



State of Ohio Environmental Protection Agency

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George V. Voinovich
Governor

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Director

March 14, 1994

Mr. Valdus V. Adamkus
Regional Administrator
U.S. Environmental Protection Agency
Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

SUBJECT: SIP revisions concerning the emission inventories,
attainment demonstrations, 15% plans, and contingency
plans for Ohio's ozone nonattainment areas

Dear Mr. Adamkus:

By means of this letter, we are submitting the following
revisions to Ohio's State Implementation Plan:

1. the point, area, and mobile source emission inventories for the marginal and moderate ozone nonattainment areas;
2. attainment demonstrations for the Cleveland/Akron, Dayton, and Toledo moderate ozone nonattainment areas;
3. 15% plans for the Cincinnati, Cleveland/Akron, Dayton, and Toledo moderate ozone nonattainment areas; and
4. contingency plans for the Cincinnati, Cleveland/Akron, Dayton, and Toledo moderate ozone nonattainment areas.

These items are being submitted to fulfill the requirements of Title I of the Clean Air Act Amendments of 1990.

An index of the information contained in this submission is attached to this letter. Five sets of each of the items listed in the index are enclosed.

We believe these SIP revisions comply with the requirements of the CAAA, including the requirements of the transportation conformity rules which must be met by March 24, 1994. It also is our understanding that the 15% plans and the contingency plans for the Dayton and Toledo areas will become moot once the USEPA approves the redesignation requests submitted by the Ohio EPA on November 5, 1993 and September 17, 1993, respectively.



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If you or your staff have any questions concerning these SIP revisions, please contact Bob Hodanbosi, Chief of the Division of Air Pollution Control, at 614-644-2270.

Sincerely,


Donald R. Schregardus
Director

xc: Bob Hodanbosi, DAPC
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**COMPARISON OF THE PROPOSED AND FINAL 15% PLANS
AND CONTINGENCY PLANS FOR THE CINCINNATI,
CLEVELAND/AKRON, DAYTON, AND TOLEDO
OZONE NONATTAINMENT AREAS**

<u>Area</u>	<u>15% Plan</u>		<u>Contingency Plan</u>	
	<u>Proposed</u>	<u>Final</u>	<u>Proposed</u>	<u>Final</u>
<u>Cincinnati</u>	stage II enhanced I/M lower RVP arch. coatings tank truck testing NESHAP	stage II enhanced I/M enf. cases arch. coatings NESHAP	RFG new CTGs auto ref. P/V valves	lower RVP
<u>Cleveland/ Akron</u>	stage II enhanced I/M NESHAP enf. cases TCMs rem. of 100 TPY cutoff tank truck testing lower RVP	stage II enhanced I/M NESHAP enf. cases TCMs rem. of 100 TPY cutoff arch. coatings	auto ref. arch. coatings P/V valves	lower RVP
<u>Dayton</u>	stage II enhanced I/M enf. cases arch. coatings rem. of 100 TPY cutoff lower RVP	stage II enhanced I/M enf. cases arch. coatings rem. of 100 TPY cutoff	new CTGs auto ref. tank truck testing P/V valves	lower RVP
<u>Toledo</u>	non-CTG RACT enf. cases stage II auto ref. arch. coatings	non-CTG RACT enf. cases NESHAP	basic I/M	(none)

**INDEX OF INFORMATION CONTAINED IN OHIO'S
STATE IMPLEMENTATION PLAN REVISIONS CONCERNING THE
EMISSION INVENTORIES, ATTAINMENT DEMONSTRATIONS,
15% PLANS, AND CONTINGENCY PLANS FOR
THE OZONE NONATTAINMENT AREAS**

A. SUMMARY OF THE 15% PLANS AND CONTINGENCY PLANS FOR THE CINCINNATI, CLEVELAND/AKRON, DAYTON, AND TOLEDO NONATTAINMENT AREAS

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C. TECHNICAL SUPPORT DOCUMENTATION FOR THE 15% PLAN AND CONTINGENCY PLAN FOR THE CLEVELAND/AKRON AREA

D. TECHNICAL SUPPORT DOCUMENTATION FOR THE 15% PLAN AND THE CONTINGENCY PLAN FOR THE DAYTON AREA

E. TECHNICAL SUPPORT DOCUMENTATION FOR THE 15% PLAN AND THE CONTINGENCY PLAN FOR THE TOLEDO AREA

F. SCHEDULE FOR PROMULGATING THE RULES FOR THE ENHANCED I/M PROGRAMS

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M. DOCUMENTATION AND QUALITY ASSURANCE PLAN FOR THE MOBILE SOURCE INVENTORIES

