REQUEST FOR REDESIGNATION

AND

LIMITED MAINTENANCE PLAN FOR

CARBON MONOXIDE ATTAINMENT

FOR

LAKE COUNTY

AND

MARION COUNTY

December 1999

OFFICE OF AIR MANAGEMENT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Background 1
1.2 Geographical Boundaries 1
1.3 Status of Air Quality 4

2.0 REQUIREMENTS FOR REDESIGNATION

2.1 General 5
2.2 Carbon Monoxide Monitoring 5
2.3 Emission Inventory 5
2.4 Controls and Regulations 6
2.5 Corrective Actions for Potential Future Violations of the Standard 6

3.0 CARBON MONOXIDE MONITORING

3.1 Monitoring Network 7
3.2 Ambient Data 7
3.3 Improvements. 8
3.4 Quality Assurance 9
3.5 Continued Monitoring 10

4.0 EMISSION INVENTORY

4.1 Base Year Inventory 12
4.2 Emissions Projections 18
4.3 Demonstration of Maintenance 19
4.4 Permanent and Enforceable Emission Reductions 20

5.0 CONTROLS AND REGULATIONS

5.1 Implementation of Past SIP Revisions 21
5.2 New Source Review Provisions 21
5.3 Controls to Remain in Effect 21
5.4 Conformity 22

6.0 CORRECTIVE ACTIONS

6.1 Commitment to Revise Plan. 23
6.2 Commitment for Contingency Measures 23
6.3 List of Contingency Measures 24
6.4 List of Sources 24

7.0 PUBLIC PARTICIPATION 25

8.0 CONCLUSION 25

LIST OF MAPS, CHARTS AND TABLES

Map A City of East Chicago Non-Attainment Area 2
Map B City of Indianapolis Non-Attainment Area 3

Chart A Central Business District CO Emissions Reductions 1977-1982 11

Table I CO Emissions Plant Totals for Major Sources 1985-1997..... 12
Table II Distribution of Plants Listed in 1985-1997 Inventory 17
Table III Projected Growth 1990-2007 Summary 19

ENCLOSURES

A Air Quality Data
1. Quick Look Report
2. Graphs
3. Monitoring Data Summaries

B Emissions Data
1. 1985-1997 CO Emission Inventory
2. Trend Summary

C Projected Summary
1. 1996 (Base Year) Data for Lake County
2. 1996 (Base Year) Data for Marion County
3. Graphs

D Technical Support Document
1. October 6, 1995 EPA Memo about Limited Maintenance Plan Options for Nonclassifiable CO Nonattainment Areas

E Proofs of Publication
1. Indianapolis Star
2. The Times, Munster
3. Legal Notice of Public Hearing

F Transcripts of the Public Hearings
1. Lake County Public Hearing
2. Marion County Public Hearing
3. Comments

REQUEST FOR REDESIGNATION AND
LIMITED MAINTENANCE PLAN FOR
CARBON MONOXIDE ATTAINMENT
IN LAKE AND MARION COUNTIES

1.0 INTRODUCTION

1.1 Background

Lake and Marion Counties in Indiana were initially designated as primary nonattainment areas for the National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), on March 3, 1978 (43 FR 8962). The current classification for both counties is nonattainment and not classified (40 CFR 81.315). In compliance with the Clean Air Act (CAA), the Indiana State Board of Health Air Pollution Control Division, which at that time was the state agency with jurisdiction for air quality, developed and implemented rules designed to control emissions of CO.

1.2 Geographical Boundaries

Following is a brief description of the two counties for which redesignation is requested.

Lake County is in northwest Indiana. It is surrounded by the Indiana counties of Porter, Jasper and Newton. To the north it is bounded by Lake Michigan. To the west it is bounded by the Illinois counties of Cook, Will, Kankakee and Iroquois. Cities in Lake County include East Chicago, Gary and Hammond.

Only the city of East Chicago was determined to be nonclassifiable nonattainment for CO in Lake County. This area is described as follows:

