

Comparison of Proposed, Final, and Reproposed Emission Limits for Existing CISWI Units

40 CFR 60, Subpart DDDD

Pollutant (units) †	Incinerators	Incinerators				Energy Recovery Units										Waste-Burning Kilns				Small, Remote Incinerators				Burn-Off Ovens		
	(2000 CISWI limit)	6/4/10 FR Proposed	3/21/11 FR Final	12/12 Pre-Pub	% Increase (3/11 vs 12/12)	6/4/10 FR Proposed	3/21/11 FR Final			12/21/12 Pre-Pub			% Increase (3/11 vs 12/12)			6/4/10 FR Proposed	3/21/11 FR Final	12/12 Pre-Pub	% Increase (3/11 vs 12/12)	6/4/10 FR Proposed	3/21/11 FR Final	12/12 Pre-Pub	% Increase (3/11 vs 12/12)	6/4/10 FR Proposed	3/21/11 FR Final	12/12 Pre-Pub
							Biomass	Coal	Liq/Gas	Biomass	Coal	Liq/Gas	Biomass	Coal	Liq/Gas											
CO (ppmv)	157	2.2	36	17	-53%	150	490	59	36	260	95	35	-47%	61%	-3%	710	110	110/790	9%/273%	78	20	64	220%	80	no limit	no limit
NOx (ppmv)	388	34	53	53	--	130	290	340	76	290	340	76	--	--	--	1100	540	630	17%	210	240	190	-21%	120	no limit	no limit
SO2 (ppmv)	20	2.5	11	11	--	4.1	6.2	650	720	7.3	650	720	18%	--	--	410	38	600	1479%	44	420	150	-64%	11	no limit	no limit
PM filterable (mg/dscm)	70	13	34	34	--	9.2	250	250	110	11	160	110	-96%	-36%	--	60	6.2	4.6	-26%	240	230	270	17%	33	no limit	no limit
Fugitive Ash (% Visible Emissions)	no limit	no limit	5%	5%	--	no limit	5%	5%	5%	5%	5%	5%	--	--	--	no limit	no limit	no limit	--	no limit	5%	5%	--	no limit	no limit	no limit
Opacity (%)	10	1	no limit	no limit	--	1	no limit	no limit	no limit	no limit	no limit	no limit	--	--	--	4	no limit	no limit	--	13	no limit	no limit	--	2	no limit	no limit
Hg (mg/dscm)	0.47	0.0028	0.0054	0.0048	-11%	0.00096	0.00033	0.00033	0.0013	0.0022	0.0160	0.0024	567%	4748%	85%	0.024	0.0079	0.011	39%	0.0029	0.0057	0.0053	-7%	0.014	no limit	no limit
Cd (mg/dscm)	0.004	0.0013	0.0026	0.0026	--	0.00041	0.00051	0.00051	0.023	0.0014	0.0095	0.023	175%	1763%	--	0.00030	0.00048	0.0014	192%	0.26	0.61	0.95	56%	0.0045	no limit	no limit
Pb (mg/dscm)	0.04	0.0026	0.0036	0.015	317%	0.002	0.0036	0.0036	0.096	0.014	0.14	0.096	289%	3789%	--	0.0027	0.0026	0.014	438%	1.4	2.7	2.1	-22%	0.041	no limit	no limit
HCl (ppmv)	62	29	29	29	--	1.5	0.45	0.45	14	0.20	13	14	-56%	2789%	--	1.5	25	3.0	-88%	150	220	300	36%	130	no limit	no limit
Dioxin/Furans total (ng/dscm) OR	no limit	0.031	4.6	4.6	--	0.75	0.35	0.35	2.9	0.52	5.1	2.9	49%	1357%	--	2.1	0.20	1.3	550%	1600	1200	4400	267%	310	no limit	no limit
Dioxin/Furans TEQ (ng/dscm)	0.41	0.0025	0.13	0.13	--	0.059	0.059	0.059	0.32	0.12	0.075	0.32	103%	27%	--	0.17	0.0070	0.075	971%	130	57	180	216%	25	no limit	no limit

Comparison of Proposed, Final, and Reproposed Emission Limits for New CISWI Units

