

Table I-5
Annual National HDD Rulemaking Emissions for 2020 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	6,506	497,012	109,981	1,333,051	67,892	20,910	124	126
	Oil	8,700	226,041	56,999	873,285	47,363	26,347	4,671	233
	Gas	51,020	1,385,767	395,837	568,037	49,262	45,727	43,869	53
	Other	43,811	136,429	383,441	150,561	81,183	65,541	1,270	1,677
	Internal Combustion	61,170	895,571	301,911	10,126	15,648	14,166	4,139	71
		171,208	3,140,819	1,248,169	2,935,060	261,348	172,690	54,073	2,159
Fuel Comb. Other	Commercial/Institutional Coal	1,283	48,979	19,698	262,231	21,681	9,142	10	25
	Commercial/Institutional Oil	2,611	76,203	15,297	304,186	10,708	4,481	1,650	61
	Commercial/Institutional Gas	15,825	331,044	81,702	14,383	11,090	9,759	1,109	11
	Misc. Fuel Comb. (Except Residential)	12,639	39,267	81,377	7,792	118,944	118,331	67	316
	Residential Wood	201,714	48,721	1,802,945	6,881	235,396	201,845	0	8,694
	Residential Other	31,235	656,914	217,432	82,973	18,828	12,676	3,268	279
		265,307	1,201,129	2,218,450	678,444	416,647	356,233	6,103	9,385
Chemical & Allied Product Mfg	Organic Chemicals	142,492	27,085	125,098	5,794	39,303	15,431	273	342
	Inorganic Chemicals	3,905	6,411	161,400	266,439	5,128	3,870	285	14
	Polymers & Resins	114,309	2,893	6,489	771	3,640	2,490	27	289
	Agricultural Chemicals	9,714	89,126	16,066	1,768	12,898	8,816	212,259	29
	Paints, Varnishes, Lacquers, Enamels	9,315	60	101	0	1,084	470	0	107
	Pharmaceuticals	7,659	84	641	528	288	152	0	16
	Other Chemicals	139,343	65,480	1,164,895	105,359	29,065	25,385	205	208
		426,737	191,139	1,474,689	380,658	91,406	56,614	213,048	1,005
Metals Processing	Non-Ferrous Metals Processing	21,703	12,611	518,618	346,523	43,228	27,887	5	118
	Ferrous Metals Processing	50,222	85,543	1,315,303	126,459	137,306	83,608	5,138	173
	Metals Processing NEC	12,189	4,170	51,398	22,984	31,045	21,437	89	65
		84,114	102,325	1,885,319	495,966	211,579	132,932	5,232	356
Petroleum & Related Industries	Oil & Gas Production	217,502	106,069	31,012	93,975	1,382	780	5	320
	Petroleum Refineries & Related Industries	112,636	55,797	495,371	306,772	22,204	14,883	43,524	198
	Asphalt Manufacturing	6,098	8,876	9,755	10,834	18,725	8,092	0	48
		336,236	170,741	536,138	411,581	42,311	23,755	43,529	566

