

2002 Stack Test Data - Onondaga County, NY, Resource Recovery Facility

| >>> Testing performed July 22-August 1, 2002 | | | | | | |
|---|----------------------------|-----------|-----------|--------------------|------------------------------------|----------------|
| Constituent | Average Measured Emissions | | | Permit | % of | Pass/ |
| | Unit 1 | Unit 2 | Unit 3 | Limit ¹ | Limit ² Facility Ave | Fail? (P/F) |
| Particulates (gr/dscf @ 7% O ₂) | 0.00249 | 0.00334 | 0.00274 | 0.010 | 28.6 | P |
| Sulfur Dioxide (ppmdv @ 7% O ₂) | 0.000 | 0.111 | 4.11 | 30 | 4.7 | P |
| Sulfur Dioxide (lb/hr) | 0.020 | 0.190 | 4.44 | 16.2 | 9.6 | P |
| Sulfur Dioxide Removal Efficiency (%) | 99.9 | 99.8 | 95.5 | 85 (min) | | P |
| Nitrogen Oxides (ppmdv @ 7% O ₂) | 159 | 169 | 166 | 180 | 91.5 | P |
| Nitrogen Oxides (lb/hr) | 47.4 | 49.1 | 49.6 | 58 | 84.0 | P |
| Carbon Monoxide (ppmdv @ 7% O ₂) | 12.7 | 10.7 | 8.6 | 45 | 23.7 | P |
| Carbon Monoxide (lb/hr) | 2.15 | 2.22 | 1.08 | 8.04 | 22.6 | P |
| Total Hydrocarbons (ppmdv @ 7% O ₂) | 1.73 | 1.94 | 1.21 | 30 | 5.4 | P |
| Total Hydrocarbons (lb/hr) | 0.170 | 0.198 | 0.122 | 2.76 | 5.9 | P |
| Sulfuric Acid Mist (lb/hr) | 0.511 | 0.251 | 0.282 | 1.69 | 20.6 | P |
| Hydrogen Fluoride (lb/hr) | 0.0221 | 0.0189 | 0.0213 | 0.165 | 12.6 | P |
| Polychlorinated Dibenzo-p-Dioxins and Furans | | | | | | |
| (ng/dscm @ 7% O ₂) - Total | 12.7 | 1.40 | 6.17 | 30 | 22.5 | P |
| (ug/dscm @ 7% O ₂) - NY TEFs | 1.89E-04 | 2.53E-05 | 1.83E-04 | 0.0004 | 33.1 | P |
| (lb/hr) - NY TEFs | 2.91E-08 | 3.78E-09 | 2.84E-08 | 1.29E-07 | 15.8 | P |
| Hydrogen Chloride (ppmdv @ 7% O ₂) | 2.60 | 2.18 | 2.43 | 25 | 9.6 | P |
| Hydrogen Chloride (lb/hr) | 0.587 | 0.510 | 0.560 | 5.24 | 10.5 | P |
| HCl Removal Efficiency (%) | 99.6 | 99.7 | 99.7 | 95 (min) | | P |
| Ammonia (ppmdv @ 7% O ₂) | 5.71 | 3.68 | 1.57 | 50 | 7.3 | P |
| Ammonia (lb/hr) | 0.602 | 0.402 | 0.168 | 4.88 | 8.0 | P |
| Arsenic (lb/hr) | 6.96E-05 | 1.61E-04 | 1.27E-04 | 7.80E-04 | 15.3 | P |
| Beryllium (lb/hr) | 4.74E-06 | 4.77E-06 | 4.78E-06 | 1.15E-05 | 41.4 | P |
| Cadmium (mg/dscm) | 0.000887 | 0.00170 | 0.00168 | 0.040 | 3.6 | P |
| Cadmium (lb/hr) | 1.32E-04 | 2.65E-04 | 2.57E-04 | 1.90E-03 | 11.5 | P |
| Chromium (lb/hr) | 1.36E-04 | 1.82E-04 | 1.48E-04 | 1.93E-03 | 8.0 | P |
| Copper (lb/hr) | 4.58E-04 | 5.63E-04 | 5.13E-04 | 4.00E-03 | 12.8 | P |
| Lead (mg/dscm) | 0.0109 | 0.0246 | 0.0226 | 0.44 | 4.4 | P |
| Lead (lb/hr) | 1.62E-03 | 3.84E-03 | 3.47E-03 | 3.81E-02 | 7.8 | P |
| Manganese (lb/hr) | 2.86E-04 | 2.96E-04 | 2.97E-04 | 2.30E-02 | 1.3 | P |
| Nickel (lb/hr) | 3.34E-04 | 2.81E-04 | 2.64E-04 | 4.00E-03 | 7.3 | P |
| Vanadium (lb/hr) | 4.74E-05 | 4.77E-05 | 4.78E-05 | 6.00E-04 | 7.9 | P |
| Zinc (lb/hr) | 9.18E-03 | 1.47E-02 | 1.65E-02 | 1.88E-02 | 71.6 | P |
| Mercury (ug/dscm @ 7% O ₂) | 2.36 | 2.42 | 3.26 | 80 | 3.4 | P |
| Mercury (lb/hr) | 0.000350 | 0.000376 | 0.000508 | 0.012 | 3.4 | P |
| Mercury Removal Efficiency (%) | 98.4 | 98.4 | 97.6 | 85 (min) | | P |
| PM ₁₀ (gr/dscf @ 7% O ₂) | 0.000543 | 0.000469 | 0.000435 | 0.010 | 4.8 | P |
| PM ₁₀ (lb/hr) | 0.183 | 0.165 | 0.144 | 3.16 | 5.2 | P |
| Polychlorinated Biphenyls (PCBs) | | | | | | |
| (ug/dscm @ 7% O ₂) | 0.0130 | 0.0109 | 0.0110 | 0.053 | 21.9 | P |
| Polycyclic Aromatic Hydrocarbons (PAHs) | | | | | | |
| (ug/dscm @ 7% O ₂) | 0.354 | 0.295 | 0.479 | 1.0 | 37.6 | P |
| (lb/hr) | 0.0000538 | 0.0000442 | 0.0000732 | 0.00014 | 40.8 | P |
| Formaldehyde (ug/dscm @ 7% O ₂) | 28.1 | 47.8 | 43.6 | 50 | 79.7 | P |
| Hexavalent Chromium (lb/hr) | 0.0000465 | 0.0000841 | 0.0000365 | 0.0003 | 18.6 | P |

¹ Permit limits obtained from Covanta Onondaga, LP, NY State Department of Environmental

Conservation Title V Permit Number 7-3142-00028/00009, issued 1/8/2002

² Calculated as the average of the three unit test runs (each unit result is an average of three replicate test runs) over the

Permit limit expressed as a percent

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| Units: | all volumetric test results are reported at 7% oxygen (O ₂) |
| gr/dscf = grains per dry standard cubic foot | min = minimum permit limit percentage |
| ppmdv = parts per million dry volume | E = test result expressed in scientific notation (base 10) |
| lb/hr = pounds per hour | |
| ng/dscm = nanograms (billionth's of a gram) per dry standard cubic meter | |
| ug/dscm = micrograms (millionth's of a gram) per dry standard cubic meter | |
| mg/dscm = milligrams (thousandth's of a gram) per dry standard cubic meter | |