

Planning Commission
Sacramento, California

Subject: **AIR QUALITY ATTAINMENT PLAN (M91-010)**
 SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DIST.

Members In Session:

The Sacramento Metropolitan Air Quality Management District (SMAQMD) will present a verbal summary of the Air Quality Attainment Plan, prepared pursuant to the requirements of the California Clean Air Act.

The Plan consists of seven volumes:

- o Plan Summary
- o Air Quality and Emissions Inventory
- o Public Education
- o Fleets and Fuel Controls
- o Transportation Control Measures
- o Indirect Source Controls
- o Stationary and Area-Wide Controls.

The Sacramento Environmental Commission (representing the City and County of Sacramento) has been holding public hearings on the Plan over the past 2 months. Written comments are being accepted until March 29th. A Draft Environmental Impact Report on the Plan is also being circulated, with comments accepted until early April.

The presentation to the City Planning Commission is intended to provide an overview of the Plan: i.e., the extent of the air quality problem, the public education process, and various control measures on stationary and mobile sources of emissions.

RECOMMENDATION

Staff recommends that the Commission especially focus on the Indirect Source Control measures which propose SMAQMD review of land use intensity, designs, etc., in terms of their air quality impacts. The Commission may also want to consider supplementary control measures that are beyond the scope of authority granted to the SMAQMD.

Recommendation by:



Scot Mende
Senior Planner

M91-010

March 14, 1991

Item # 1

SMAQMD

SUMMARY OF CONTROL MEASURES

PLAN SYNERGY

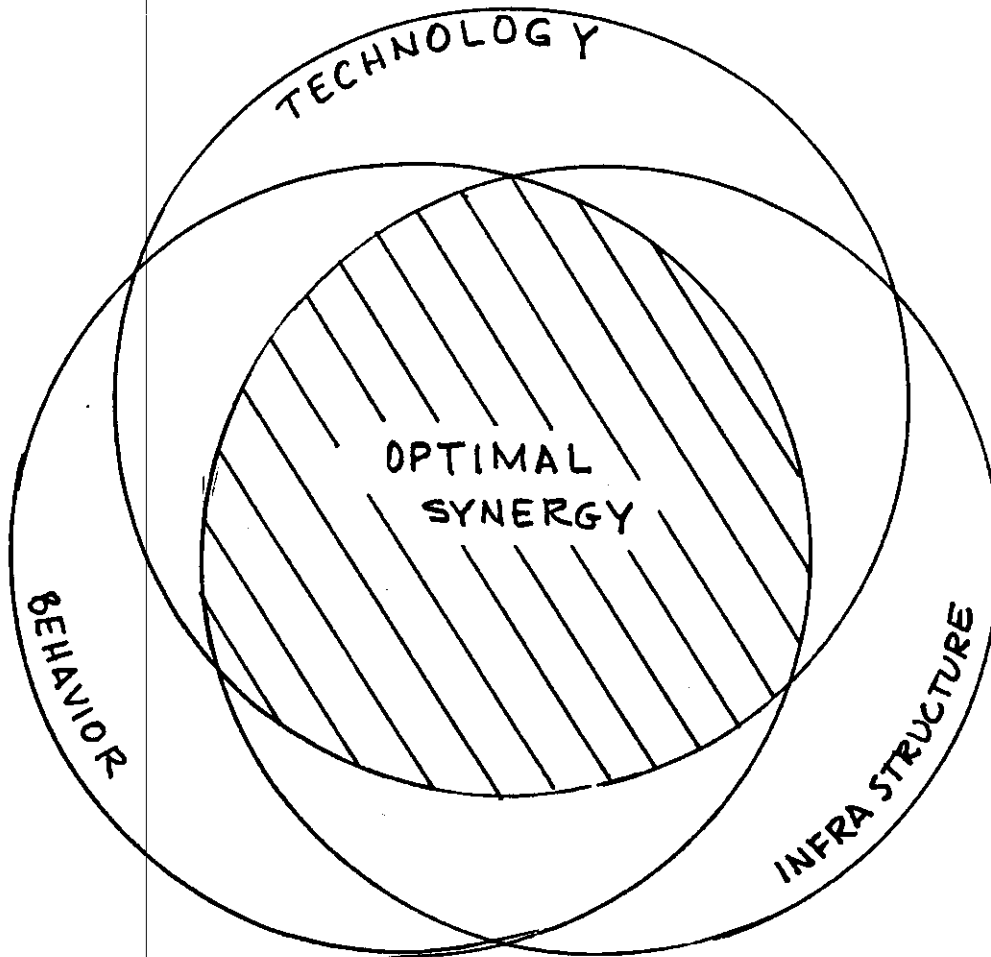