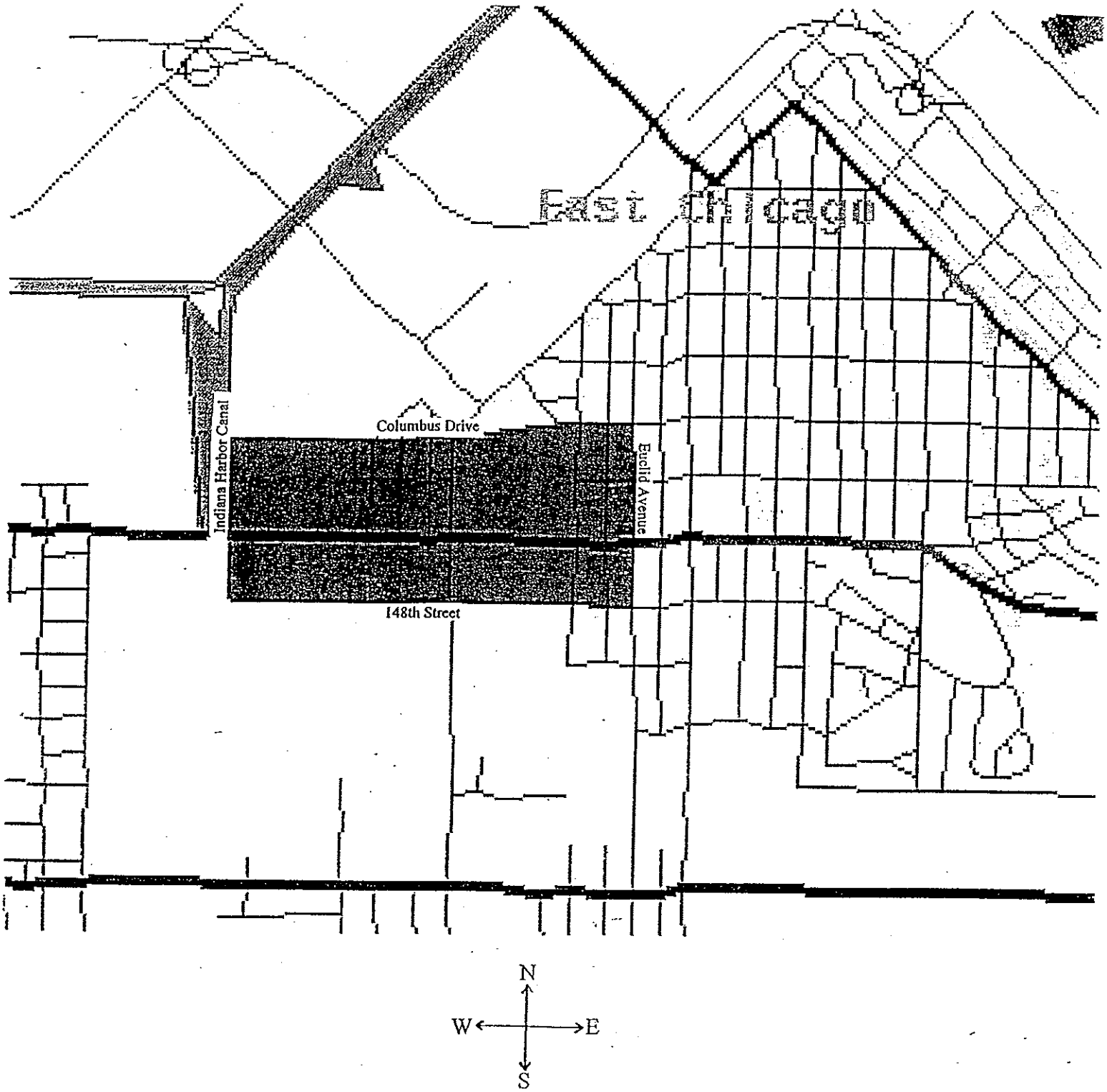
"City of East Chicago (area bound by Columbus Drive on the north, the Indiana Harbor Canal on the west, 148th St. if extended, on the south, & Euclid Avenue on the east)" [40 CFR Ch. 1 (7-1-91 Edition) p. 101] (See Map A, Page 2).

Marion County is in central Indiana. It is surrounded by the Indiana counties of Boone, Hamilton, Hancock, Shelby, Johnson, Morgan and Hendricks. Indianapolis is the largest city in the county.