N. ATTAINMENT DEMONSTRATIONS FOR THE CLEVELAND/AKRON, DAYTON, AND TOLEDO AREAS

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Q. POINT, AREA, AND MOBILE SOURCE INVENTORIES FOR THE YOUNGSTOWN NONATTAINMENT AREA

R. SUMMARY OF COMMENTS SUBMITTED INTO THE PUBLIC HEARING RECORD FOR THE CINCINNATI AREA, AND THE OHIO EPA'S RESPONSES

S. SUMMARY OF COMMENTS SUBMITTED INTO THE PUBLIC HEARING RECORD FOR THE CLEVELAND/AKRON AREA, AND THE OHIO EPA'S RESPONSES

T. SUMMARY OF COMMENTS SUBMITTED INTO THE PUBLIC HEARING RECORD FOR THE DAYTON AREA, AND THE OHIO EPA'S RESPONSES

U. SUMMARY OF COMMENTS SUBMITTED INTO THE PUBLIC HEARING RECORD FOR THE TOLEDO AREA, AND THE OHIO EPA'S RESPONSES

V. COPIES OF THE PUBLIC NOTICES OF THE PUBLIC HEARINGS CONCERNING THE 15% PLANS AND THE CONTINGENCY PLANS

W. COPIES OF THE PROOFS OF PUBLICATION FOR THE PUBLIC NOTICES CONCERNING THE 15% PLANS AND THE CONTINGENCY PLANS

X. COPIES OF THE PUBLIC NOTICES OF THE PUBLIC HEARINGS CONCERNING THE EMISSION INVENTORIES FOR THE CANTON, COLUMBUS, AND YOUNGSTOWN AREAS

Y. COPIES OF THE PROOFS OF PUBLICATION FOR THE PUBLIC NOTICES CONCERNING THE EMISSION INVENTORIES FOR THE CANTON, COLUMBUS, AND YOUNGSTOWN AREAS

Z. COPIES OF THE HEARING TRANSCRIPT AND THE WRITTEN COMMENTS SUBMITTED CONCERNING THE 15% PLAN AND THE CONTINGENCY PLAN FOR THE CINCINNATI AREA

AA. COPIES OF THE HEARING TRANSCRIPT AND THE WRITTEN COMMENTS SUBMITTED CONCERNING THE 15% PLAN AND THE CONTINGENCY PLAN FOR THE CLEVELAND/AKRON AREA

~~BB. COPIES OF THE HEARING TRANSCRIPT AND THE WRITTEN COMMENTS SUBMITTED CONCERNING THE 15% PLAN AND THE CONTINGENCY PLAN FOR THE DAYTON AREA~~

CC. COPIES OF THE HEARING TRANSCRIPT AND THE WRITTEN COMMENTS SUBMITTED CONCERNING THE 15% PLAN AND THE CONTINGENCY PLAN FOR THE TOLEDO AREA

DD. COPY OF THE PUBLIC NOTICE FOR THE PUBLIC HEARING CONCERNING THE ATTAINMENT DEMONSTRATIONS FOR THE CLEVELAND/AKRON, DAYTON, AND TOLEDO AREAS

EE. STATUTORY AUTHORITY FOR THE SIP REVISIONS

FF. COPIES OF THE PROOFS OF PUBLICATION FOR THE PUBLIC NOTICE CONCERNING THE ATTAINMENT DEMONSTRATIONS FOR THE CLEVELAND/AKRON, DAYTON, AND TOLEDO AREAS

GG. POINT SOURCE INVENTORIES FOR OHIO COUNTIES THAT BORDER OTHER INTERSTATE, OZONE NONATTAINMENT AREAS

**(A) SUMMARY OF THE 15% PLANS AND CONTINGENCY PLANS FOR
THE CINCINNATI, CLEVELAND/AKRON, DAYTON, AND TOLEDO
NONATTAINMENT AREAS**

THE 15% RATE-OF-PROGRESS PLANS FOR OHIO

Section 182(b)(1) of the Clean Air Act Amendments (CAAA) of 1990 requires states with "moderate" ozone nonattainment areas to submit to the USEPA by November 15, 1993 a State Implementation Plan (SIP) revision which provides for a 15% reduction in actual VOC emissions for each area by 1996. The 15% reduction must be calculated from the 1990 baseline of actual emissions [based upon typical ozone season weekday VOC emissions, adjusted pursuant to section 182(b)(1)(B)] and must account for any net growth in emissions. These SIP revisions are referred to as the 15% rate-of-progress plans.