Exhibit I SELECTION OF CONTROL MEASURES

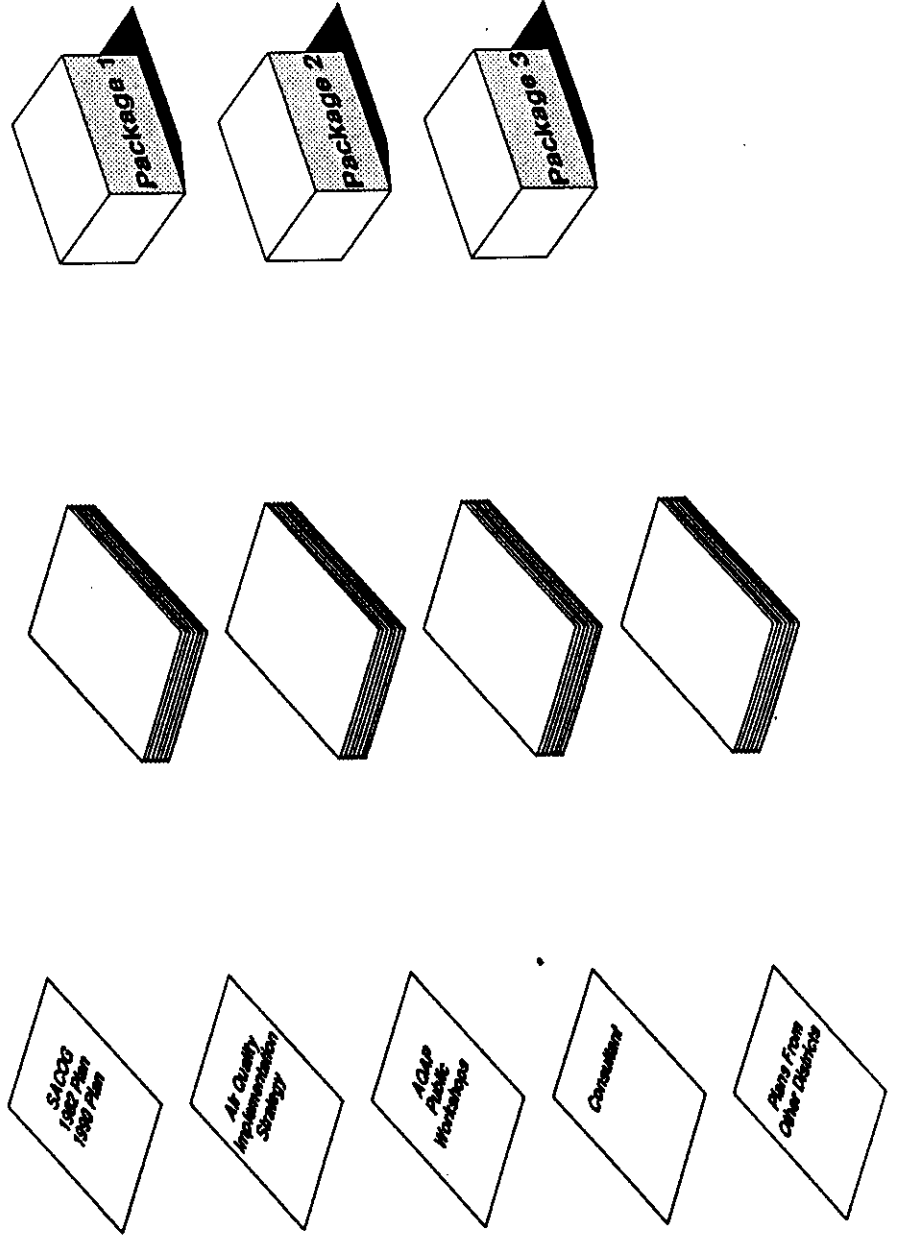
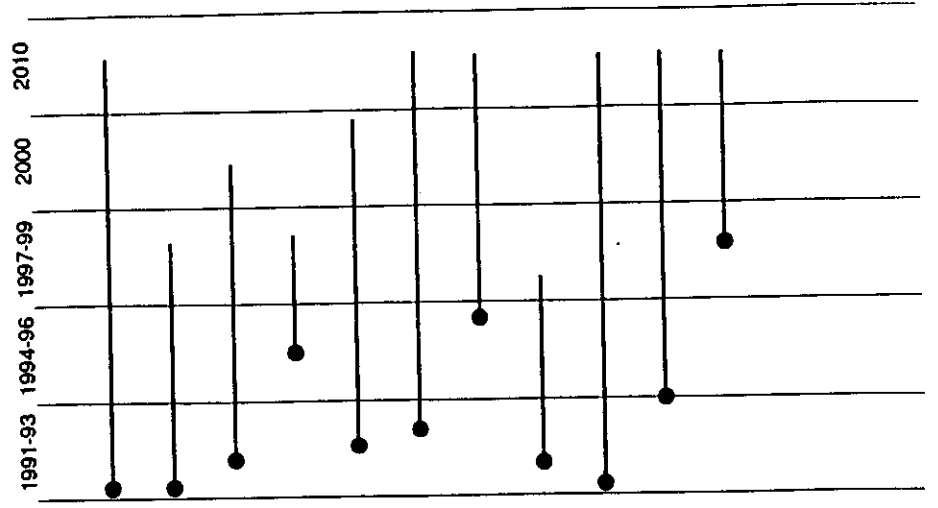
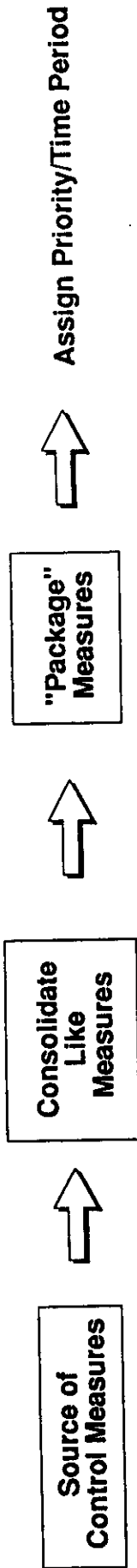