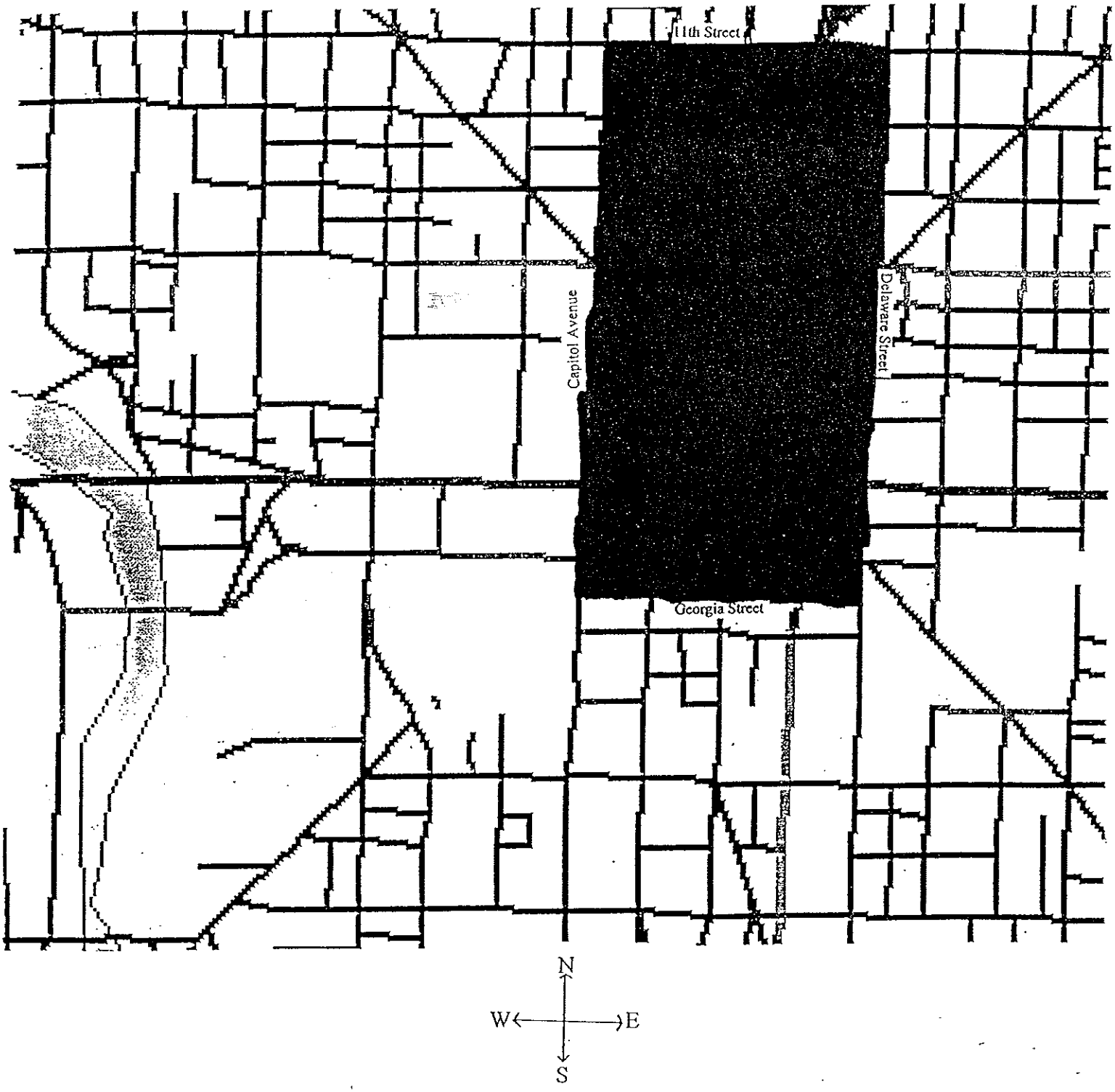
Only the center of Marion County was determined to be a nonclassifiable nonattainment area for CO. This area is described as follows:

"City of Indianapolis (area bound by 11th St. on the north, Capitol on the west, Georgia St. on the south and Delaware on the east)" [40 CFR Ch. 1 (7-1-91 Edition) p. 101] (See Map B, page 3).

MAP A


Columbus Drive
Indiana Harbor Canal
Euclid Avenue
148th Street
N
W
E
S

MAP B


11th Street
Capitol Avenue
Delaware Street
Georgia Street
N
W
E
S

1.3 Status of Air Quality Within the Non-Attainment Areas

Enclosure A-Item 1 is a Quick Look report from the U.S. EPA Aerometric Information Retrieval System (AIRS) database which lists the monitoring data for both counties, since 1987. The monitors listed in bold type are those which are located in the nonclassifiable nonattainment areas of Lake and Marion Counties.

Carbon monoxide monitoring data has been obtained from one site in the portion of Lake County classified as nonclassifiable nonattainment for CO. This monitor located at 901 East Chicago Avenue was established on March 1, 1984 and continues to monitor CO today.

Carbon monoxide monitoring data has been obtained from three sites in the portion of Marion County classified as nonclassifiable nonattainment for CO. Two of the three sites have been discontinued and one site remains in operation.

The two historical CO monitoring sites include the following:

1) 1 West Washington Street was established on March 1, 1977 and terminated on February 28, 1992.

