a) including the dates of initial and renewal certifications and documentation of the current certification. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(12)(i)[3])**

ii. Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have been fully certified by ASME or state-equivalent certification program as required by 40 CFR 60.54b(b) including the dates of initial and renewal certifications and documentation of the current certification. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(12)(ii)[3])**

iii. Records showing the names of the municipal waste combustor chief facility operator, shift supervisors, and control room operators who have completed the EPA municipal waste combustor operator training course or a state-approved equivalent course as required by 40 CFR 60.54b(d) including documentation of training completion. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(12)(iii)[3])**

iv. Records showing when a certified operator is temporarily off site, which shall include: **(40 CFR 62 Subpart FFF, 40 CFR 60.39b, 40 CFR 60.59b(d)(12)(iv)[3])**:

A. If the certified chief facility operator and certified shift supervisor are off site for more than 12 hours, but for 2 weeks or less, and no other certified operator is on site, record the dates that the certified chief facility operator and certified shift supervisor were off site.

B. When all certified chief facility operators and certified shift supervisors are off site for more than 2 weeks and no other certified operator is on site, keep records of:

a. Time of day that all certified persons are off site.

b. The conditions that cause those people to be off site.

c. The corrective actions taken by the owner or operator of the affected facility to ensure a certified chief facility operator or certified shift supervisor is on site as soon as practicable; and

d. Copies of the written reports submitted every 4 weeks that summarize the actions taken by the owner or operator of the affected facility to ensure that a certified chief facility operator or certified shift supervisor will be on site as soon as practicable.

i. Records showing the names of the persons who have completed a review of the operating manual as required by 40 CFR 60.54b(f) including the date of the initial review and subsequent annual reviews. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(d)(13)[3])**

j. Other monitoring, recordkeeping, and emissions calculations to show compliance with any applicable requirement. **(R 336.1213(3))**

55. Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. **(40 CFR 60.7(b))**

a) For the purposes of the condition above, the definition of startup, shutdown, and malfunction shall be that applicable to 40 CFR Subpart Cb operations. See Appendix 1b. **(R 336.1213(3))**

56. Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part/permit recorded in a "permanent" form suitable for filing and inspection. **(R 336.1213(3), 40 CFR 60.7(f))**

57. Permittee may elect to substitute continuous emission monitoring for stack testing requirements pursuant to 40 CFR 60.58b(c)(10) for PM, 40 CFR 60.58b(d)(4) for Hg, 40 CFR 60.58b(f)(8) for HCl, and/or 40 CFR 60.58b(g)(10) for dioxin/furans. If so, permittee must comply with the provisions of 40 CFR 60.58b(n) through 40 CFR 60.58b(q). **(40 CFR 62 Subpart FFF, 40 CFR 60.58[3])**

58. The permittee shall keep records of the malfunction abatement and preventative maintenance program as specified in the Greater Detroit Resources Recovery Facility "Abnormal Condition

Startup/Shutdown Malfunction Abatement Plan", dated November 2009 and revisions thereto.[2] **(R 336.1213(3), R 336.1910, R 336.1911)**

59. Permittee shall record the date, time, and duration of a malfunction event or failure of the sulfur dioxide continuous emission monitor, the amount of pebble lime added per hour, the lime slurry density, and lime slurry flow rate. **(R 336.1213(3))**

See Appendices {3 & 4}

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. Permittee shall summarize the hourly auxiliary fuel (natural gas and fuel oil) feed rates, hourly steam flow rates, hours of operation, and hourly auxiliary fuel heat input rate. Permittee shall calculate the monthly and total annual auxiliary fuel feed rates, steam flow rates, and auxiliary fuel heat input rates based on a 12-month rolling average for each boiler and submit to AQD in an acceptable format and within 30 days following the end of each quarter. [2] **(R 336.1213(3)(c)(i))**