Section 172(c)(9) of the CAAA also requires states to submit contingency plans for "moderate" ozone nonattainment areas by November 15, 1993. The "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990" (57 FR 13498, April 16, 1992) requires, in general, that each contingency plan must provide emission reductions totalling 3% or more of the 1990 adjusted base year inventory for the nonattainment area. The measures contained within each plan would be implemented only if the area fails either to meet the 15% reduction requirement or to attain the National Ambient Air Quality Standard by 1996.

Ohio has 4 areas that are designated as "moderate" nonattainment areas for ozone. They are Cincinnati (Butler, Clermont, Hamilton, and Warren Counties), Cleveland/Akron (Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, and Summit Counties), Dayton (Clark, Greene, Miami, and Montgomery Counties), and Toledo (Lucas and Wood Counties). The table below shows the typical ozone season weekday VOC emissions for each area for 1990, along with the calculated 15% and contingency plan reductions. (Also, see attached Tables A through D.)

<u>Nonattainment Area</u>	<u>1990 VOC Emissions (tons/day)</u>		<u>15% Reduction w/ growth (tons/day)</u>	<u>3% Contingency Plan Reduction (tons/day)</u>
	<u>Rate-of Progress</u>	<u>Adjusted</u>		
Cincinnati	274	215	48.0	6.5
Cleveland	476	367	68.7	11.0
Dayton	195	149	23.7	4.5
Toledo	163	133	22.2	4.0

A wide variety of possible, creditable control strategies for achieving the 15% and contingency plan reductions have been investigated. [Section 182(b)(1)(D) of the CAAA identifies those measures that are not creditable.] The following control strategies were determined to be reasonable options for each nonattainment area:

1. basic I/M
2. stage II
3. non-CTG RACT
4. enhanced I/M
5. RVP 7.8 gasoline
6. reformulated gasoline
7. new CTG's
8. NESHAP (for coke oven batteries)
9. enforcement cases (resolved between 1990 and the present)
10. auto body refinishing
11. architectural coatings (national rule)
12. enhanced testing for gasoline tank truck leaks
13. removal of 100 TPY facility cutoff (includes Stage I)
14. P/V relief valves for gasoline dispensing facility storage tanks
15. transportation control measures

The estimated cost-effectiveness of each of the above-mentioned control strategies is shown in the attached Table I.

The control strategies chosen for each area to achieve the 15% and contingency plan reductions are shown below.

Nonattainment Area

Final Control Strategies

Cincinnati

15% reduction:

stage II
 enhanced I/M
 NESHAP
 enforcement cases
 architectural coatings

contingency plan:

lower RVP gasoline

Cleveland/Akron

15% reduction:

stage II
enhanced I/M
NESHAP
enforcement cases
removal of 100 TPY cutoff
architectural coatings
transportation control
measures

contingency plan:

lower RVP gasoline

Dayton

15% reduction:

stage II
enhanced I/M
enforcement cases
architectural coatings
removal of 100 TPY cutoff

contingency plan:

lower RVP gasoline

Toledo

15% reduction:

non-CTG RACT
enforcement cases
NESHAP

contingency plan:

none (the control
strategies for the 15%
plan are more than
sufficient to meet the
emission reduction
requirements of the
contingency plan)

The final control strategies for each area were chosen after carefully reviewing and responding to the comments that were submitted into the official records for the public hearings held during the latter part of January 1994. In choosing the final mix of control strategies to meet the 15% reduction requirement for each nonattainment area, preference was given to those strategies that are the most cost-effective, that could provide substantial emission reductions, and that are either required by current law or could be implemented expeditiously on the State level. The attached Table II shows the estimated emission reduction associated with each control strategy in each nonattainment area. As can be seen from the Table, the proposed mix of control strategies for each area is sufficient to achieve the necessary 15% reduction. Also, the proposed mix of control strategies for the contingency plan is sufficient to achieve the necessary 3% reduction.

