APPENDIX 1

TABLE A

Reporting and SOTA thresholds

(Potential to emit)

Air Contaminant	Reporting Threshold[1] (in lbs/hour)	SOTA Threshold[2] (in tons/yr)
Total VOC	0.05	5.0
TSP	0.05	5.0
PM–10	0.05	5.0
NO_x	0.05	5.0
CO	0.05	5.0
SO2	0.05	5.0
Each TXS	0.01	See Table B
Each HAP	See Table B	See Table B
Any *[other]* air contaminant listed in footnote 3	0.05	5.0

[1]If a source emits an air contaminant that both belongs to an air contaminant class that appears on Table A and is also a HAP found on Table B, emissions of the air contaminant must be taken into consideration in a permit application in determining if the Table A reporting threshold is met, as well as if the Table B reporting threshold is met. If both the Table A and the Table B reporting thresholds are met, emissions of that air contaminant must be included in the emissions reported in application forms for both Table 1 air contaminants and Table 2 HAPs.

[2]If a source emits an air contaminant that appears on Table A and is also a HAP found on Table B, the lower of the two SOTA thresholds applies.

[3]Any 112(r) contaminant; any stratospheric ozone depleting substance, or any greenhouse gas.

TABLE B

Reporting and SOTA thresholds for HAPs

(Potential to emit)

CAS Number	Air Contaminant	Reporting Threshold (lbs/yr)	SOTA Threshold (lbs/yr)
75070	Acetaldehyde	1,800	10,000
60355	Acetamide	200	2,000
75058	Acetonitrile	800	8,000
98862	Acetophenone	200	2,000
53963	2–Acetylaminofluorene	1	10
107028	Acrolein	8	80
79061	Acrylamide	4	40
79107	Acrylic acid	120	1,200
107131	Acrylonitrile	60	600
107051	Allyl chloride	200	2,000
92671	4-Aminobiphenyl	200	2,000
62533	Aniline	200	2,000
90040	o–Anisidine	200	2,000
71432	Benzene	N/A[3]	4,000
92875	Benzidine	0.06	0.6
98077	Benzotrichloride	1.2	12
100447	Benzyl chloride	20	200
92524	Biphenyl	2,000	10,000
117817	Bis(2-ethylhexyl)phthalate	1000	10,000
542881	Bis(chloromethyl)ether	0.06	0.6
75252	Bromoform	2,000	10,000
106990	1,3–Butadiene	14	140
156627	Calcium cyanamide	2,000	10,000
133062	Captan	2,000	10,000
63252	Carbaryl	2,000	10,000
75150	Carbon disulfide	200	2,000
56235	Carbon tetrachloride	N/A[4]	2,000
463581	Carbonyl sulfide	1,000	10,000
120809	Catechol	1,000	10,000
133904	Chloramben	200	10,000
57749	Chlordane	2	20
7782505	Chlorine	20	200
79118	Chloroacetic acid	20	200
532274	2–Chloroacetophenone	12	120
108907	Chlorobenzene	2,000	10,000
510156	Chlorobenzilate	80	800
67663	Chloroform	N/A[5]	1,800
107302	Chloromethyl ethyl ether	20	200
126998	Chloroprene	200	2,000
1319773	Cresols/Cresylic acid	200	2,000
95487	o–Cresol	200	2,000
108394	m–Cresol	200	2,000
106445	p–Cresol	200	2,000
98828	Cumene	2,000	10,000
94757	2,4–D	2,000	10,000
547044	DDE	2	20
334883	Diazomethane	200	2,000
132649	Dibenzofurans	1,000	10,000
96128	1,2–Dibromo–3–chloropropane	2	200
84742	Dibutylphthalate	2,000	10,000
106467	1,4–Dichlorobenzene	600	6,000
91941	3,3–Dichlorobenzidine	40	400
111444	Dichloroethyl ether	12	120
542756	1,3–Dichloropropene	200	2000
62737	Dichlorvos	40	400
111422	Diethanolamine	1,000	10,000
121697	N,N–Diethyl aniline	200	2,000
64675	Diethyl sulfate	200	2,000
119904	3,3–Dimethoxybenzidine	20	200
60117	Dimethyl aminoazobenzene	200	2,000
119937	3,3–Dimethyl benzidine	1.6	16
79447	Dimethyl carbamoyl chloride	4	40
68122	Dimethyl formamide	200	2,000
57147	1,1–Dimethyl hydrazine	1.6	16
131113	Dimethyl phthalate	2,000	10,000
77781	Dimethyl sulfate	20	200
534521	4,6–Dinitro-o-cresol	20	200
51285	2,4–Dinitrophenol	200	2,000
121142	2,4–Dinitrotoluene	4	40
123911	1,4–Dioxane	N/A[6]	10,000
122667	1,2–Diphenylhydrazine	18	180
106898	Epichlorohydrin	400	4,000
106887	1,2–Epoxybutane	200	2,000
140885	Ethyl acrylate	200	2,000
100414	Ethyl benzene	2,000	10,000
51796	Ethyl carbamate	160	1,600
75003	Ethyl chloride	2,000	10,000
106934	Ethylene dibromide	20	200
107062	Ethylene dichloride	N/A[8]	1,600
107211	Ethylene glycol	2,000	10,000
151564	Ethylene imine	0.6	6
75218	Ethylene oxide	20	200
96457	Ethylene thiourea	120	1,200
75343	Ethylidene dichloride	200	2,000
50000	Formaldehyde	400	4,000
76448	Heptachlor	4	40
118741	Hexachlorobenzene	2	20
87683	Hexachlorobutadiene	180	1,800
77474	Hexachlorocyclopentadiene	20	200
67721	Hexachloroethane	1,000	10,000
822060	Hexamethylene–1,6–diisocyante	4	40
680319	Hexamethylphosphoramide	2	20
110543	Hexane	2,000	10,000

