

Table I-8
Annual National HDD Rulemaking Emissions for 2030 Base Case
(tons/year)

Tier 1	Tier 2	VOC	NO_x	CO	SO₂	PM₁₀	PM_{2.5}	NH₃	SOA
Fuel Comb. Elec. Utility	Coal	26,606	3,812,062	230,492	8,996,964	236,608	111,563	239	513
	Oil	0	0	0	0	0	0	0	0
	Gas	5,008	95,556	58,564	33,482	380	419	2,935	4
	Other	123	233	1	49	0	0	0	2
	Internal Combustion	3,522	99,450	385,629	0	147,558	68,078	0	2
		35,259	4,007,300	674,686	9,030,495	384,546	180,060	3,174	521
Fuel Comb. Industrial	Coal	6,331	486,046	106,949	1,295,888	65,647	20,275	120	122
	Oil	9,302	239,196	60,624	926,618	50,105	27,847	4,932	249
	Gas	54,334	1,467,538	424,310	599,744	52,763	49,166	46,322	56
	Other	46,757	142,950	408,420	158,606	85,744	69,118	1,334	1,789
	Internal Combustion	60,723	889,242	300,122	10,226	15,966	14,432	4,121	73
		177,447	3,224,972	1,300,426	2,991,081	270,225	180,837	56,828	2,289
Fuel Comb. Other	Commercial/Institutional Coal	1,454	54,886	22,205	294,571	24,289	10,239	11	28
	Commercial/Institutional Oil	2,464	71,428	14,053	294,903	10,623	4,416	1,556	59
	Commercial/Institutional Gas	17,827	375,532	92,446	16,475	12,585	11,065	1,265	12
	Misc. Fuel Comb. (Except Residential)	14,662	44,691	93,406	8,844	141,539	140,851	78	375
	Residential Wood	197,217	47,667	1,764,034	6,733	230,356	197,386	0	8,500
	Residential Other	29,530	624,984	201,430	67,021	17,533	12,081	2,862	231
		263,155	1,219,188	2,187,575	688,547	436,925	376,038	5,772	9,205
Chemical & Allied Product Mfg	Organic Chemicals	161,739	30,719	142,354	6,589	44,666	17,532	306	389
	Inorganic Chemicals	4,463	7,264	182,373	299,948	5,840	4,413	320	16
	Polymers & Resins	128,794	3,284	7,447	878	4,165	2,849	31	326
	Agricultural Chemicals	11,042	100,998	18,253	2,016	14,704	10,056	240,633	33
	Paints, Varnishes, Lacquers, Enamels	10,637	66	111	0	1,237	536	0	122
	Pharmaceuticals	8,698	97	729	608	329	173	0	19
	Other Chemicals	157,690	73,613	1,317,220	118,039	33,039	28,860	232	235
		483,062	216,040	1,668,487	428,079	103,980	64,419	241,521	1,139
Metals Processing	Non-Ferrous Metals Processing	23,865	13,841	567,290	383,428	48,494	31,030	6	130
	Ferrous Metals Processing	53,964	93,618	1,403,599	131,976	151,144	91,300	5,563	187
	Metals Processing NEC	13,421	4,653	56,080	25,791	35,400	24,266	100	70
		91,250	112,112	2,026,969	541,195	235,038	146,596	5,668	387
Petroleum & Related Industries	Oil & Gas Production	223,218	114,844	33,336	96,430	1,470	824	5	329
	Petroleum Refineries & Related Industries	127,554	62,748	563,975	343,963	25,006	16,734	48,976	225
	Asphalt Manufacturing	6,908	10,139	11,066	12,353	21,343	9,270	0	54
		357,680	187,732	608,377	452,746	47,819	26,828	48,981	608

Table I-8 (cont'd)