The Ohio EPA submitted redesignation requests to the USEPA for the Toledo and Dayton nonattainment areas on September 17, 1993 and November 5, 1993, respectively. If these redesignation requests are approved by the USEPA, it would not be necessary to implement the 15% rate-of-progress plans and associated contingency plans in those areas.

In developing the 15% rate-of-progress plans for Ohio, the Ohio EPA worked closely with several metropolitan planning organizations (i.e., OKI, NOACA, AMATS, MVRPC, and TMACOG), several local air agencies (i.e., Hamilton County Division of Environmental Services, Cleveland Division of the Environment, Akron Regional Air Quality Management District, Regional Air Pollution Control Agency, and Toledo Division of Pollution Control), as well as the Ohio Department of Transportation. The assistance and cooperation of these organizations are greatly appreciated by the Ohio EPA.

TABLE A

15% RATE-OF-PROGRESS PLAN FOR THE CINCINNATI OZONE NONATTAINMENT AREA

1990 BASE YEAR VOC EMISSIONS INVENTORY (TONS/DAY):

County	Butler	Clermont	Hamilton	Warren	Boundary Area	Entire Area
Point Sources	34.11	2.41	30.76	3.65	0.86	71.79
Area Sources	15.23	7.99	38.95	6.96	-	69.13
Mobile Sources	22.82	14.28	80.91	15.44	-	133.45
Biogenic Sources	31.73	29.4	21.76	26.14	-	109.03
Total	103.89	54.08	172.38	52.19	0.86	383.4

1990 RATE-OF-PROGRESS BASE YEAR INVENTORY (TONS/DAY):

County	Butler	Clermont	Hamilton	Warren	Entire Area
Point Sources	34.11	2.41	30.76	3.65	70.93
Area Sources	15.23	7.99	38.95	6.96	69.13
Mobile Sources	22.82	14.28	80.91	15.44	133.45
Total	72.16	24.68	150.62	26.05	273.51

1990 ADJUSTED BASE YEAR INVENTORY (TONS/DAY):

County	Butler	Clermont	Hamilton	Warren	Entire Area
Point Sources	34.11	2.41	30.76	3.65	70.93
Area Sources	15.23	7.99	38.95	6.96	69.13
Mobile Sources	12.79	8.05	45.33	8.71	74.88
Total	62.13	18.45	115.04	19.32	214.94

15% EMISSIONS REDUCTION (TONS/DAY): 32.24

TOTAL EXPECTED REDUCTIONS BY 1996 (TONS/DAY):

	Entire Area
Required 15%	32.24
FMVCP & RVP	58.57
Corrections to RACT rules	1.79
Corrections to I/M rules	3.01
Total	95.61

TARGET LEVEL FOR 1996 (TONS/DAY): 273.51 - 95.61 = 177.90

ESTIMATED 1996 EMISSIONS (ANTHROPOGENIC), INCLUDING GROWTH (TONS/DAY):

County	Butler	Clermont	Hamilton	Warren	Entire Area
Point Sources	35.13	2.55	33.2	4.01	74.89
Area Sources	15.9	8.3	39.08	7.4	70.68
Mobile Sources	14.54	8.94	47.59	9.25	80.32
Total	65.57	19.79	119.87	20.66	225.89

REQUIRED REDUCTIONS (TONS/DAY) TO ACHIEVE A

15% NET REDUCTION BY 1996: 225.89 - 177.90 = 47.99

15% RATE-OF-PROGRESS PLAN FOR THE CLEVELAND OZONE NONATTAINMENT AREA

1990 BASE YEAR VOC EMISSIONS INVENTORY (TONS/DAY):

County	Ashtabula	Cuyahoga	Geauga	Lake	Lorain	Medina	Portage	Summit	Boundary Area	Entire Area
Point Sources	4.21	24.8	0.79	12.32	8.86	1.67	1.33	26.3	9.65	99.93
Area Sources	9.01	63.84	4.92	10.83	13.48	7.04	9.49	28.76	-	147.37
Mobile Sources	11.65	98.5	7.2	19.1	23.3	13.1	17.59	57.94	-	248.38
Biogenic Sources	39.9	18.13	27.18	13.27	25.03	21.9	33.06	16.85	-	195.32
Total	64.77	205.27	40.09	55.52	70.67	43.71	61.47	129.85	9.65	681