EXHIBIT I-5.22

1991 AIR QUALITY ATTAINMENT PLAN

COMBINED CONTROL PROGRAMS EMISSION REDUCTIONS FROM 1987 BASELINE*

*(from all controls contained in this Plan
plus existing controls adopted by ARB and the District)

(Tons per Day)

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>
1987 BASELINE	131	84	694
<u>BY: YEAR 1994</u>			
	<u>ROG</u>	<u>NOx</u>	<u>CO</u>
Existing Controls (ARB):	22	11	93
1991 Plan Controls:	19 - 28	6 - 10	112
Total Reduction TPD:	41 - 50	17 - 21	205
Average Annual TPD Reduced Since 1987: (averaged over 7 years)	5.9 - 7.1	2.4 - 3.0	29.3
AVERAGE ANNUAL % REDUCTION	4.5 - 5.4%	2.9 - 3.6%	4.2%

BY: YEAR 1997

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>
Existing Controls (ARB)	25	13	140
1991 Plan Controls	27 - 37	8 - 12	145
Total Reduction TPD	52 - 62	21 - 25	285
Average Annual TPD Reduced Since 1987 (averaged over 10 years)	5.2 - 6.2	2.1 - 2.5	28.5
AVERAGE ANNUAL % REDUCTION	4.0 - 4.7%	2.5 - 3.0%	4.1%

BY: YEAR 2000

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>
Existing Controls (ARB)	26	13	178
1991 Plan Controls	33 - 43	16 - 19	150
Total Reduction TPD	59 - 69	29 - 32	328
Annual Average TPD Reduced Since 1987 (averaged over 13 years)	4.5 - 5.3	2.2 - 2.5	25
AVERAGE ANNUAL % REDUCTION	3.4 - 4.0%	2.6 - 3.0%	3.6%

BY: YEAR 2010

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>
Existing Controls (ARB)	19	3	211
1991 Plan Controls	43 - 54	29 - 33	118
Total Reduction TPD	62 - 73	32 - 36	329
Average Annual TPD Reduced Since 1987 (averaged over 23 years)	2.7 - 3.2	1.4 - 1.6	14.3
AVERAGE ANNUAL % REDUCTION	2.1 - 2.4%	1.7 - 1.9%	2.1%

CAF/LEV AND RELATED MEASURES: EMISSIONS REDUCTIONS (tpd)

Program	Measures	ROG			CO			NOx							
		1994	1997	2000	2010	1994	1997	2000	2010	1994	1997	2000	2010		
CAF/LEV Program	ARB CAF/LEV program														
	Short term														
	A. Support fuel-flexible vehicles														
	B. Support OEM CHG vehicles														
	C. Coordinate research with other agencies														
	D. Technical support contractor														
	E. Support school bus replacement with clean fuels														
	F. Support new fueling facilities														
	G. Support early demos														
	H. Underground tank rule														
Long term	I. Fueling stations rules														
	J. Identify fleet operators														
	K. Fleet inventory rule														
	L. Voluntary CAF/LEV implementation														
	M. Offsets for early adopters														
	N. TCH tradeoffs														
	O. Indirect source rule														
	A. Large scale demos														
	B. Transit bus demo														
	C. Other long-term measures														
Total reductions	Opt-in to ARB 1994 station requirements														
	Land use mitigation														
	Fleet replacement rule														
	A. ARB rule														
	Total reductions	0.05	0.33	1.06	13.04	0.03	0.17	3.5	11.8	0.155	0.615	3.265	17.65		
	Winter Oxygenated Gasoline Requirement	A. ARB rule													
		Total reductions	0	0	0	0	86.5	79	73.4	36	0	0	0	0	
		86.5	79	73.4	36										
		Gross Emitter Control Program	Short term (pilot programs)												
			A. Identification of unregistered vehicles												
B. Other long-term measures															
Citizen's smog patrol															
Older vehicle buy-back															
Roadside monitoring															
Long term															
A. Identification of unregistered vehicles															
B. Other long-term measures															
Citizen's smog patrol															
Older vehicle buy-back															
Roadside monitoring															
Total reductions	1	3	5	0	6	18	30	0	0	unknown	0	0			
Truck/Bus Operations Rules	Short term (pilot programs)														
	A. Truck/bus idling														
	B. Time-of-day														
	C. Freight consolidation centers														
	Long term														
	A. Truck/bus idling														
	B. Time-of-day														
	C. Freight consolidation centers														
	Total reductions	0	0	0	0	0	0	0	0	0	0	0	0		
	93	97	107	48											
TOTAL PROGRAM REDUCTIONS		1	3	6	13	93	97	107	48	0.16	0.6	3.3	17.7		

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EXHIBIT V - 5.9
EMISSION REDUCTION
1994-2010
(WITH PROPOSED TCMs)

