

**VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.**

Petition for Review to the Environmental Appeals Board of the United States Environmental Protection Agency, Washington, D.C.

# Exhibit 1

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Comparative CPT Emissions Results for HWCs: Mercury, SVMs, and LVMs

Note: While these specific charts were not included with Veolia's comments, the issues they address were raised by Veolia at VES 019535, VES 019546-47, and VES 019555-56. The charts have also been Bates labeled consistent with Veolia's comments for ease of reference.

### Mercury CPT Results for 16 Hazardous Waste Combustors (HWCs)

The below data was collated by the Coalition for Responsible Waste Incineration

Facility Numbers 2, 5, and 7 are Veolia-Sauget HWCs

This data table is comprised of CPT mercury test results from numerous HWCs. The variability of the 3 runs within each test was calculated using the statistical functions of Standard Deviation, Relative Standard Deviation, and Range. This specific table shows the sorted results (lowest to highest) for the **Relative Standard Deviation** analysis of the data. (Note: Sorting by any of the three functions shows comparable results. Relative Standard Deviation was deemed most appropriate for this data set and results are shown below.) As can be seen in the table, Veolia HWCs' variabilities in test results are "middle of the pack" when compared to other HWCs, and thus, Veolia's HWCs are **not** outliers.

### Mercury Results Sorted by Relative Standard Deviation

Facility Number	Comprehensive Performance Test (CPT) Year	Run			Run 3 (ug/dscm @ 7% O2)	Average	Standard Deviation	Relative Standard Deviation	Min.	Max.	Range
		Run 1 (ug/dscm @ 7% O2)	Run 2 (ug/dscm @ 7% O2)	Run 3 (ug/dscm @ 7% O2)							
2	2009	58.0	58.2	57.4	57.9	0.4	0.7	57.4	58.2	0.8	
17	2009	0.31	0.34	0.33	0.3	0.0	4.7	0.3	0.3	0.0	
5	2009	54.9	61.1	57.6	57.9	3.1	5.4	54.9	61.1	6.2	
9	2009	99.6	108	124	110.5	12.4	11.2	99.6	124.0	24.4	
10	2005	24	28	31	27.7	3.5	12.7	24.0	31.0	7.0	
12	2005	6.125	7.243	7.917	7.1	0.9	12.8	6.1	7.9	1.8	
2	2013	90	120	95	101.7	16.1	15.8	90.0	120.0	30.0	
13	2010	75.5	95.6	107	92.7	15.9	17.2	75.5	107.0	31.5	
6	2009	165.81	150.68	115.84	144.1	25.6	17.8	115.8	165.8	50.0	
8	2012	17.2	15.4	11.9	14.8	2.7	18.2	11.9	17.2	5.3	
17	2009	1.2	1.1	0.82	1.0	0.2	18.9	0.8	1.2	0.4	
14	2011	52	38	38	42.7	8.1	18.9	38.0	52.0	14.0	
12	2010	23.408	15.79	22.917	20.7	4.3	20.6	15.8	23.4	7.6	
5	2013	59	39	46	48.0	10.1	21.1	39.0	59.0	20.0	
4	2011	2.34	1.55	1.76	1.9	0.4	21.7	1.6	2.3	0.8	
15	2013	4.73	3.05	5.05	4.3	1.1	25.1	3.1	5.1	2.0	
7	2009	37.9	24.4	25.0	29.1	7.6	26.2	24.4	37.9	13.5	
7	2013	7.1	8.1	15	10.1	4.3	42.7	7.1	15.0	7.9	
16	2013	14.23	8.1	5.27	9.2	4.6	49.8	5.3	14.2	9.0	
13	2010	60.5	30.8	22.7	38.0	19.9	52.4	22.7	60.5	37.8	
11	2010	104.1	406.1	361.8	290.7	163.1	56.1	104.1	406.1	302.0	
3	2012	31.5	11.7	11.6	18.3	11.5	62.7	11.6	31.5	19.9	
11	2010	5.81	12.55	2.75	7.0	5.0	71.3	2.8	12.6	9.8	