1990 RATE-OF-PROGRESS BASE YEAR INVENTORY (TONS/DAY):

County	Ashtabula	Cuyahoga	Geauga	Lake	Lorain	Medina	Portage	Summit	Entire Area
Point Sources	4.21	24.8	0.79	12.32	8.86	1.67	1.33	26.3	80.28
Area Sources	9.01	63.84	4.92	10.83	13.48	7.04	9.49	28.76	147.37
Mobile Sources	11.65	98.5	7.2	19.1	23.3	13.1	17.59	57.94	248.38
Total	24.87	187.14	12.91	42.25	45.64	21.81	28.41	113	476.03

1990 ADJUSTED BASE YEAR INVENTORY (TONS/DAY):

County	Ashtabula	Cuyahoga	Geauga	Lake	Lorain	Medina	Portage	Summit	Entire Area
Point Sources	4.21	24.8	0.79	12.32	8.86	1.67	1.33	26.3	80.28
Area Sources	9.01	63.84	4.92	10.83	13.48	7.04	9.49	28.76	147.37
Mobile Sources	6.55	55.3	4.1	10.7	12.8	7.4	9.89	32.58	139.32
Total	19.77	143.94	9.81	33.85	35.14	16.11	20.71	87.64	366.97

15% EMISSIONS REDUCTION (TONS/DAY): 55.05

TOTAL EXPECTED REDUCTIONS BY 1996 (TONS/DAY):

Entire Area

Required 15%	55.05
FMVCP & RVP	109.06
Corrections to RACT rules	3.96
Corrections to I/M rules	3.8
Total	171.87

TARGET LEVEL FOR 1996 (TONS/DAY): 476.03 - 171.87 = 304.16

ESTIMATED 1996 EMISSIONS (ANTHROPOGENIC), INCLUDING GROWTH (TONS/DAY):

County	Ashtabula	Cuyahoga	Geauga	Lake	Lorain	Medina	Portage	Summit	Entire Area
Point Sources	4.1	24.25	0.83	13.15	6.68	1.81	1.43	27.94	80.19
Area Sources	9.1	62.83	4.92	10.84	13.44	7.12	9.7	29.27	147.22
Mobile Sources	6.83	55.3	4.3	11	13.6	9.1	10.55	34.75	145.43
Total	20.03	142.38	10.05	34.99	33.72	18.03	21.68	91.96	372.84

REQUIRED REDUCTIONS (TONS/DAY) TO ACHIEVE A

15% NET REDUCTION BY 1996: 372.84 - 304.16 = 68.68

TABLE C

15% RATE-OF-PROGRESS PLAN FOR THE DAYTON OZONE NONATTAINMENT AREA

1990 BASE YEAR VOC EMISSIONS INVENTORY (TONS/DAY):

County	Clark	Greene	Miami	Montgomery	Boundary Area	Entire Area
Point Sources	3.02	3.8	5.89	24.49	10.45	47.65
Area Sources	8.87	8.35	6.56	27.73	-	51.51
Mobile Sources	15.27	16.97	10.23	64.2	-	106.67
Biogenic Sources	28.63	29.53	30.31	26.18	-	114.65
Total	55.79	58.65	52.99	142.6	10.45	320.48

1990 RATE-OF-PROGRESS BASE YEAR INVENTORY (TONS/DAY):

County	Clark	Greene	Miami	Montgomery	Entire Area
Point Sources	3.02	3.8	5.89	24.49	37.2
Area Sources	8.87	8.35	6.56	27.73	51.51
Mobile Sources	15.27	16.97	10.23	64.2	106.67
Total	27.16	29.12	22.68	116.42	195.38

1990 ADJUSTED BASE YEAR INVENTORY (TONS/DAY):

County	Clark	Greene	Miami	Montgomery	Entire Area
Point Sources	3.02	3.8	5.89	24.49	37.2
Area Sources	8.87	8.35	6.56	27.73	51.51
Mobile Sources	8.59	9.51	5.75	35.98	59.83
Total	20.48	21.66	18.2	88.2	148.54

15% EMISSIONS REDUCTION (TONS/DAY): 22.28

TOTAL EXPECTED REDUCTIONS BY 1996 (TONS/DAY):

	Entire Area
Required 15%	22.28
FMVCP &RVP	46.84
Corrections to RACT rules	0
Corrections to I/M rules	0
Total	69.12

TARGET LEVEL FOR 1996 (TONS/DAY): $195.38 - 69.12 = 126.26$

ESTIMATED 1996 EMISSIONS (ANTHROPOGENIC), INCLUDING GROWTH (TONS/DAY):