TCM NAME	ACTUAL IMPACT TOTAL WEIGHTED DAILY TONS REDUCED 1994			ACTUAL IMPACT TOTAL WEIGHTED DAILY TONS REDUCED 1997			ACTUAL IMPACT TOTAL WEIGHTED DAILY TONS REDUCED 2000			ACTUAL IMPACT TOTAL WEIGHTED DAILY TONS REDUCED 2010		
	ROG	NOx	CO	ROG	NOx	CO	ROG	NOx	CO	ROG	NOx	CO
Employee Commute Alt. Rule	0.22	0.14	1.28	0.43	0.29	2.54	0.66	0.44	3.83	0.66	0.44	3.83
Worksite Commute Alt. Rule	0.07	0.05	0.42	0.29	0.19	1.70	0.50	0.34	2.96	0.66	0.44	3.83
Instit. Commute Alt. Rule	0.02	0.02	0.12	0.05	0.03	0.26	0.07	0.05	0.42	0.08	0.06	0.47
Commute Data Upgrade	0.13	0.09	0.79	0.13	0.09	0.79	0.13	0.09	0.79	0.13	0.09	0.79
Enhanced Rideshare Matching	0.18	0.12	1.05	0.72	0.48	4.22	1.09	0.73	6.35	1.09	0.73	6.35
Expand Public Awareness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Expand TMA Program	0.23	0.15	1.33	0.23	0.15	1.33	0.23	0.15	1.33	0.23	0.15	1.33
Guaranteed Ride Home Program	0.04	0.02	0.19	0.05	0.03	0.28	0.05	0.03	0.28	0.05	0.03	0.28
Alternative Work Schedules	0.02	0.02	0.12	0.06	0.04	0.33	0.08	0.06	0.51	0.10	0.06	0.58
Truck Idling Regulations	0.02	0.02	0.16	0.02	0.02	0.16	0.02	0.02	0.16	0.02	0.02	0.16
Improve Bus Srvc/Rts/Sched.	0.31	0.21	1.82	0.31	0.21	1.82	0.31	0.21	1.82	0.31	0.21	1.82
Improve Fare Collection	0.07	0.05	0.40	0.07	0.05	0.40	0.07	0.05	0.40	0.07	0.05	0.40
Ramp Metering	0.07	0.05	0.40	0.13	0.09	0.77	0.20	0.14	1.17	0.20	0.14	1.17
Freeway HOV Lanes	0.12	0.08	0.70	0.30	0.20	1.75	0.48	0.32	2.80	0.54	0.36	3.15
Arterial/Downtown HOV Lanes	0.00	0.00	0.00	0.06	0.04	0.35	0.12	0.08	0.70	0.18	0.12	1.05
Bicycling Safety & Enforce.	0.00	0.00	0.00	0.18	0.12	1.05	0.30	0.20	1.75	0.30	0.20	1.75
Shuttle Service	0.05	0.03	0.30	0.20	0.14	1.19	0.36	0.24	2.08	0.46	0.30	2.68
Tax and Monetary Incentives	0.00	0.00	0.00	0.61	0.41	3.57	1.22	0.82	7.14	1.22	0.82	7.14
Pref. On-Street Parking	0.00	0.00	0.00	0.32	0.22	1.91	0.32	0.22	1.91	0.32	0.22	1.91
Pref. Off-Street Parking	0.58	0.38	3.34	0.58	0.38	3.34	0.58	0.38	3.34	0.58	0.38	3.34
Telecomm., Teleconf., Comm.	0.06	0.04	0.35	0.23	0.15	1.35	0.41	0.27	2.38	0.47	0.31	2.73
TOTAL	2.19	1.47	12.76	4.97	3.33	29.12	7.20	4.84	42.12	7.67	5.13	44.75

Exhibit VI-5.1

Emission Reductions From Proposed Indirect Source Controls (tons per day)