CAS Number	Air Contaminant	Reporting Threshold (lbs/yr)	SOTA Threshold (lbs/yr)
302012	Hydrazine	0.8	8.
7647010	Hydrochloric acid	2,000	10,000
7664393	Hydrogen fluoride	20	200
123319	Hydroquinone	200	2,000
78591	Isophorone	2,000	10,000
58899	Lindane	2	20
108316	Maleic anhydride	200	2,000
67561	Methanol	2,000	10,000
72435	Methoxychlor	2,000	10,000
74839	Methyl bromide	2,000	10,000
74873	Methyl chloride	2,000	10,000
71556	Methyl chloroform	2,000	10,000
78933	Methyl ethyl ketone	2,000	10,000
60344	Methyl hydrazine	12	120
74884	Methyl iodide	200	2,000
108101	Methyl isobutyl ketone	2,000	10,000
624839	Methyl isocyanate	20	200
80626	Methyl methacrylate	2,000	10,000
1634044	Methyl tert butyl ether	2,000	10,000
101144	4,4–Methylene bis(2–chloraniline)	40	400
75092	Methylene chloride	2,000	10,000
101688	Methylene diphenyl diisocyanate	20	200
101779	4,4′–Methylene dianiline	200	2,000
91203	Naphthalene	2,000	10,000
98953	Nitrobenzene	200	2,000
92933	4–Nitrobiphenyl	200	2,000
100027	4–Nitrophenol	1,000	10,000
79469	2–Nitropropane	200	2,000
684935	N–Nitroso–N–methylurea	0.04	0.4
62759	N–Nitrosodimethylamine	0.2	2
59892	N–Nitrosomorpholine	200	2,000
56382	Parathion	20	200
82688	Pentachloronitrobenzene	60	600
87865	Pentachlorophenol	140	1,400
108952	Phenol	20	200
106503	p–Phenylenediamine	2,000	10,000
75445	Phosgene	20	200
7803512	Phosphine	1,000	10,000
7723140	Phosphorus	20	200
85449	Phthalic anhydride	1,000	10,000
1336363	Polychlorinated biphenyls	1.8	18
1120714	1,3–Propane sultone	6	60
57578	beta–Propiolactone	20	200
123386	Propionaldehyde	1,000	10,000
114261	Propoxur	2,000	10,000
78875	Propylene dichloride	200	2,000
75569	Propylene oxide	1,000	10,000
75558	1,2–Propylenimine	0.6	60
91225	Quinoline	1.2	120
106514	Quinone	1,000	10,000
100425	Styrene	200	2,000
96093	Styrene oxide	200	2,000
1746016	2,3,7,8–TCDD	.00012	.0012
79345	1,1,2,2–Tetrachloroethane	60[10]	600
127184	Tetrachloroethylene	N/A[11]	10,000
7550450	Titanium tetrachloride	20	200
108883	Toluene	2,000	10,000
95807	2,4–Toluene diamine	4	40
584849	2,4–Toluene diiscocyanate	20	200
95534	o–Toluidine	200	2,000
8001352	Toxaphene	2	20
120821	1,2,4–Trichlorobenzene	2,000	10,000
79005	1,1,2–Trichloroethane	N/A[12]	2,000
79016	Trichloroethylene	N/A[13]	10,000
95954	2,4,5–Trichlorophenol	200	2,000
88062	2,4,6–Trichlorophenol	1,200	10,000
121448	Triethylamine	2,000	10,000
1582098	Trifluralin	1,800	10,000
540841	2,2,4–Trimethylpentane	1,000	10,000
108054	Vinyl acetate	200	2,000
593602	Vinyl bromide	120	1,200
75014	Vinyl chloride	40	400
75354	Vinylidene chloride	80	800
1330207	Xylenes	2,000	10,000
95476	o–Xylenes	2,000	10,000
108380	m–Xylenes	2,000	10,000
106423	p–Xylenes	2,000	10,000
	CHEMICAL COMPOUND CLASSES		
	Antimony compounds[14]	1000	10,000
7783702	Antimony pentafluoride	20	200
8300745	Antimony potassium tartrate	200	2,000
1309644	Antimony trioxide	200	2,000
1345046	Antimony trisulfide	20	2,000
	Arsenic and inorganic arsenic compounds	1	10
7784421	Arsine	1	10
—	Beryllium compounds[15]	1.6	16
—	Beryllium salts	0.004	0.04
—	Cadmium compounds	2	20
130618	Cadmium oxide	2	20
—	Chromium compounds[16]	1000	10,000
—	Hexavalent chromium compounds	0.4	4
	Trivalent chromium compounds	1000	10,000
10025737	Chromic chloride	2.0	20
744084	Cobalt metal and compounds[17]	20	200
10210681	Cobalt carbonyl	20	200
62207765	Fluomine	20	200
—	Coke oven emissions	6	60
—	Cyanide compounds	1,000	10,000
0151508	Potassium cyanide	20	200
143339	Sodium cyanide	20	200
—	Glycol ethers[19]	1,000	10,000
110805	2-Ethoxy ethanol	2,000	10,000
111762	Ethylene glycol monobutyl ether	2,000	10,000
108864	2-Methoxy ethanol	2,000	10,000
—	Lead and compounds[20]	2	20
78002	Tetraethyl lead	2	20
75741	Tetramethyl lead	2	20
7439965	Manganese and compounds[21]	160	1,600
12108133	Methylcyclopentadienyl manganese	20	200
—	Mercury compounds[22]	2	20
—	Elemental mercury	2	20
748794	Mercuric chloride	2	20
10045940	Mercuric nitrate	2	20
62384	Phenyl mercuric acetate	2	20
—	Nickel compounds[23]	200	2,000
13463393	Nickel carbonyl	20	200
12035722	Nickel refinery dust	16	160
—	Nickel subsulfide	8	80
—	Polycyclic organic matter[24]	2	20
56553	Benz(a)anthracene	2	20
225514	Benz(c)acridine	2	20
50328	Benzo(a)pyrene	2	20
205992	Benzo(b)fluoranthene	2	20
218019	Chrysene	2	20
53703	Dibenz(a,h)anthracene	2	20
189559	1,2:7,8–Dibenzopyrene	2	20
57976	7,12–Dimethylbenz(a) anthracene	2	20
193395	Indeno(1,2,3-c,d)pyrene	2	20
7782492	Selenium compounds[25]	20	200
7783075	Hydrogen selenide	20	200
7488564	Selenium sulfide (mono and di)	20	200
13410010	Sodium selenate	20	200
10102188	Sodium selenite	20	200
—	Total dioxin and furans[26]	0.00012	0.0012