County	Clark	Greene	Miami	Montgomery	Entire Area
Point Sources	3.32	4.05	5.8	20.91	34.08
Area Sources	8.88	8.6	6.73	28	52.21
Mobile Sources	9.32	10.09	6.1	38.14	63.65
Total	21.52	22.74	18.63	87.05	149.94

REQUIRED REDUCTIONS (TONS/DAY) TO ACHIEVE A

15% NET REDUCTION BY 1996: $149.94 - 126.26 = 23.68$

TABLE D

15% RATE-OF-PROGRESS PLAN FOR THE TOLEDO OZONE NONATTAINMENT AREA

1990 BASE YEAR VOC EMISSIONS INVENTORY (TONS/DAY):

County	Lucas	Wood	Boundary Area	Entire Area
Point Sources	56.94	2.09	12.48	71.51
Area Sources	26.26	9.3	-	35.56
Mobile Sources	52.11	16.49	-	68.6
Biogenic Sources	23.8	48.5	-	72.3
Total	159.11	76.38	12.48	247.97

1990 RATE-OF-PROGRESS BASE YEAR INVENTORY (TONS/DAY):

County	Lucas	Wood	Entire Area
Point Sources	56.94	2.09	59.03
Area Sources	26.26	9.3	35.56
Mobile Sources	52.11	16.49	68.6
Total	135.31	27.88	163.19

1990 ADJUSTED BASE YEAR INVENTORY (TONS/DAY):

County	Lucas	Wood	Entire Area
Point Sources	56.94	2.09	59.03
Area Sources	26.26	9.3	35.56
Mobile Sources	28.78	9.18	37.96
Total	111.98	20.57	132.55

15% EMISSIONS REDUCTION (TONS/DAY): 19.88

TOTAL EXPECTED REDUCTIONS BY 1996 (TONS/DAY):

	Entire Area
Required 15% FMVCP & RVP	19.88
Corrections to RACT rules	30.64
Corrections to I/M rules	0.01
	0
Total	50.53

TARGET LEVEL FOR 1996 (TONS/DAY): $163.19 - 50.53 = 112.66$

ESTIMATED 1996 EMISSIONS (ANTHROPOGENIC), INCLUDING GROWTH (TONS/DAY):

County	Lucas	Wood	Entire Area
Point Sources	56.55	2.27	58.82
Area Sources	26.3	9.49	35.79
Mobile Sources	30.52	9.74	40.26
Total	113.37	21.5	134.87

REQUIRED REDUCTIONS (TONS/DAY) TO ACHIEVE A

15% NET REDUCTION BY 1996: $134.87 - 112.66 = 22.21$

TABLE I

COST-EFFECTIVENESS (\$/TON OF VOC) FOR EACH OF THE CONTROL STRATEGIES CONSIDERED FOR THE 15% RATE-OF-PROGRESS PLANS FOR OHIO

CONTROL STRATEGY	COST-EFFECTIVENESS (\$/TON)	REFERENCE
1. basic I/M	5,410	(1)
2. stage II	254 to 1,878 (depending upon station size -- for vapor balance systems)	(2)
3. non-CTG RACT (at BP Oil Company)	106 (for alkylation units) 318 (for cooling tower cells 6 & 7) 1,500 (for SPOP waterwash tower spent wash flash drum and POLY waterwash tower spent wash flash drum) 8,000 (for cokers 1 & 2 blowdown drums) 26,800 (for steam stripper for process wastewater from desalter -- controls are needed to meet both RACT and NESHAP requirements)	(3)
4. enhanced I/M	879	(1)

5.	RVP 7.8 gasoline	2,200 to 4,000	(4)
6.	reformulated gasoline	5,000 4,000 to 30,000	(5) (4)
7.	new CTG's	< 5,000	(3)
8.	NESHAP (for coke oven batteries)	-280 to 17,590 (depending upon the control strategy employed and the source being controlled)	(6)
9.	enforcement cases	N/A	
10.	auto body refinishing (national rule)	1,250 (surface preparation) 4,000 to 4,500 (surface coating) 478 (gun cleaning equipment)	(7)
11.	architectural coatings (national rule)	-8,600 to 12,800	(7)
12.	enhanced testing for gasoline tank truck leaks	~ 3,000	(8)
13.	removal of 100 TPY cutoff (includes Stage I)	< 5,000	(3)
14.	P/V relief valves for gasoline dispensing facility storage tanks	47 to 62	(7)
15.	transportation control measures	25,000 to 88,000	(9)