T E R M	Emission Reductions From Proposed Indirect Source Controls (tons per day)																	
	1991-1993				1994-1996				1997-1999				2000-2009				2010 ¹	
	ROG	NOx	CO		ROG	NOx	CO		ROG	NOx	CO		ROG	NOx	CO	ROG	NOx	CO
Control Measures																		
N	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	UNK	UNK	UNK	UNK
E	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK
A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	NA ²	NA ²	NA ²	NA ²	0.03	0.12	0.33	0.06	0.04	0.04	0.33	0.08	0.06	0.51	0.10	0.06	0.58	0.06
	NA ²	NA ²	NA ²	NA ²	0.03	0.16	0.16	0.03	0.02	0.16	0.16	0.03	0.03	0.06	0.03	0.02	0.06	0.06
	NA ²	NA ²	NA ²	NA ²	0.31	1.82	1.82	0.31	0.21	1.82	1.82	0.31	0.31	1.82	0.31	0.21	1.82	1.82
	NA ²	NA ²	NA ²	NA ²	0.04	0.19	0.28	0.06	0.02	0.28	0.28	0.06	0.06	0.28	0.06	0.02	0.28	0.28
	NA ²	NA ²	NA ²	NA ²	0.23	1.33	1.33	0.23	0.15	1.33	1.33	0.23	0.23	1.33	0.23	0.15	1.33	1.33
	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	2.54	0.43	0.29	2.54	2.54	0.66	0.66	3.83	0.66	0.44	3.83	3.83
	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	1.70	0.50	0.34	1.70	1.70	0.50	0.50	2.96	0.66	0.44	3.83	3.83
	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	0.26	0.05	0.03	0.26	0.26	0.07	0.07	0.42	0.08	0.06	0.47	0.47
	NA ²	NA ²	NA ²	NA ²	NA ²	NA ²	4.32	0.74	0.50	4.32	4.32	0.74	0.74	4.32	0.74	0.50	4.32	4.32
	NA ²	NA ²	NA ²	NA ²	0.13	0.09	0.79	0.13	0.09	0.79	0.79	0.13	0.13	0.09	0.13	0.09	0.79	0.79
	NA ²	NA ²	NA ²	NA ²	0.18	1.05	4.22	0.72	0.48	4.22	4.22	1.09	1.09	6.35	1.09	0.73	6.35	6.35
	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK	UNK
	NA ³	NA ³	NA ³	NA ³	0.07	0.40	0.40	0.07	0.05	0.40	0.40	0.07	0.07	0.40	0.07	0.05	0.40	0.40
	NA ³	NA ³	NA ³	NA ³	0.07	0.40	0.77	0.13	0.09	0.77	0.77	0.20	0.20	1.17	0.20	0.14	1.17	1.17
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	1.09	73	18.92	3.46	2.31	18.92	18.92	4.17	2.80	24.24	4.36	2.91	25.23	25.23
	TOTAL EMISSION REDUCTIONS																	

Source: Ekstic Emissions Model

¹Emission Reductions in the out years are subject to adjustments due to growth, rate of penetration of the measure, and technological changes affecting the measure.
²Emission reduction begins 1994 or beyond.
³This measure will not directly reduce emission.
⁴Specific controls have not been investigated.

EMISSION REDUCTIONS FROM PROPOSED CONTROLS
FOR ROG
(TONS/DAY)