2) 17 North Pennsylvania was established on March 1, 1983 and terminated on April 19, 1989.

Both of the above sites were terminated because the buildings in which the monitors were located were closed. The data from both sites show a fairly consistent downward trend in CO concentrations since 1986.

The currently monitored site, just two blocks west of the historical monitoring sites, is located at 50 North Illinois Street. This site was established on February 1, 1990. The current data show that it has been below the CO ambient standard since 1990.

Enclosure A-Item 2 illustrates that the nonclassifiable nonattainment areas in both Lake and Marion Counties have been well below the standard for a number of years.

2.0 REQUIREMENTS FOR REDESIGNATION

2.1 General

Section 107 (d) (3) (E) of the CAA lists a number of requirements that must be met by nonclassifiable nonattainment areas prior to consideration for redesignation to attainment. In addition, U.S. EPA has published detailed guidance in a document labeled "Procedures for Processing Requests to Redesignate Areas to Attainment" in the form of a memorandum, to Regional Air Directors issued September 4, 1992. On October 6, 1995, U.S. EPA also published a memorandum which discusses the "Limited Maintenance Plan Option for Nonclassifiable CO Nonattainment Areas." This Plan is based on the above, supplemented with guidance received from staff of the Regulation Development Section of U.S. EPA Region 5.

Lake and Marion Counties meet the EPA's eligibility requirements for the limited maintenance plan option for the following two reasons:

1) The CO nonattainment portions of both counties are unclassifiable.

2) Both Lake and Marion Counties are attaining the CO NAAQS with a design value that is below 7.65 ppm (85% of exceedance levels of the CO NAAQS). Specifically, the CO design value for the years 1996 and 1997 in Lake County is 3.8 ppm. For the same time period in Marion County, the CO design value is 3.9 ppm.

2.2 Carbon Monoxide Monitoring Requirements

There are three requirements related to monitoring for a redesignation request:

1) A demonstration that the national ambient air quality standards for carbon monoxide, as published in 40 CFR 50.8, have been attained.

2) Ambient monitoring data must have been quality assured in accordance with 40 CFR 58.10 and recorded in the AIRS data base and made available for public review.

3) A commitment that, once redesignated, the state will continue to operate an appropriate monitoring network to verify the maintenance of the attainment status.

2.3 Emission Inventory

A redesignation request must include a comprehensive emission inventory of major sources of carbon monoxide completed for the base year.

2.4 Controls and Regulations

A redesignation request must include the following with respect to rules and regulations:

1) An U.S. EPA approved SIP control strategy that includes Reasonably Available Control Technology (RACT) requirements for existing stationary sources covered by Control Technology Guidelines (CTG).

2) Evidence that control measures required in past SIP revisions have been fully implemented.

3) Acceptable provisions to provide for new source review, including continued applicability of Prevention of Significant Deterioration (PSD) requirements.

4) Assurances that existing controls will remain in effect after redesignation, unless the state demonstrates through modeling that the standard can be maintained without one or more controls.

5) If appropriate, a commitment to adopt a requirement that all transportation plans conform with and are consistent with the SIP.

2.5 Corrective Actions for Potential Future Violations of the Standard

A redesignation request must also include:

1) A commitment to enact and implement expeditiously additional contingency control measures in response to exceeding specified predetermined levels (triggers) or in the event that future violations of the ambient standards occur.

2) A list of potential contingency measures that would be implemented in such an event.

3) A list of carbon monoxide sources potentially subject to future controls.

3.0 CARBON MONOXIDE MONITORING

3.1 Monitoring Network

Lake County

The Department has operated five monitors measuring carbon monoxide concentrations in Lake County. Currently there are two monitoring sites collecting data, both operated by IDEM. One site on East Chicago Avenue has operated continuously since 1984. The other site, located in Gary at Broadway and 15th Avenue has been in operation since 1989. A listing of the sites with the highest reading at each from 1987 to 1997 is given in Enclosure A, Item 1.

Marion County

Historically, there have been sixteen monitors measuring carbon monoxide concentrations in the Indianapolis area. Currently two sites are in operation; Naval Avionics Center, operated by IDEM and North Illinois Street, operated by Indianapolis Environmental Resources Management Division. A listing of the sites with the highest reading at each from 1987 to 1997 is given in Enclosure A, Item 1.

3.2 Ambient Data

The national primary ambient air quality standards for carbon monoxide measured by the reference methods described in Appendix A of 40CFR Part 50 are:
1) 10 micrograms per cubic meter (ug/m) (9 ppm) maximum 8 hour concentration not to be exceeded more than once per year per site.
2) 40 micrograms per cubic meter (ug/m) (35 ppm) maximum 1 hour concentration not to be exceeded more than once per year per site.