[3]The reporting threshold for this air contaminant is based on hourly, rather than annual, emissions. Because this air contaminant is a TXS subject to the reporting threshold in Table A, the reporting threshold for this contaminant is 0.01 pounds per hour.
[4]See footnote 3.
[5]See footnote 3.
[6]See footnote 3
[7]Emissions of this air contaminant must be reported if emissions exceed either the hourly emissions reporting threshold for a TXS in Table A (.01 pounds per hour), or the annual emissions threshold listed above in Table B.
[8]See footnote 3.
[9]See footnote 7.
[10]See footnote 7.
[11]See footnote 3.
[12]See footnote 3.
[13]See footnote 3.
[14]Some compounds or subgroups included in this chemical group are also individually named in this table. If a compound or subgroup is individually listed, the threshold listed for the compound or subgroup takes precedence over the threshold listed for the chemical group as a whole. If a compound or subgroup is not individually listed, the threshold for the entire chemical group applies to each compound or subgroup included in the chemical group.
[15]See footnote 14.
[16]See footnote 14.
[17]See footnote 14.
[18]See footnote 14.
[19]See footnote 14.
[20]See footnote 14.
[21]See footnote 14.
[22]See footnote 14.
[23]See footnote 14.
[24]See footnote 14.
[25]See footnote 14.
[26]As defined in EPA/625/3–87/012, Interim Procedures for Estimating Risks Associated with Exposure to Mixtures of Chorinated–p–Dioxins and Dibenzofurans.