5. Permittee shall submit quarterly excess emissions and monitoring systems performance reports, postmarked by the 30th day following the end of each calendar quarter period. [2] **(R 336.1213(3), 40 CFR 60.7(c), R 336.2170)**

   a) This quarterly excess emissions and monitoring systems performance report will relate to the emission limits monitored by CEMS and COMS, the performance of the CEMS and COMS, and any deviations of applicable requirements as contained in this permit. At a minimum, written reports of excess emissions shall include the following information: **(R 336.1213(3), 40 CFR 60.7(c))**

      i. The magnitude of excess emissions computed in accordance with 40 CFR 60.13(h), any conversion factors used, and the date and time of commencement and completion of each time period of excess emissions. The process operating time during the reporting period. **(R 336.1213(3), 40 CFR 60.7(c)(1))**

      ii. Specific identification of each period of excess emissions that occurs during startups, shutdowns, and malfunctions of the affected facility. The nature and cause of any malfunction, the corrective action taken or preventative measures adopted. **(R 336.1213(3), 40 CFR 60.7(c)(2))**

      iii. The date and time identifying each period during which the CMS was inoperative except for zero and span checks and the nature of the system repairs or adjustments. **(R 336.1213(3), 40 CFR 60.7(c)(3))**

      iv. When no excess emissions have occurred or the CMS have not been inoperative, repaired, or adjusted, such information shall be stated in the report. **(R 336.1213(3), 40 CFR 60.7(c)(4))**

b) The summary report form shall contain the information and be in the format shown in Figure 1 of 40 CFR 60.7(d) or as specified/approved by the Administrator. One summary report form shall be submitted for each pollutant monitored at each affected facility. **(R 336.1213(3), 40 CFR 60.7(d))**

6. Emission test plans and schedules shall meet the requirements of Rules 2001, 2003, and 2004 and have prior approval of the AQD District Supervisor. A complete report of the test results shall be submitted in accordance with AQD requirements. **(R 336.2001, R 336.2002, R 336.2004)**

7. Upon issuance of the permit, Permittee shall submit a semi-annual report, postmarked on or before March 15 (for reporting period July 1 through December 31) and postmarked on or before September 15 (for reporting period January 1 through June 30), (note, this schedule has been altered per 40 CFR 60.59b(l) under the delegated authority to AQD), in compliance with 40 CFR 60.59b(g) that shall include the following: [2] **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(g)[3])**

a) A summary of data collected for all applicable pollutants and parameters regulated, as follows: **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(g)(1)[3])**

i. A list of the particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels achieved during any performance tests performed per 40 CFR 60.59b(d)(9) during the applicable period. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(g)(1)(i)[3])**

ii. A list of the highest emission level recorded for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, and particulate matter control device inlet temperature based on the data recorded under paragraphs 40 CFR 60.59b(d)(2)(ii)(a) through (d)(2)(ii)(d). **(R 336.1213(3), 40 CFR 62 Subpart FFF; R 336.1932(1), 40 CFR 60.39b; 40 CFR 60.59b(g)(1)(ii)[3])**

iii. List the highest opacity level measured, based on the data recorded under paragraph 40 CFR 60.59b(d)(2)(i)(A). **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(g)(1)(iii)[3])**

iv. The total number of days that the minimum number of hours of data for sulfur dioxide, nitrogen oxides, carbon monoxide, unit load, and particulate matter control device inlet temperature data were not obtained based on the data recorded under paragraph 40 CFR 60.59b(d)(6) of this section. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(g)(1)(iv)[3])**

v. The total number of hours that data for sulfur dioxide, nitrogen oxides, carbon monoxide, unit load, and particulate matter control device inlet temperature were excluded from the calculation of average emission concentrations or parameters based on the data recorded under paragraph 40 CFR 60.59b(d)(7) of this section. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(g)(1)(v)[3])**

b) The summary of data reported under paragraph 40 CFR 60.59b(g)(1) shall also include the types of data specified in 40 CFR 60.59b(g)(1)(i) through (v) for the 12-month period preceding the applicable period reported. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(g)(2)[3])**

c) The summary of data shall also highlight any emission or parameter levels that did not achieve the emission or parameter limits specified under the applicable requirement. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(g)(3)[3])**

i. For the purposes of the above condition, "highlight" shall mean to list the deviation or limit/applicable requirement exceeded, the duration of the exceedance or deviation, and the date of the exceedance or deviation. Quarterly emission reports may be incorporated by reference. This report does not need to list the reasons for not achieving the emission or parameter limits or corrective actions taken. **(R 336.1213(3))**

d) Documentation of periods when all certified chief facility operators and certified shift supervisors are off site for more than 12 hours. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), CFR 60.39b, 40 CFR 60.59b(g)(5)[3])**