### Semivolatile Metals (SVM) CPT Results for 17 Hazardous Waste Combustors (HWCs)

The below data was collated by the Coalition for Responsible Waste Incineration

Facility Numbers 2, 5, and 7 are Veolia-Sauget HWCs

This data table is comprised of CPT SVM test results from numerous HWCs. The variability of the 3 runs within each test was calculated using the statistical functions of Standard Deviation, Relative Standard Deviation, and Range. This specific table shows the sorted results (lowest to highest) for the **Relative Standard Deviation** analysis of the data. (Note: Sorting by any of the three functions shows comparable results. Relative Standard Deviation was deemed most appropriate for this data set and results are shown below.) As can be seen in the table, Veolia HWCs' variabilities in test results are "middle of the pack" when compared to other HWCs, and thus, Veolia's HWCs are not outliers.

### SVM Results Sorted by Relative Standard Deviation

Facility Number	Comprehensive Performance Test (CPT) Year	Run 1 (ug/dscm @ 7% O2)	Run 2 (ug/dscm @ 7% O2)	Run 3 (ug/dscm @ 7% O2)	Average	Standard Deviation	Relative Standard Deviation		Min.	Max.	Range
							Standard Deviation	Relative Standard Deviation			
17	2009	2.7	2.8	2.6	2.7	0.1	3.7	2.6	2.8	0.2	
14	2011	1.74	1.71	1.6	1.7	0.1	4.4	1.6	1.7	0.1	
12	2005	2.927	3.481	3.118	3.2	0.3	8.9	2.9	3.5	0.6	
1	2001	53.2	57.5	65.7	58.8	6.4	10.8	53.2	65.7	12.5	
1	2010	92.9	75	75.3	81.1	10.2	12.6	75.0	92.9	17.9	
2	2013	1.1	0.78	1	1.0	0.2	17.1	0.8	1.1	0.3	
7	2009	22.3	31.7	27.1	27.0	4.7	17.4	22.3	31.7	9.4	
5	2009	58.6	67.1	46.2	57.3	10.5	18.3	46.2	67.1	20.9	
17	2009	2.8	2.8	3.8	3.1	0.6	18.4	2.8	3.8	1.0	
6	2009	1.22	1.24	1.67	1.4	0.3	18.5	1.2	1.7	0.5	
4	2011	6.67	5.78	4.33	5.6	1.2	21.1	4.3	6.7	2.3	
10	2005	25.118	26.054	17.058	22.7	4.9	21.7	17.1	26.1	9.0	
9	2009	160.34	114.21	97.47	124.0	32.6	26.3	97.5	160.3	62.9	
8	2012	61.8	34.3	47.1	47.7	13.8	28.8	34.3	61.8	27.5	
5	2013	20	13	12	15.0	4.4	29.1	12.0	20.0	8.0	
13	2010	98.928	140.629	73.059	104.2	34.1	32.7	73.1	140.6	67.6	
7	2013	8.6	4.5	10	7.7	2.9	37.1	4.5	10.0	5.5	
13	2010	51.49	38.9	22.43	37.6	14.6	38.8	22.4	51.5	29.1	
1	2013	51.75	49.68	97.97	66.5	27.3	41.1	49.7	98.0	48.3	
15	2013	2.93	2.27	1.04	2.1	1.0	46.1	1.0	2.9	1.9	
12	2010	3.71	11.2	8.011	7.6	3.8	49.2	3.7	11.2	7.5	
2	2009	32.4	10.4	26.9	23.2	11.4	49.3	10.4	32.4	22.0	
16	2013	2.57	1.48	4.8	3.0	1.7	57.4	1.5	4.8	3.3	
11	2010	39.4	263.3	83.5	128.7	118.6	92.1	39.4	263.3	223.9	
3	2012	1	14.5	37.9	17.8	18.7	104.9	1.0	37.9	36.9	