New Rule, R.1994 d.502, effective October 3, 1994 (operative October 31, 1994).
See: 25 N.J.R. 3963(a), 25 N.J.R. 4836(a), 26 N.J.R. 793(a), 26 N.J.R. 3943(b).
Amended by R.1998 d.231, effective May 4, 1998 (operative June 12, 1998).
See: 29 N.J.R. 3521(a), 30 N.J.R. 1563(b).
Rewrote the appendix.

SUBCHAPTER 9. SULFUR IN FUELS

Subchapter Historical Note

Amendments to this subchapter which replaced the earlier numbering and text were adopted pursuant to authority of N.J.S.A. 13:1D–1 et seq. and were filed on August 10, 1978, as R.1978 d.276 to become effective on October 12, 1978. See: 10 N.J.R. 234(a), 10 N.J.R. 383(c). Amendments which changed the effective date of these rules to December 31, 1978, or such earlier date as formal federal approval is granted was filed on October 10, 1978 as R.1978 d.361. See: 10 N.J.R. 479(c). Further amendments which changed the effective date to July 12, 1979, were filed and became effective on January 10, 1979, as R.1979 d.10. See: 11 N.J.R. 63(c).

This subchapter was previously amended by R.1976 d.81, effective March 12, 1976 (See: 8 N.J.R. 181(a)) and R.1976 d.100, effective March 31, 1976 (See: 8 N.J.R. 222(a)). Formal federal approval for these amended rules was obtained on June 4, 1979.

7:27–9.1 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings unless the context clearly indicates otherwise.

"Aerodynamic downwash" means the rapid descent of a plume to ground level with little dilution and dispersion as a result of alteration of background air flow characteristics caused by the presence of buildings or other obstacles in the vicinity of the emission point.

"Air quality simulation model" means a mathematical procedure for predicting the ambient air concentration of pollutants resulting from the dispersive properties of the atmosphere.

"Ambient air quality standard" means a limit on the concentration of a contaminant in the general outdoor atmosphere, which cannot be exceeded without causing or tending to cause injury to human health, welfare, animal or plant life, or property, or unreasonably interfering with the enjoyment of life and property, excluding all aspects of employer-employee relationship as to health and safety hazards.

"Carbon dioxide (CO_2)" means a colorless, odorless gas at standard conditions, having a molecular composition of one carbon atom and two oxygen atoms.

"Fuel" means gaseous, liquid, or liquefiable petroleum product (excluding coal) which is produced, manufactured, used or sold for the purpose of creating useful heat.

"Fuel oil" means a liquid or liquefiable petroleum product burned for lighting or for the generation of heat or power and derived directly or indirectly from crude oil.

"Mathematical combination" means the summation of the emissions from two or more stacks or chimneys and the regulation of those emissions as if they came from the same sources venting through a single stack.

"Motor vehicle" means any vehicle propelled otherwise than by muscular power, excepting such vehicles as run only upon rails or tracks.

"Municipal solid waste (MSW)" means residential, commercial, and institutional non-hazardous solid waste.

"Solid fuel" means solid material or any substance derived from solid material used or to be used for the purpose of creating useful heat and includes, but is not limited to, coal, gasified coal, liquified coal, solid solvent-refined coal, municipal solid waste, refuse-derived fuel, and wood.

"SSU viscosity" means the number of seconds it takes 60 cubic centimeters of an oil to flow through the standard orifice of a Saybolt Universal viscometer at 100 degrees Fahrenheit.

"Stack or chimney" means a flue, conduit or opening designed, constructed, and/or utilized for the purpose of emitting air contaminants into the outdoor air.