The secondary ambient standard for carbon monoxide is the same as the primary ambient standard.

Lake County

There have been no exceedances of the standards in East Chicago at the East Chicago Avenue monitor since 1983. There have been no exceedances of standards in East Chicago at the Indianapolis Boulevard monitor since 1981. Also, there have been no exceedances in Gary at the Federal Building since 1987. A list of exceedances since 1980 is included in Enclosure A, Item 3., Tables II and IV.

Therefore, the monitoring data for the most recent three years demonstrates that the National Ambient Air Quality Standards (NAAQS) for carbon monoxide have been attained in Lake County.

Marion County

There have been no exceedances in Marion County at the North Illinois Street monitor since established in 1990. Also, there were no exceedances at the North Pennsylvania Street monitor since 1984 through 1989 when monitoring was discontinued at that site. The West Washington Street monitor did not show exceedances since 1986 through 1992 when monitoring was discontinued at that site. Exceedances since 1980 are shown in Enclosure A, Item 3.

Therefore, the monitoring data for the most recent three years demonstrates that the National Ambient Air Quality Standards (NAAQS) for carbon monoxide have been attained in Marion County.

3.3 Improvements

Several changes were made in both counties which helped lower CO levels and attain the NAAQS for carbon monoxide. In Lake County these changes were made mostly between 1980 and 1987. Changes were made primarily between the years 1977 and 1982 for Marion County.

Lake County

The East Chicago nonattainment area was determined because of traffic density and traffic emissions. Several controls were implemented and are outlined below.

1. The Federal Motor Vehicle Control Program (FMVCP) was introduced and was expected to create a 35% reduction in CO emissions. This reduction was expected to take place during the years 1981 to 1987 and placed controls on late-model vehicles.

2. Indiana implemented an Inspection and Maintenance (I/M) Program at five locations in Lake County as well as several mobile testing vans. It was expected that a 13.3 % reduction of CO emissions in Lake County would occur as a result of the I/M Program. The I/M program is still in place.

3. In 1982 a transportation control plan was developed for Lake County. This plan included a speed limit review, removing unwarranted stop signs and changing some traffic signals at lightly traveled intersections.

Marion County

The city of Indianapolis made several improvements in transportation. These changes are outlined below and displayed in Chart A on page eleven.

1. A "City Taxicab Ordinance" which began in 1977 mandated that the taxicab is the "vehicle of current or past two (2) model years (Section 17-665, Indianapolis code)." This Indianapolis city ordinance was expected to "reduce emission factors by 50% for 2000 VMT in the CBD."

2. By 1981, Metro Bus System completed improvements that were supposed to eliminate 2000 vehicle miles of travel per day. This was based on an estimated 8% passenger increase.

3. A car pool program was implemented by the Indianapolis Department of Metropolitan Development and the Division of Planning and Zoning in 1980. This eliminated 206,000 vehicle miles traveled (VMT). The car pool program resulted in a 17.1% decrease in miles traveled in the CBD.

4. Flexible working hours, (ie. staggered hours and a four day work week) encouraged by a city-sponsored program, were implemented in 1980. It was predicted that 667 fewer vehicle miles traveled per day would be achieved by the flexible working hours program.

5. Computer controlled traffic signals at 165 Central Business District (CBD) intersections were implemented. Engineering studies predicted that this change would increase vehicle speeds by 20%.

6. The city rerouted over 25,000 vehicles so that a 9% speed increase would occur. This traffic pattern change included Maryland and Washington Streets. Each of these streets was changed to a one way street. The completion of this project occurred in August of 1989.

A reduction of 667.1 tons from the 1977 CBD emissions was achieved as a result of the first six transportation improvements listed above.