40 CFR 60, Subpart CCCC

Pollutant (units) †	Incinerators	Incinerators				Energy Recovery Units										Waste-Burning Kilns				Small, Remote Incinerators				Burn-Off Ovens		
	(2000 CISWI limit)	6/4/10 FR Proposed	3/21/11 FR Final	12/2/11 Pre-Pub	% Increase (3/11 vs 12/12)	6/4/10 FR Proposed	3/21/11 FR Final			12/2/11 Pre-Pub			% Increase (3/11 vs 12/12)			6/4/10 FR Proposed	3/21/11 FR Final	12/12 Pre-Pub	% Increase (3/11 vs 12/12)	6/4/10 FR Proposed	3/21/11 FR Final	12/12 Pre-Pub	% Increase (3/11 vs 12/12)	6/4/10 FR Proposed	Final	12/12 Pre-Pub
							Biomass	Coal	Liq/Gas	Biomass	Coal	Liq/Gas	Biomass	Coal	Liq/Gas											
CO (ppmv)	157	1.4	12	17	42%	3	160	46	36	240	95	35	50%	107%	-3%	36	90	90/190	--/256%	4	12	13	8%	74	no limit	no limit
NOx (ppmv)	388	19	23	23	--	75	290	340	76	290	340	76	--	--	--	140	200	200	--	210	78	170	118%	16	no limit	no limit
SO2 (ppmv)	20	1.5	11	11	--	4.1	6.2	650	720	7.3	650	720	18%	--	--	3.6	38	28	-26%	43	1.2	1.2	--	1.5	no limit	no limit
PM- filterable (mg/dscm)	70	0.0077	18	18	--	4.4	250	250	110	5.1	160	110	-98%	-36%	--	1.8	2.5	2.2	-12%	240	230	270	17%	28	no limit	no limit
Fugitive Ash (% Visible Emissions)	no limit	no limit	5%	5%	--	no limit	5%	5%	5%	5%	5%	5%	--	--	--		no limit	no limit	--		5%	5%	--	no limit	no limit	no limit
Opacity (%)	10	1	no limit	no limit	--	1	no limit	no limit	no limit	no limit	no limit	no limit	--	--	--	1	no limit	no limit	--	13	no limit	no limit	--	2	no limit	no limit
Hg (mg/dscm)	0.47	0.00013	0.00016	0.00084	425%	0.00013	0.00033	0.00033	0.00025	0.0022	0.016	0.00056	567%	4748%	124%	0.024	0.0062	0.0037	-40%	0.0013	0.0035	0.0035	--	0.0033	no limit	no limit
Cd (mg/dscm)	0.004	0.00066	0.0023	0.0023	--	0.00012	0.00051	0.00051	0.023	0.0014	0.0095	0.023	175%	1763%	--	0.0003	0.00048	0.0014	192%	0.057	0.61	0.67	10%	0.0032	no limit	no limit
Pb (mg/dscm)	0.04	0.0013	0.0019	0.015	689%	0.0012	0.0031	0.0031	0.096	0.014	0.14	0.096	352%	4416%	--	0.00078	0.0026	0.014	438%	1.4	0.26	2	669%	0.029	no limit	no limit
HCl (ppmv)	62	0.074	0.091	0.091	--	0.17	0.45	0.45	14	0.20	13	14	-56%	2789%	--	1.5	3.0	3.0	--	150	200	200	--	18	no limit	no limit
Dioxin/Furans Total (ng/dscm) OR	no limit	0.0093	0.052	0.58	1015%	0.034	0.068	0.068	no limit	0.52	5.1	no limit	665%	7400%	--	0.00035	0.090	0.51	467%	1200	1200	1800	50%	0.011	no limit	no limit
Dioxin/Furans TEQ (ng/dscm)	0.41	0.00073	0.13	0.13	--	0.0027	0.011	0.011	0.002	0.076	0.075	0.093	591%	582%	4550%	0.000028	0.0030	0.075	2400%	94	31	31	--	0.00086	no limit	no limit

† All emission limits are measured at 7% oxygen.

ppmv = parts per million by volume.

mg/dscm = milligrams per dry standard cubic meter.

ng/dscm = nanograms per dry standard cubic meter.

CO for Waste Burning Kilns: Existing Units: 110 is for long kilns and 790 is for preheater/precalciner kilns.

CO for Waste Burning Kilns: New Units: 90 is for long kilns and 190 is for preheater/precalciner kilns.

Values presented are from preamble tables.