CONTROL MEASURE	1991	1994	1997	2000	2010	COMMENTS
Can & Coil Coating	0.45 - 1.18	0.48 - 1.25	0.50 - 1.32	0.52 - 1.36	0.60 - 1.56	
Architectural Coating	1.28	1.38	1.45	1.53	1.79	
Graphic Arts	0.25 - 0.33	0.28 - 0.36	0.33 - 0.43	0.34 - 0.44	0.38 - 0.50	Emissions growth is unknown
Fiberglass-Plastic Fabrication	0.08	0.08	0.08	0.08	0.08	
Aerospace Coating	0.04 - 0.05	0.04 - 0.05	0.04 - 0.05	0.04 - 0.05	0.04 - 0.05	
Automobile & Truck Refinishing	1.23 - 1.71	1.39 - 1.94	1.55 - 2.16	1.61 - 2.24	1.74 - 2.42	
Miscellaneous Metal Parts Coating	0.31 - 0.43	0.34 - 0.47	0.37 - 0.51	0.39 - 0.54	0.43 - 0.60	
Manufacture Of Wood Furniture	0.12 - 0.16	0.12 - 0.16	0.13 - 0.18	0.13 - 0.18	0.14 - 0.19	
Plastic, Rubber, and Glass Coating	UNK	UNK	UNK	UNK	UNK	Category is not sufficiently inventoried
Gasoline Vapor Recovery (Stage I)	0.04	0.04	0.04	0.04	0.04	
Gasoline Vapor Recovery (Stage II)	0.04	0.04	0.04	0.04	0.04	
Petroleum Products Storage	0.00	0.00	0.00	0.00	0.00	
Petroleum Products Loading	0.03	0.03	0.03	0.03	0.03	Administrative changes to rule only
Perchloroethylene Dry Cleaning	0.01	0.01	0.01	0.01	0.01	
Chemical Plant & Refinery Leaks	0.02	0.02	0.02	0.02	0.02	
Landfill Gas Recovery	0.28	0.28	0.28	0.28	0.28	
Ethylene Oxide Sterilizers	0.01	0.01	0.01	0.01	0.01	
Asphalt Paving	0.49	0.53	0.57	0.59	0.76	
Adhesives	0.45 - 0.63	0.49 - 0.69	0.54 - 0.75	0.56 - 0.78	0.64 - 0.89	
Paper Coating	0.16 - 0.24	0.18 - 0.26	0.19 - 0.28	0.20 - 0.29	0.23 - 0.33	
Utility Engines (Residential)	0.12 - 0.27	0.13 - 0.29	0.13 - 0.30	0.14 - 0.32	0.16 - 0.37	
Utility Engines (Commercial)	0.13 - 0.30	0.15 - 0.35	0.17 - 0.39	0.18 - 0.41	0.21 - 0.47	
Degreasing	0.69 - 1.19	0.77 - 1.32	0.85 - 1.45	0.88 - 1.51	1.01 - 1.73	
Commercial Baking	0.20	0.21	0.22	0.23	0.26	
Pesticides	0.00	2.64 - 3.56	2.66 - 3.59	2.69 - 3.62	2.78 - 3.74	
Consumer Products	0.00	1.89 - 3.79	1.99 - 3.99	2.09 - 4.19	2.38 - 4.78	
Groundwater Airstripping/Soil Remed.	UNK	UNK	UNK	UNK	UNK	
Surface Preparation & Cleanup	2.05 - 3.77	2.23 - 4.10	2.39 - 4.39	2.47 - 4.54	2.78 - 5.11	
Open Burning (Non-agricultural)	0.16	0.18	0.19	0.20	0.23	
Pleasure Boat Coating	UNK	UNK	UNK	UNK	UNK	Category is not sufficiently inventoried
Marine Refueling	UNK	UNK	UNK	UNK	UNK	Category is not sufficiently inventoried
Fire Starter Fluid	UNK	UNK	UNK	UNK	UNK	Category is not sufficiently inventoried
Sewage Treatment Works	N/A	UNK	UNK	UNK	UNK	Category is not sufficiently inventoried
Water-Base Solvents	N/A	1.07 - 1.34	1.13 - 1.42	1.19 - 1.49	1.40 - 1.75	
Natural Gas Compressors	N/A	0.00 - 0.04	0.00 - 0.04	0.00 - 0.04	0.00 - 0.04	
Oil & Gas Extraction	N/A	0.13 - 1.13	0.13 - 1.13	0.13 - 1.13	0.13 - 1.13	

January 14, 1991