Tier 1	Tier 2	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	NH ₃	SOA
Other Industrial Processes	Agriculture, Food, & Kindred Products	172,176	5,912	5,272	6,312	90,134	32,570	5,608	193
	Textiles, Leather, & Apparel Products	20,514	1,324	303	403	1,331	775	2	4,088
	Wood, Pulp & Paper, & Publishing Products	102,507	138,252	703,273	183,286	123,904	87,806	341	14,213
	Rubber & Miscellaneous Plastic Products	61,299	232	152	3	7,537	4,391	11	297
	Mineral Products	45,357	411,577	266,358	349,334	242,654	131,972	28	329
	Machinery Products	16,223	3,359	1,243	408	13,500	4,821	30	141
	Electronic Equipment	2,730	50	1,774	2	41	34	1	30
	Transportation Equipment	6,599	421	848	2	434	352	0	71
	Construction	39	0	0	0	20	20	0	0
	Miscellaneous Industrial Processes	93,391	18,551	32,089	23,162	31,321	20,798	63,597	896
		520,836	579,678	1,011,313	562,911	510,877	283,541	69,619	20,257
Solvent Utilization	Degreasing	680,847	75	71	13	205	185	7	4,670
	Graphic Arts	381,291	1,032	149	63	1,085	1,054	4	4,104
	Dry Cleaning	164,111	13	828	1	6	5	6	885
	Surface Coating	2,671,257	2,492	1,576	621	7,220	6,218	66	30,164
	Other Industrial	182,115	202	566	392	691	598	1	717
	Nonindustrial	2,161,275	2	45	0	16	16	0	23,458
	Solvent Utilization NEC	3,648	10	75	2	5	5	0	0
		6,244,544	3,826	3,309	1,092	9,228	8,081	84	63,998
Storage & Transport	Bulk Terminals & Plants	367,618	202	5,037	2	90	90	62	582
	Petroleum & Petroleum Product Storage	161,964	484	5,536	108	734	670	1,320	1,816
	Petroleum & Petroleum Product Transport	118,776	161	433	0	33	31	2	1,865
	Service Stations: Stage I	536,030	0	0	0	0	0	0	10,479
	Service Stations: Stage II	147,601	31	58	2	2	0	0	2,565
	Service Stations: Breathing & Emptying	75,734	0	0	0	0	0	0	1,484
	Organic Chemical Storage	34,449	5,620	104,778	635	1,946	1,198	3	272
	Organic Chemical Transport	3,607	50	80	29	5	4	0	32
	Inorganic Chemical Storage	1,482	429	156	88	698	322	0	10
	Inorganic Chemical Transport	0	0	0	16	87	85	0	0
	Bulk Materials Storage	1,559	2,730	2,459	2,761	147,846	49,711	86	18
	Bulk Materials Transport	2	0	0	0	526	41	0	0
		1,448,821	9,708	118,538	3,642	151,968	52,152	1,474	19,123
Waste Disposal & Recycling	Incineration	73,974	80,465	564,328	41,322	121,223	61,615	554	449
	Open Burning	279,007	59,972	1,017,577	15,130	282,822	246,810	0	307
	POTW	16,682	393	298	37	24	22	137,260	12
	Industrial Waste Water	9,554	26	9	35	38	37	0	12
	TSDF	64,401	12	7	3	76	46	0	32
	Landfills	37,196	2,073	7,131	1,036	4,054	2,560	2	9
	Other	49,077	1,062	1,255	671	949	854	1	51
		529,890	144,003	1,590,606	58,236	409,186	311,942	137,816	871

Table I-8 (cont'd)

Tier 1	Tier 2	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}	NH ₃	SOA
Highway Vehicles	Light-Duty Gas Vehicles & Motorcycles	693,159	379,035	14,832,875	9,877	39,538	18,663	146,721	4,228
	Light-Duty Gas Trucks	1,255,438	873,282	36,314,883	24,620	74,115	35,127	260,621	7,658
	Heavy-Duty Gas Vehicles	239,010	174,160	4,311,990	3,232	12,970	8,086	9,986	1,745
	Diesels	240,598	2,757,773	1,430,367	130,411	125,865	101,504	13,916	5,703
		2,428,206	4,184,251	56,890,116	168,141	252,489	163,381	431,244	19,334
Off-Highway	Non-Road Gasoline	1,716,103	224,655	33,963,828	2,950	113,716	104,618	1,294	12,561
	Non-Road Diesel	174,960	2,021,532	1,718,367	1,092,053	278,832	256,526	6,157	4,146
	Aircraft	262,235	262,352	1,502,328	16,815	43,403	30,609	6,483	6,214
	Marine Vessels	42,853	821,806	183,766	261,831	53,703	47,612	1,413	1,205
	Railroads	31,644	534,520	119,302	111,106	18,184	16,729	722	750
	Other	595	460,024	1,735,406	6,761	3,330	3,330	0	1
		2,228,391	4,324,889	39,222,996	1,491,515	511,167	459,425	16,069	24,878
Natural Sources	Biogenic	0	0	0	0	0	0	30,907	0
	Geogenic	13,792	0	0	0	5,306,671	796,001	0	0
		13,792	0	0	0	5,306,671	796,001	30,907	0
Miscellaneous	Agriculture & Forestry	40,668	3,209	747	130	4,276,883	828,855	4,351,386	0
	Other Combustion	806,454	499,355	13,187,384	18,759	1,488,062	1,231,554	0	551
	Catastrophic/Accidental Releases	5,107	0	0	0	0	0	0	4
	Health Services	727	10	0	0	0	0	0	0
	Cooling Towers	1,566	0	0	0	3,237	3,047	0	30
	Fugitive Dust	109	1,446	119	303	19,698,048	3,771,493	11	0
		854,630	504,021	13,188,251	19,191	25,466,230	5,834,949	4,351,397	585
TOTAL ALL TIERS		15,676,964	18,717,720	120,491,650	16,436,874	34,096,348	8,884,248	5,400,554	163,196