8. Upon issuance of the permit, Permittee shall submit a semi-annual report, postmarked on or before March 15 (for reporting period July 1 through December 31) and postmarked on or before September 15 (for reporting period January 1 through June 30), (note, this schedule has been altered per 40 CFR 60.59b(l) under the delegated authority to AQD), that includes the information specified in 40 CFR 60.59b(h)(1) through (h)(5) for any recorded pollutant or parameter that does not comply with the applicable pollutant or parameter limit.[2] **(R 336.1213(3), 40 CFR 62 Subpart FFF, R336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(h)[3])**

a. The semiannual report shall include information recorded under paragraph 40 CFR 60.59b(d)(3) for sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, and opacity. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(h)(1)[3])**

i. This will be an identification of calendar dates when the average emission concentrations, percent reductions, or operating parameters were exceeded, reasons for exceedances, and a description of corrective action(s) taken. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), R 336.1213(3), 40 CFR 60.59b(d)(3)[3])**

b. For each date recorded as required by paragraph 40 CFR 60.59b(d)(3) and reported as required by 40 CFR 60.59b(h)(1), the semiannual report shall include the sulfur dioxide, nitrogen oxides, carbon monoxide, municipal waste combustor unit load level, particulate matter control device inlet temperature, or opacity data which was in exceedance, as applicable, recorded under paragraphs 40 CFR 60.59b(d)(2)(ii)(A) through (d)(2)(ii)(D) and (d)(2)(i)(A), as applicable, which shall include data for the entire calendar day. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(h)(2)[3])**

c. If the test reports recorded under paragraph 40 CFR 60.59b(d)(9) document any particulate matter, opacity, cadmium, lead, mercury, dioxins/furans, hydrogen chloride, and fugitive ash emission levels that were above the applicable pollutant limits, the semi-annual report shall include a copy of the test report documenting the emission levels and the corrective actions taken. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(h)(3)[3])**

9. All reports submitted under paragraphs 40 CFR 60.59b(g) and (h), shall be submitted as a paper copy, postmarked on or before the submittal dates specified under these paragraphs, and maintained on-site as a paper copy for a period of five years. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(j)[3])**

10. All records specified under paragraphs 40 CFR 60.59b(d) and (e) shall be maintained on site in either paper copy or computer-readable format, unless an alternative format is approved by the Administrator. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(k)[3])**

11. If the permittee would prefer a different annual or semiannual date for submitting the periodic reports required by paragraphs 40 CFR 60.59b(g), and (h), then the dates may be changed by mutual agreement between the owner/operator and the Administrator, in accordance with the procedures

specified in 60.19(c) of 40 CFR 60, Subpart A. **(R 336.1213(3), 40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.39b, 40 CFR 60.59b(l)[3])**

12. Permittee shall furnish a written notification of the date construction (or reconstruction as defined under 40 CFR 60.15) of an affected facility is commenced postmarked no later than 30 days after such date. **(40 CFR 60.7(a)(1))**

13. Permittee shall furnish a written notification of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted under an applicable subpart or in 40 CFR 60.14(e). This notice shall be postmarked 60 days (or as soon as practicable) before the change is commenced. **(40 CFR 60.7(a)(4))**

14. If facility proposes to replace components, and the fixed capital cost of the new components exceeds 50% of the fixed capital cost that would be required to construct a comparable entirely new facility, Permittee shall furnish written notification of the proposed replacements, postmarked 60 days (or as soon as practicable) before the construction of the replacement is commenced. **(40 CFR 60.15(d))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
SVBOILER011	102[2]	337.5[2]	**(40 CFR 52.21, R 336.1221, R336.1201(3))**
SVBOILER012	102[2]	337.5[2]	**(40 CFR 52.21, R 336.1221, R336.1201(3))**
SVBOILER013	102[2]	337.5[2]	**(40 CFR 52.21, R 336.1221, R336.1201(3))**

IX. OTHER REQUIREMENT(S)

1. Permittee shall calculate annual capacity factor for combined auxiliary fuel (natural gas and No.2 fuel oil) using 40 CFR 60.43b(e) for each boiler, for all uses of auxiliary fuel, for the reporting period. The annual capacity factor shall be determined on a 12-month rolling average with a new capacity factor calculated at the end of each month. **(40 CFR 60.44b(c), R 336.1213(3))**