"Sulfur dioxide (SO_2)" means a colorless gas at standard conditions, having a molecular composition of one sulfur atom and two oxygen atoms.

"Viscosity" means the measure of a fluid's resistance to flow.

"Zone 1" means Atlantic, Cape May, Cumberland, and Ocean Counties.

"Zone 2" means Hunterdon, Sussex, and Warren Counties.

"Zone 3" means Burlington, Camden, Gloucester, and Mercer Counties except those municipalities included in Zone 6.

"Zone 4" means Bergen, Essex, Hudson, Middlesex, Monmouth, Morris, Passaic, Somerset, and Union Counties.

"Zone 5" means Salem County.

"Zone 6" means in Burlington County, the municipalities of Bass River Township, Shamong Township, Southampton Township, Tabernacle Township, Washington Township, Woodland Township, and in Camden County, Waterford Township.

As amended, R.1982 d.456, effective December 6, 1982 (operative February 4, 1983).
See: 13 N.J.R. 870(a), 14 N.J.R. 1452(a).
"Air quality simulation model", "Mathematical combination", "Municipal solid waste", and "solid fuel" defined.
Administrative correction to delete definition "Oxygen".
See: 23 N.J.R. 1166(b).

7:27–9.2 Sulfur content standards

(a) No person shall store, offer for sale, sell, deliver or exchange in trade for use in New Jersey fuel which contains sulfur in excess of a percentage by weight set forth in Table 1 of this section, except as provided in (c), (d) and (e) below, and N.J.A.C. 7:27–9.5.

(b) No person shall use fuel which contains sulfur in excess of a percentage by weight set forth in Table 1 of this section, except as provided in (c), (d), and (e) below, and N.J.A.C. 7:27–9.5.

TABLE 1

MAXIMUM ALLOWABLE SULFUR IN FUEL

Typical Grades of Fuel Oil	Classification by SSU Viscosity at 100°F	Percent Sulfur by Weight: Zone 1	Zone 2 & Zone 5	Zone 3	Zone 4 & Zone 6
No. 2 & lighter	Less than or equal to 45, including gases	0.3%	0.3%	0.2%	0.2%
No. 4	Greater than 45 but less than 145	2.0%	0.7%	0.3%	0.3%
No. 5, No. 6 & heavier	Equal to or greater than 145	2.0%	1.0%	0.5%	0.3%

(c) The provisions of (a) and (b) above shall not apply to fuels whose combustion causes sulfur dioxide emissions from any stack or chimney into the outdoor atmosphere which are demonstrated to the Department as not exceeding, at any time, those quantities of sulfur dioxide expressed in pounds per 1,000,000 British Thermal Units (BTU) gross heat input, set forth in Table 2 of this section.

TABLE 2

MAXIMUM ALLOWABLE SULFUR DIOXIDE EMISSIONS

Typical Grades of Fuel Oil	Classification by SSU Viscosity at 100°F	SO_2 Emissions (lbs./10^6 BTU): Zone 1	Zone 2 & Zone 5	Zone 3	Zone 4 & Zone 6
No. 2	Less than or equal to 45	0.32	0.32	0.21	0.21
No. 4	Greater than 45 but less than 145	2.10	0.74	0.32	0.32
No. 5, No. 6 & heavier	Equal to or greater than 145	2.10	1.05	0.53	0.32

(d) The provisions of (a) and (b) above shall not apply to fuels included in an alternative emission control plan based on a mathematical combination approved by the Department. Application for such approval shall be made to the Department in writing and must include:

1. Certification that all source operations to be included in the mathematical combination are under the control of, or operated by, one person; and

2. Certification that the total sulfur dioxide emissions from the mathematical combination during each 24–hour period will not exceed the quantity of sulfur dioxide expressed in pounds per million BTU gross heat input set forth in Table 2 of this section; and

3. Certification that the total sulfur dioxide emissions from the mathematical combination during each 24–hour period will not exceed the maximum total weight of sulfur dioxide that all the sources in the mathematical combination were allowed to emit at the time of applying; and

4. Identification of each fuel burning unit and stack to be included in the mathematical combination; and

5. Identification of the grades of fuel to be burned in each unit, the maximum sulfur content of each fuel to be burned in each unit, the maximum gross heat input rate for each unit, the higher heating value of each fuel, and the annual fuel use and operating hours per year for each unit; and