### Low Volatile Metals (LVM) CPT Results for 17 Hazardous Waste Combustors (HWCs)

The below data was collated by the Coalition for Responsible Waste Incineration

Facility Numbers 2, 5, and 7 are Veolia-Sauget HWCs

This data table is comprised of CPT LVM test results from numerous HWCs. The variability of the 3 runs within each test was calculated using the statistical functions of Standard Deviation, Relative Standard Deviation, and Range. This specific table shows the sorted results (lowest to highest) for the **Relative Standard Deviation** analysis of the data. (Note: Sorting by any of the three functions shows comparable results. Relative Standard Deviation was deemed most appropriate for this data set and results are shown below.) As can be seen in the table, Veolia HWCs' variabilities in test results are "middle of the pack" when compared to other HWCs, and thus, Veolia's HWCs are **not** outliers.

### LVM Results Sorted by Relative Standard Deviation

Facility Number	Comprehensive Performance Test (CPT) Year	Run			Average	Standard Deviation	Relative Standard Deviation	Min.	Max.	Range
		Run 1 (ug/dscm @ 7% O2)	Run 2 (ug/dscm @ 7% O2)	Run 3 (ug/dscm @ 7% O2)						
12	2005	3.063	3.118	2.698	3.0	0.2	7.7	2.7	3.1	0.4
2	2013	2.8	2.4	2.5	2.6	0.2	8.1	2.4	2.8	0.4
14	2011	1.484	1.282	1.282	1.3	0.1	8.6	1.3	1.5	0.2
13	2009	2.252	1.946	1.9	2.0	0.2	9.4	1.9	2.3	0.4
5	2013	8.6	8.9	11	9.5	1.3	13.8	8.6	11.0	2.4
1	2001	12.5	16.6	13	14.0	2.2	15.9	12.5	16.6	4.1
17	2009	2.4	2.3	1.7	2.1	0.4	17.7	1.7	2.4	0.7
16	2013	3.21	2.98	2.08	2.8	0.6	21.7	2.1	3.2	1.1
7	2013	12	9.8	7.5	9.8	2.3	23.0	7.5	12.0	4.5
1	2008	52.6	37.9	34.2	41.6	9.7	23.4	34.2	52.6	18.4
3	2012	7.6	12.7	10.5	10.3	2.6	24.9	7.6	12.7	5.1
9	2009	20.6	11.4	18.3	16.8	4.8	28.6	11.4	20.6	9.2
15	2013	3.96	2.59	2.37	3.0	0.9	29.0	2.4	4.0	1.6
8	2012	17.9	11.6	21.7	17.1	5.1	29.9	11.6	21.7	10.1
17	2009	3.3	1.8	2.4	2.5	0.8	30.2	1.8	3.3	1.5
12	2010	3.006	4.717	2.744	3.5	1.1	30.7	2.7	4.7	2.0
5	2009	28.6	20.1	15.6	21.4	6.6	30.8	15.6	28.6	13.0
6	2009	2.45	1.67	1.21	1.8	0.6	35.3	1.2	2.5	1.2
7	2009	5.2	10.3	13.5	9.7	4.2	43.3	5.2	13.5	8.3
13	2009	13.958	19.057	6.978	13.3	6.1	45.5	7.0	19.1	12.1
10	2005	2.64	1.93	4.94	3.2	1.6	49.6	1.9	4.9	3.0
2	2009	10.2	3.2	7.5	7.0	3.5	50.7	3.2	10.2	7.0
11	2010	11	30.9	12.6	18.2	11.1	60.9	11.0	30.9	19.9
1	2013	22.67	17.07	58.23	32.7	22.3	68.4	17.1	58.2	41.2
4	2011	20.02	5.69	7.29	11.0	7.9	71.4	5.7	20.0	14.3