Table I-5 (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	153,805	5,355	4,727	5,611	80,871	28,870	4,977	172
	Textiles, Leather, & Apparel Products	18,520	1,216	278	361	1,192	694	2	3,692
	Wood, Pulp & Paper, & Publishing Products	90,226	119,688	605,074	157,758	109,180	77,102	295	12,762
	Rubber & Miscellaneous Plastic Products	51,709	197	127	2	6,388	3,723	9	250
	Mineral Products	40,571	372,003	237,063	313,111	216,897	118,017	25	294
	Machinery Products	14,526	3,032	1,099	362	11,798	4,225	27	126
	Electronic Equipment	2,480	46	1,688	2	36	30	1	27
	Transportation Equipment	5,802	366	712	2	371	300	0	62
	Construction	34	0	0	0	19	19	0	0
	Miscellaneous Industrial Processes	82,234	16,468	27,976	20,033	27,663	18,360	55,900	789
		459,908	518,370	878,745	497,242	454,416	251,341	61,237	18,174
Solvent Utilization	Degreasing	599,088	66	62	12	183	165	7	4,109
	Graphic Arts	348,102	925	135	57	1,009	981	3	3,744
	Dry Cleaning	152,938	12	775	1	5	5	6	823
	Surface Coating	2,374,533	2,216	1,362	550	6,357	5,480	58	26,717
	Other Industrial	156,548	183	498	364	600	519	1	627
	Nonindustrial	2,010,731	2	42	0	14	14	0	21,576
	Solvent Utilization NEC	3,375	9	69	2	5	5	0	0
		5,645,315	3,413	2,944	985	8,174	7,169	75	57,596
Storage & Transport	Bulk Terminals & Plants	319,300	177	4,541	2	80	80	54	506
	Petroleum & Petroleum Product Storage	143,203	429	4,983	99	654	596	1,161	1,582
	Petroleum & Petroleum Product Transport	104,010	142	380	0	29	27	2	1,631
	Service Stations: Stage I	473,363	0	0	0	0	0	0	9,254
	Service Stations: Stage II	144,429	28	53	2	2	0	0	2,550
	Service Stations: Breathing & Emptying	66,656	0	0	0	0	0	0	1,306
	Organic Chemical Storage	30,299	4,938	92,042	558	1,687	1,032	3	239
	Organic Chemical Transport	3,188	44	71	26	5	4	0	28
	Inorganic Chemical Storage	1,339	375	137	78	621	285	0	9
	Inorganic Chemical Transport	0	0	0	14	78	76	0	0
	Bulk Materials Storage	1,392	2,420	2,221	2,469	130,869	44,066	78	16
	Bulk Materials Transport	2	0	0	0	464	36	0	0
		1,287,181	8,554	104,428	3,248	134,489	46,200	1,298	17,122
Waste Disposal & Recycling	Incineration	67,230	71,133	519,286	36,543	111,395	56,550	482	406
	Open Burning	256,306	54,996	929,955	13,973	262,129	229,320	0	282
	POTW	14,758	362	265	33	21	19	121,086	10
	Industrial Waste Water	8,459	23	8	32	34	33	0	10
	TSDF	56,918	11	6	2	67	40	0	28
	Landfills	34,341	1,843	6,376	902	3,592	2,302	1	8
	Other	42,806	930	1,089	585	829	745	1	44
		480,817	129,298	1,456,985	52,070	378,066	289,010	121,571	789

Table I-5 (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	681,346	423,251	14,481,905	9,649	38,515	18,166	143,473	4,156
	Light-Duty Gas Trucks	1,115,099	885,058	30,098,399	20,289	61,282	29,143	214,801	6,802
	Heavy-Duty Gas Vehicles	204,945	198,902	3,538,363	2,655	10,655	6,643	8,203	1,496
	Diesels	205,870	2,338,998	1,192,954	115,954	104,600	84,483	11,436	4,880
		2,207,260	3,846,209	49,311,620	148,547	215,052	138,434	377,913	17,334
Off-Highway	Non-Road Gasoline	1,526,779	197,550	29,330,591	2,620	97,681	89,867	1,131	11,177
	Non-Road Diesel	155,108	1,776,129	1,449,090	929,887	236,700	217,764	5,310	3,676
	Aircraft	237,658	232,280	1,387,232	15,268	42,577	30,027	5,523	5,632
	Marine Vessels	38,682	826,499	166,602	245,104	48,966	43,379	1,320	1,088
	Railroads	36,546	612,722	119,302	111,106	21,371	19,661	722	866
	Other	509	394,519	1,484,905	5,822	2,849	2,849	0	0
		1,995,283	4,039,699	33,937,722	1,309,807	450,144	403,547	14,006	22,439
Natural Sources	Biogenic	0	0	0	0	0	0	30,970	0
	Geogenic	13,792	0	0	0	5,306,671	796,001	0	0
		13,792	0	0	0	5,306,671	796,001	30,970	0
Miscellaneous	Agriculture & Forestry	40,951	3,236	754	131	4,290,404	830,883	4,252,793	0
	Other Combustion	806,453	499,355	13,187,382	18,758	1,488,062	1,231,553	0	551
	Catastrophic/Accidental Releases	5,107	0	0	0	0	0	0	4
	Health Services	649	9	0	0	0	0	0	0
	Cooling Towers	1,377	0	0	0	2,834	2,666	0	27
	Fugitive Dust	99	1,267	108	272	19,075,437	3,583,234	10	0
		854,635	503,868	13,188,243	19,161	24,856,736	5,648,338	4,252,803	581
TOTAL ALL TIERS		14,263,053	17,862,864	106,918,138	15,963,265	33,211,585	8,502,324	5,185,031	148,029