3.4 Quality Assurance

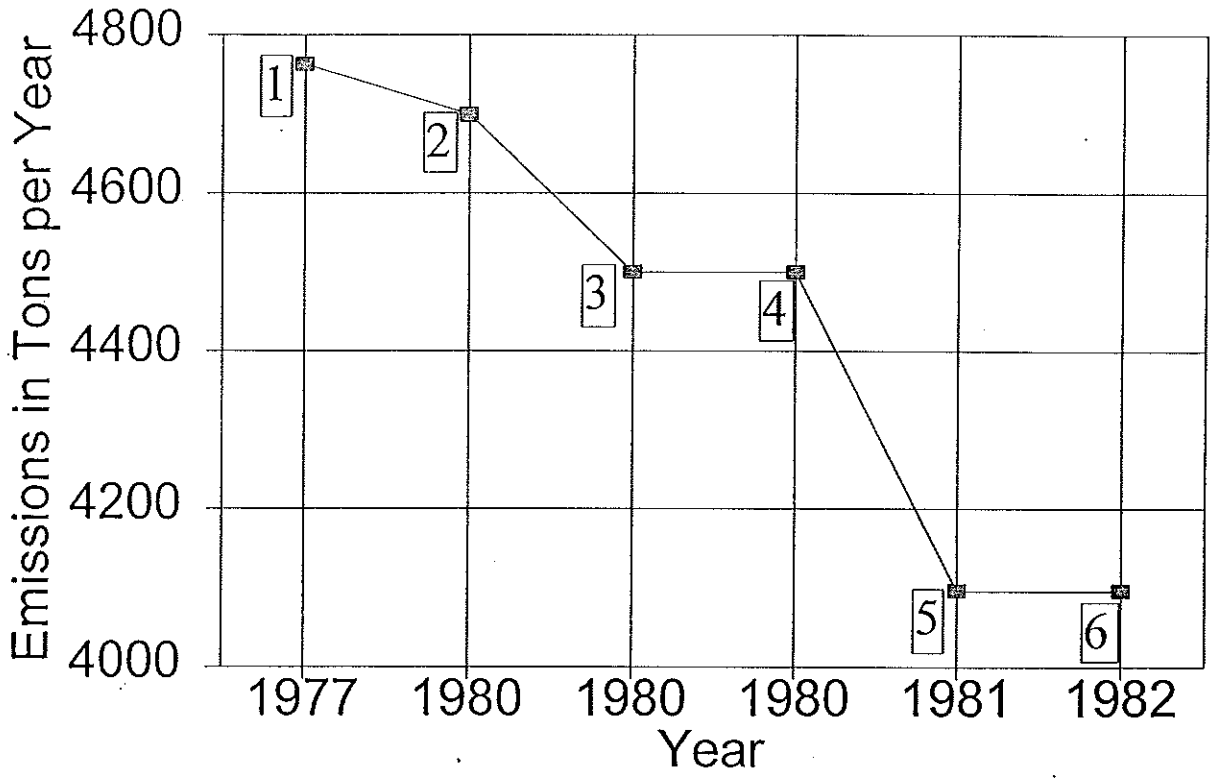
All the data shown in Enclosure A, Item 1 have been quality assured in accordance with 40 CFR 58.10, and the Indiana Quality Assurance Manual and found to be valid. The data have been recorded in the Aerometric Information and Retrieval System (AIRS) data base and through it, made available to the public.

3.5 Continued Monitoring

Indiana commits to continue monitoring CO in these counties, but based upon historic data intends to discontinue the Gary site, in Lake County. The Naval Avionics site in Marion County operated by the IDEM will probably be relocated to a nearby site. The site may be relocated, because the Naval Avionics facility is being expanded and there may not be room for the monitoring site. The Environmental Resource Management Division (ERMD) will continue monitoring for CO at the 50 North Illinois site. The monitoring data will continue to be quality assured to meet the requirements of 40 CFR 58.10. Connection to a central station will provide real time availability of the data and knowledge of any exceedances. All data will continue to be entered in AIRS on a timely basis in accordance with federal guidelines.

Year	Number	Emissions	Improvement
1977	1	4,763	Taxicab Ordinance
1980	2	4,700	Metro Bus Improvements
1980	3	4,500	Carpool Program
1980	4	4,500	Work Rescheduling
1981	5	4,096	Computer Controlled Traffic Signals
1982	6	4,096	Vehicle Rerouting

CHART A



4.0 EMISSION INVENTORY

4.1 Base Year Inventory

Table I, below, which was abstracted from the U.S. EPA Aerometric Information Retrieval Subsystem shows the emissions for major sources (those with emissions greater than 100 tons per year) for Lake and Marion Counties. A more comprehensive inventory for the two counties, of sources whose CO emissions are greater than 10 tons per year, is found in Enclosure B, Item 1 and summarized in Table I below.

