Onondaga County Resource Recovery Facility

Air Title V Permit Renewal - Statement of Basis - 5/15/09

1. Applicable Requirements - The facility is subject to the following air emission regulations for large MSW combustion facilities.

Prevention of Significant Deterioration (PSD) (40 CFR 52.21) - The facility was issued a PSD construction permit in 1992 as new major source with respect to the Federal PSD rule. The requirements from the PSD permit are incorporated into the Title V permit.

New Source Review (NSR) (6 NYCRR Part 231) - The facility accepted an annual emission limit for Carbon Monoxide (CO) emissions to avoid being subject to NSR during original permitting. At that time, the Syracuse Metropolitan area was designated non-attainment for Carbon Monoxide, and therefore any new source emitting 100 or more tons/year of CO would be subject to NSR requirements. CO emissions from the OCRRF is limited to 95 tons/year on a 365 daily rolling basis. Compliance with this requirement is demonstrated through use of CO continuous emission monitoring for each stack.

NYS MSW incinerator rule for new units (6 NYCRR Part 219-2) - This rule was in effect at the time that the original permit was issued to the OCRRF. The requirements of this rule are found in the "State enforceable requirements" section of the Title V permit.

NYS MSW incinerator rule for mercury emissions (6 NYCRR Part 219-7) - This rule took effect in 2002 and regulates mercury emissions from large MSW combustors including the OCRRF. The requirements of this rule were incorporated into the facility's Title V air permit in 2003 on the "State enforceable requirements" section of the permit.

Federal New Source Performance Standard for Large MSW combustors (40 CFR 60 Subpart Ea) - This rule regulates emissions from any new large MSW units constructed at the time the OCRRF was permitted.

Federal Emission Guideline for new and existing Large MSW combustors (40 CFR 60 Subpart Cb) - This Federal rule took effect in 1995 and established limits for existing large MSW units such as the OCRRF. The NYSDEC adopted this rule by reference in 6 NYCRR Part 200. This rule was modified in 2006 and the Department is incorporating the changes made to the rule into each individual affected facility permit to satisfy the Federal requirements. Note that this rule refers to sections of 40 CFR 60 Subpart Eb for several requirements, particularly those involving testing, monitoring, operator training/certification and reporting.

2. Regulatory Emission Limits - The following is a discussion of the permit limits found in the Title V permit and the basis for each. In general, the permit only contains the most stringent requirements that apply in situations where more than one rule regulate a given pollutant. This is purposefully done to avoid any confusion in the permit with respect to demonstrating compliance with the most stringent limits. Also note that all concentration limits are corrected to 7% O2, or

the equivalent CO2 concentration.

Federally Enforceable Limits/Compliance Method(s).

Pollutant	**Limit(s)**	**Compliance Method**	**Regulatory Basis**[1]
Dioxin/Furan	30 ng/dscm Federal Toxic Equivalency Factors	Annual Stack Test Continuous Carbon Injection Rate Monitoring Continuous Combustion Temperature Monitoring/Limit	Ea, Cb
Cadmium	35 ug/dsm 0.0019 lb/hr	Annual Stack Test Continuous Baghouse Inlet Temperature Monitoring/Limit	Cb, PSD
Lead	400 ug/dscm 0.0381 lb/hr	Annual Stack Test Continuous Baghouse Inlet Temperature Monitoring/Limit	Cb, PSD
Mercury	50 ug/dscm[2], or 85% control 0.004 lb/hr	Annual Stack Test Continuous Baghouse Inlet Temperature Monitoring/Limit	Cb, PSD
Particulate matter	0.010 gr/dscf 3.16 lb/hr	Annual Stack Test Continuous Baghouse Inlet Temperature Monitoring/Limit	PSD
PM-10, filterable	0.010 gr/dscf 3.16 lb/hr	Annual Stack Test Continuous Baghouse Inlet Temperature Monitoring/Limit	PSD
Opacity	10%, 6 min avg	Continuous Opacity Monitor	Ea, Cb
Hcl	25 ppm or >95% control 5.24 lb/hr	Annual Stack Test Continuous Lime Injection Rate Monitoring/Limit	PSD
SO2	29 ppm or >85% control, 24 hr block 16.2 lb/hr	Continuous SO2 Stack Monitoring Annual Stack Test (lb/hr)	Cb, PSD
Nox	200 ppm, 3 hr rolling 180 ppm, 24 hr block 58 lb/hr	Continuous Nox Stack Monitoring Annual Stack Test (lb/hr)	PSD

CO	100 ppm, 4 hr block 50 ppm, 8 hr rolling 45 ppm, 24 hr block 8.04 lb/hr 95 tons/year	Continuous CO Stack Monitoring Annual Stack Test (lb/hr) Annual Emission Report (Tons/year)	PSD
Flouride	0.165 lb/hr	5 year stack test	PSD
VOC	30 ppm 2.76 lb/hr	5 year stack test	PSD
Sulfuric Acid Mist	1.69 lb/hr	Upon request stack test	PSD
Arsenic	0.00078 lb/hr	5 year stack test	PSD
Beryllium	0.0000115 lb/hr	5 year stack test	PSD

State Only Enforceable Limits/Compliance Method(s) - note these compounds were tested for annually for the first 5 years of operation of the facility. In some cases, this test data was used to lower the limits for these compounds in the original Title V permit.