2. Permittee shall not operate any boiler unless the malfunction, abatement and preventive maintenance program specified in Greater Detroit Resources Recovery Facility "Abnormal Condition Startup/Shutdown Malfunction Abatement Plan", dated November 2009 and revisions thereto, have been implemented and is maintained. **(R 336.1201(3), R 336.1910, R 336.1911)**

3. Permittee shall not substitute any fuels or wastes which would result in an appreciable change in the quantity or appreciable change in the quality of the emission of an air contaminant without prior notification to and approval by the Division. **(R 336.1201(3))**

4. Permittee shall not fire RDF in more than two of the three boilers at any one time. The Permittee may fire natural gas or No. 2 fuel oil in one boiler while RDF is fired in the other two boilers.[2] **(40 CFR 52.21, R 336.1221, R 336.1201(3))**

5. The chief facility operator and each shift supervisor shall obtain and maintain a current provisional operator certificate from either American Society of Mechanical Engineers (ASME) or a state certification program.[2] **(40 CFR 62.14105, R 336.1932(1), 40 CFR 60.35b, 40 CFR 60.54b(a)[3])**

6. Each chief facility operator and shift supervisor must have completed full certification or must have scheduled a full certification examination with either ASME or a state certification program. **(40 CFR 60.35b, 40 CFR 60.54b(b)[3], R 336.1932(1), 40 CFR 62.14105)**

7. The combustors shall not operate unless one of the following persons is on duty and at the affected facility: a fully or provisionally certified chief facility operator; shift supervisor; or control room operator. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.35b, 40 CFR 60.54b(c)[3])**

8. A provisionally certified control room operator on-site may fulfill the requirements of 40 CFR 60.54b(c) to have a certified chief facility operator or shift supervisor (or provisionally certified chief facility operator or shift supervisor) on site at all times for twelve hours or less without notice. A provisionally certified control room operator on-site may fulfill the requirements of 40 CFR 60.54b(c) to have a certified chief facility operator or shift supervisor (or provisionally certified chief facility operator or shift supervisor) on site at all times for more than twelve hours but no more than two weeks without notice or less without further notice, however the period of such fulfillment must be report in the semiannual report under 40 CFR 60.59b(g)(5). Filling in for longer than two weeks requires written notice pursuant to 40 CFR 60.54b(c)(2)(iii).[2] **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.35b, 40 CFR 60.54b(c)(2)[3])**

9. The permittee shall develop and update on a yearly basis a site-specific operating manual that addresses the following: [2] **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.35b, 40 CFR 60.54b(e)[3])**

    a. Summary of applicable Emission Guideline standards
    b. Description of basic combustion theory applicable to a MSW unit
    c. Procedures for receiving, handling and feeding MSW
    d. Procedures for startup, shutdown, and malfunction
    e. Procedures for maintaining proper combustion air levels
    f. Procedures for operating within Emission Guideline standards
    g. Procedures for responding to periodic upset or off-specification conditions
    h. Procedures for minimizing particulate matter carryover
    i. Procedures for handling ash
    j. Procedures for monitoring emissions
    k. Reporting and recordkeeping procedures

10. A current copy of the operating manual referenced above shall be kept at the facility at all times. The manual and records shall be available for inspection upon request. [2] **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.35b, 40 CFR 60.54b(g)[3])**

11. The permittee shall establish a training program to review the operating manual with each person with responsibilities affecting the operation of an affected facility including but not limited to chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, and crane/load handlers: [2]

    a) by December 19, 1996; **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.35b, 40 CFR 60.54b(f)(1)(iii)[3])**

or

    b) the date prior to the day the person assumes such responsibilities; **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.35b, 40 CFR 60.54b(f)(1)(ii)[3])**

and

c) annually, following the initial review. **(40 CFR 62 Subpart FFF, R 336.1932(1), 40 CFR 60.35b, 40 CFR 60.54b(f)(2)[3])**

Footnotes:

[1]This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

[3] 40 CFR 60 Subpart Eb is not directly applicable to this facility. However, certain specific provisions in 40 CFR 60 Subpart Eb become specific applicable requirement in this ROP by either a reference or a requirement from 40 CFR 62 Subpart FFF, 40 CFR 60 Subpart Cb, or Michigan Air Pollution Control Rule 932 adopting by reference the 2000 version of 40 CFR 60 Subpart Cb.