TABLE I

CO Emissions Plant Totals for Major Sources 1985 to 1997

SOURCE	AIRS FACILITY ID	YR.	EMISSIONS IN T/Y
Lake County			
Amer Oil Co.	0003	85	4,203.99
Amoco Oil Co.	0003	88	5,302.00
Amoco Oil Co.	0003	90	5,412.83
Amoco Oil Co.	0003	93	6,523.63
Amoco Oil Co.	0003	96	6,005.71
Amoco Oil Co.	0003	97	6,130.54
ANR Pipeline	0069	85	135.00
ANR Pipeline	0069	90	61.49
ANR Pipeline	0069	93	96.96
ANR Pipeline	0069	96	293.85
ANR Pipeline	0069	97	242.96
Marblehead Lime Co.	0112	85	7,999.00
Marblehead Lime Co.	0112	88	1,009.18
Marblehead Lime Co.	0112	90	1,009.18
Marblehead Lime Co.	0112	96	461.96
Marblehead Lime Co.	0112	97	480.29

TABLE I - Continued

CO Emissions Plant Totals for Major Sources 1985 to 1997

SOURCE	AIRS FACILITY ID	YR.	EMISSIONS IN T/Y
Lake County - Continued			
NIPSCO Dean H Mitchell	0117	85	205.99
NIPSCO - Mitchell	0117	88	404.97
NIPSCO Dean H Mitchell	0117	90	313.77
NIPSCO Dean H Mitchell	0117	93	299.52
NIPSCO Dean H Mitchell	0117	96	295.05
NIPSCO Dean H Mitchell	0117	97	320.73
U.S. Steel Corp. Gary Works	0121	85	104,122.35
U.S. Steel Corp. Gary Works	0121	88	152,982.87
U.S. Steel Corp. Gary Works	0121	90	55,276.21
U.S. Steel Corp. Gary Works	0121	93	63,884.00
U.S. Steel Corp. Gary Works	0121	96	84,887.10
U.S. Steel Corp. Gary Works	0121	97	94,470.00
Advanced Aluminum Products	0201	88	147.40
Jupiter Aluminum Corporation	0201	90	37.97
American Maize Products Co.	0203	85	102.00
American Maize Products Co.	0203	88	950.80
American Maize Products Co.	0203	90	67.65
American Maize Products Co.	0203	93	93.99
Cerestar USA, Inc.	0203	96	82.12
Cerestar USA, Inc.	0203	97	68.84
Commonwealth Edison	0210	85	357.00
Com Ed-Stateline	0210	88	142.00
Commonwealth Edison	0210	90	147.97
Commonwealth Edison	0210	93	240.06
Commonwealth Edison	0210	96	155.84
Commonwealth Edison	0210	97	391.31

TABLE I - Continued

CO Emissions Plant Totals for Major Sources 1985 to 1997

SOURCE	AIRS FACILITY ID	YR.	EMISSIONS IN T/Y
Lake County - Continued			
American Steel Foundries	0302	90	42.61
American Steel Foundries	0302	93	136.28
American Steel Foundries	0302	96	33.12
American Steel Foundries	0302	97	27.11
East Chicago Municipal Incin.	0309	85	598.00
East Chicago Sanitary District	0309	88	85.95
East Chicago Sanitary District	0309	90	73.90
East Chicago Sanitary District	0309	93	CLOSED
Inland Steel Indiana Harbor W.	0316	85	58,099.29
Inland Steel	0316	88	35,000.01
Inland Steel Flat Products	0316	90	43,913.13
Inland Steel Company	0316	93	41,218.15
Inland Steel Company	0316	96	43,833.35
Inland Steel Company	0316	97	43,566.20
LTV Steel Company	0318	85	49,556.98
LTV Steel (J & L)	0318	88	30,398.99
LTV Steel Company	0318	90	30,426.91
LTV Steel Company	0318	93	30,607.93
LTV Steel Company	0318	96	20,172.63
LTV Steel Company	0318	97	20,954.79
Lake County Totals by Year		**85**	**225,379.60**
		88	**226,518.22**
		90	**136,783.62**
		93	**143,100.76**
		96	**156,221.43**
		97	**166,652.77**