References:

- (1) "I/M Costs, Benefits, and Impacts Analysis, " USEPA, 2/92
 - (2) "Technical Guidance - Stage II Vapor Recovery Systems for Control of Vehicle Refueling Emissions at Gasoline Dispensing Facilities," USEPA, 11/91
 - (3) Technical support for the Ohio EPA's 3/93 revisions to OAC Chapter 3745-21
 - (4) Survey by Ohio EPA of Ohio's major gasoline marketers
 - (5) "Meeting Requirements for Cleaner Fuels and Refineries, " U.S. Petroleum Refining, 8/93
 - (6) "Benzene Emissions from Coke By-Product Recovery Plants - Background Information for Proposed Standards," USEPA, 5/94
 - (7) "Review of Area Source Control Strategies for Ozone Nonattainment Areas in Ohio," Battelle, 7/93
 - (8) Economic Impact of Implementing Volatile Organic Compound Group II Regulations in Ohio, USEPA, 12/91
 - (9) A November 8, 1993 memorandum from the Northeast Ohio Areawide Coordinating Agency
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TABLE II

**SUMMARY OF THE 15% RATE-OF-PROGRESS
PLANS FOR OHIO'S 4 MODERATE, OZONE
NONATTAINMENT AREAS**

**[REQUIRED, POTENTIAL, AND PROPOSED VOC
EMISSION REDUCTIONS (IN TONS/DAY)
FOR EACH AREA]**

	<u>Nonattainment Area</u>			
	<u>Toledo</u>	<u>Dayton</u>	<u>Cincinnati</u>	<u>Cleveland/ Akron</u>
<u>Required reduction w/ growth</u> (see the attached tables)	22.21	23.68	47.99	68.68
<u>Potential reductions:</u>				
1. Basic I/M	7.95	11.59	12.89	25.40
2. Stage II	1.86	3.18	4.29	8.43
3. Non-CTG RACT	20.8	0	0	0
4. Enhanced I/M	11.56	16.72	18.80	37.92
5. RVP 7.8				
a) w/ basic I/M, stage II	4.51	6.87	8.38	15.97
b) w/ enhanced, stage II	3.61	<u>5.59</u>	<u>6.84</u>	<u>12.78</u>
c) off-road vehicles/ equipment	.08	0	<u>.17</u>	<u>.25</u>
6. Reformulated gasoline				
a) w/ basic I/M, stage II	6.70	10.41	12.43	23.84
b) w/ enhanced, stage II	5.48	8.65	10.33	19.56
c) off-road vehicles/ equipment	.3	.2	.6	1.2

7. New CTG's	.15	2.67	3.92	1.46
8. NESHAP	1.00	0	20.06	3.42
9. Enforcement cases & misc. reductions	6.87	.35	.85	9.79
10. National rules				
a) auto body refinishing	.6	1.1	1.6	3.2
b) architectural coatings	1.7	2.8	4.0	6.7
11. Tank truck leaks (monthly leak checks)	.22	.60	.89	1.37
12. Removal of 100 TPY cutoff (includes Stage I)	0	.95	0	.69
13. P/V relief valves for GDF tanks	.5	.8	.8	2.3
14. Transportation control measures	-	-	-	2.82

Total reductions for
the proposed mix of
control strategies¹: 28.47 24.00 48.00 69.77

Excess reductions from
the proposed mix of
control strategies: 6.26 .32 .01 1.09

Reductions necessary for
the contingency plan
requirements²: 3.98 4.46 6.45 11.01

Total reductions for
the proposed mix of
contingency measures³: 6.26⁴ 5.59 7.01 13.03

¹The proposed control strategies for each area are shaded, e.g., 9.99.

²The contingency measures for each area must be greater than or equal to 3% of the total emissions for the 1990 adjusted base year inventory. The total emissions for each 1990 adjusted base year inventory are as follows: Toledo - 132.55 TPD, Dayton - 148.54 TPD, Cincinnati - 214.94 TPD, and Cleveland - 366.97 TPD.

³The proposed mix of contingency measures are italicized, in bold print, and underlined, e.g., *9.99*.

⁴The control strategies for the 15% plan are also more than sufficient to meet the requirements of the contingency plan, and they will be implemented before the contingency plan would be required to be implemented.

(3/11/94)