Pollutant	**Limit(s)**	**Compliance Method**	**Regulatory Basis[1]**
Dioxin/Furans	0.4 ng/dscm 1.29×10^{-7} lb/hr NYS Toxic Equivalency Factors	Annual Stack Test Combustion Temperature Limit/Monitoring Carbon Injection Rate Limit/Monitoring	6 NYCRR Part 219-2
PCB	0.053 ug/dscm	5 year stack test	6 NYCRR Part 219-2
PAH	1.0 ug/dscm 0.00014 lb/hr	5 year stack test	6 NYCRR Part 219-2
Formaldehyde	50 ug/dsm	5 year stack test	6 NYCRR Part 219-2
Chromium	0.00193 lb/hr	5 year stack test	6 NYCRR Part 219-2
Hexavalent Chrome	0.0003 lb/hr	5 year stack test	6 NYCRR Part 219-2
Copper	0.004 lb/hr	5 year stack test	6 NYCRR Part 219-2
Manganese	0.023 lb/hr	5 year stack test	6 NYCRR Part 219-2

Nickel	0.004 lb/hr	5 year stack test	6 NYCRR Part 219-2
Vanadium	0.0006 lb/hr	5 year stack test	6 NYCRR Part 219-2
Zinc	0.142 lb/hr[3]	Annual stack test[3]	6 NYCRR Part 219-2
Ammonia	50 ppm	Annual stack test	6 NYCRR Part 219-2
Mercury	28 ug/dscm or 85% control	Annual stack test	6 NYCRR Part 219-7

[1] - Regulatory basis cited in this column represents the regulation that yields the most stringent limit for the listed pollutant, which is identified in column 2.

[2] - This Federal standard is not as stringent as the State limit which is 28 ug/dscm.

[3] - This is the value used in the facility's Health Risk Assessment. A revised permit limit based on all available test data will be established after completion of four years of additional stack testing for zinc emissions. The new limit shall not exceed the Health Risk Assessment value.

3. Operating Limits.

Operating Load: units are limited to operating no more than 110% of the load operated at during most recent stack test. - Cb, Ea
Baghouse Inlet Temperature: The inlet temperature to each baghouse must be no more than 30 degrees higher than the temperature during the most recent stack test. - Cb, Ea
Boiler Roof Temperature: Boiler roof temperature must remain above the minimum temperatures (30 minute block average) established during the correlation study used to demonstrate compliance with the 1800 degrees/1 second residence time requirement. - 219-2
Combustion Index: >99.95%, 7 day rolling, >99.9%, 8 hr rolling - 219-2
Lime Flow: minimum of 275 lb/hr at full load, or flow rate from latest Hcl compliance test, whichever is greater. - to ensure compliance with PSD lb/hr limit.
Carbon Flow: equal or exceed the carbon flow rate during the most recent mercury or dioxin compliance stack test - Cb

4. Continuous Emission/Operation Monitors.

The following emissions/parameters must be continuously monitored for each unit:
Emissions: NOx, SOx (inlet and outlet to scrubber), Carbon Monoxide, O2, CO2, Opacity
Parameters: Baghouse inlet temperature, boiler roof temperature, carbon flow rate, lime flow rate, unit steam load, ammonia emissions. These monitoring systems must meet the applicable QA/QC requirements as specified in the applicable rules. In general, CEMS downtime is limited to less than 10% of the operating hours per quarter and less than 5% of the operating days per calendar year.

5. Compliance Stack Testing.

The facility is required to conduct annual compliance stack testing for several contaminants as identified in Section 2 above. These include dioxin, particulates, mercury, Hcl, cadmium, lead and ammonia. In addition, several contaminants must be tested for every five years as identified in section 2 above. Stack testing must be conducted using a Department approved test protocol. The annual stack test report must be received by the Department within 120 days of completion of testing.

6. Reports.

The facility must submit quarterly excess emission/CEMS downtime reports to the Department. In addition, the facility must submit Title V semi-annual monitoring reports and annual compliance reports to the Department. The facility must also submit an annual compliance report as required by 40 CFR 60 Subpart Cb.

7. Additional Requirements.

Certified Operator: There must be a certified or provisionally certified shift supervisor or chief facility operator on site during all periods of operation. Certification is done through the ASME QRO certification program. - Cb, Ea, 219-2

Facility Operating Manual: The facility must maintain and update annually a facility specific operating manual detailing several aspects of operation of the facility.

Facility Training Program: All facility personnel involved in operation of the facility must receive annual training relevant to their job duties at the plant. This includes but is not limited to chief facility operators, shift supervisors, control room operators, ash handlers, maintenance personnel, crane/load handlers.

Fugitive Ash Emissions: The presence of any visible emissions from ash handling operations at the facility are limited to less than 5% of a three hour observation period. A compliance demonstration for this is required annually.

Startup/Shutdown/Malfunctions: In the event of a failure of any APC equipment, the facility is required to stop feeding the unit with failed APC within 30 minutes of the failure (60 minutes for the carbon feed system). Excess emissions that occur during startup, shutdown or malfunction must be reported to the Department verbally within 1 business day, and followed with a written report within 3 business days.