TABLE I - Continued

CO Emissions Plant Totals for Major Sources 1985 to 1997

SOURCE	AIRS FACILITY ID	YR.	EMISSIONS IN T/Y	
Marion County				
Bridgeport Brass dba Olin Brass	0005	93	321.91	
Bridgeport Brass dba Olin Brass	0005	96	165.28	
Bridgeport Brass dba Olin Brass	0005	97	165.28	
Chrysler Corp. IN Foundry	0012	85	8,988.00	
Chrysler Corporation Foundry	0012	88	6,609.00	
Chrysler Corporation Foundry	0012	90	22,804.31	
Chrysler Corporation Foundry	0012	94	32,196.96**	**Emissions for 1993 are**
Chrysler Corporation Foundry	0012	96	32,273.23	**incomplete. Therefore we**
Chrysler Corporation Foundry	0012	97	25,357.00	**are using 1994 emissions.**
Indianapolis P & L Stout Sta	0033	85	394.00	
Indianapolis P & L Stout Sta	0033	88	344.00	
Indianapolis P & L Stout Sta	0033	90	324.95	
IPALCO - Stout	0033	93	354.73	
IPALCO - Stout	0033	96	430.72	
IPALCO - Stout	0033	97	457.11	
Indianapolis P & L Perry-K	0034	85	257.00	
Indianapolis P & L Perry-K	0034	88	174.00	
IPALCO - Perry K	0034	93	684.55	
IPALCO - Perry K	0034	96	218.97	
IPALCO - Perry K	0034	97	193.01	
National Starch & Chemical	0042	85	309.00	
National Starch & Chemical	0042	88	204.00	
National Starch & Chemical	0042	96	22.81	
National Starch & Chemical	0042	97	21.97	
Reilly Industries, Inc.	0049	90	9,195.32	
Reilly Industries, Inc.	0049	93	9,716.66	
Reilly Industries, Inc.	0049	96	3,034.13	
Reilly Industries, Inc.	0049	97	3,328.65	

TABLE I - Continued

CO Emissions Plant Totals for Major Sources 1985 to 1997

SOURCE	AIRS FACILITY ID	YR.	EMISSIONS IN T/Y
Marion County - Continued			
Marathon Petroleum Co.	0051	90	116.84
Marathon Petroleum Co.	0051	93	141.42
			CLOSED
Citizens Gas & Coke	0061	85	414.00
Citizens Gas & Coke	0061	88	667.00
Citizens Gas & Coke	0061	90	94.79
Citizens Gas & Coke	0061	96	311.76
Citizens Gas & Coke	0061	97	334.16
Allison Gas Turbine Division	0070	85	172.00
Allison Gas Turbine Division	0070	88	140.00
Allison Engine Co.	0070	90	127.56
Allison Engine Co.	0070	93	22.95
Allison Engine Co.	0070	96	90.04
Allison Engine Co.	0070	97	39.95
Quemetco, Inc.	0079	93	307.88
Quemetco, Inc.	0079	96	177.47
Quemetco, Inc.	0079	97	13.39
Panhandle Eastern Pipeline Co.	0095	85	213.00
Panhandle Eastern Pipeline Co.	0095	88	213.00
Panhandle Eastern Pipeline Co.	0095	90	173.94
Panhandle Eastern Pipeline Co.	0095	93	264.67
Panhandle Eastern Pipeline Co.	0095	96	344.35
Panhandle Eastern Pipeline Co.	0095	97	312.02
Ogden Martin Systems of IN	0123	90	482.60
Ogden Martin Systems of IN	0123	93	72.06
Ogden Martin Systems of IN	0123	96	100.00
Ogden Martin Systems of IN	0123	97	109.00

TABLE I - Continued

CO Emissions Plant Totals for Major Sources 1985 to 1997

Marion County Totals by Year	**85**	**10,747.00**
	88	**8,351.00**
	90	**33,320.31**
	93	**44,083.79**
	96	**37,168.76**
	97	**30,331.54**

One of the requirements for an approvable redesignation SIP is a demonstration that improvement in air quality between the year violations occurred and the year attainment was achieved was the result of permanent and enforceable emission reductions and not because of temporary adverse economic conditions or unusually favorable meteorology.

A review of the available data (see Enclosure B, Item 2) shows that in Marion County, CO emissions from sources emitting more than 1000 tons per year accounted for approximately 93% of all point source emissions for the year 1996. In Lake County, CO emissions from sources emitting more than 1000 tons per year accounted for an average of 99% of all point source emissions in 1996 and all of the years listed above. The emissions from these sources for each year they are available are shown with brief comments in Enclosure B, Item 1. Table II shows the distribution of plants listed in the 1985-1997 inventory.

TABLE II

Distribution of Plants Listed in 1985-1997 Inventory

County	# of Plants ≥ 1000 tpy	# of Plants ≥ 100 tpy	Total in Inventory	Year
Lake	5	10	17	85
Lake	5	9	18	88
Lake	4	7	19	90
Lake	5	8	14	93
Lake	4	8	13	96
Lake	4	8	16	97

TABLE II-Continued

Distribution of Plants Listed in 1985-1997 Inventory

County	# of Plants ≥ 1000 tpy	# of Plants ≥ 100 tpy	Total in Inventory	Year
Marion	1	7	20	85
Marion	1	7	20	88
Marion	2	7	17	90
Marion	2	8	18	93
Marion	3	11	19	96
Marion	3	9	17	97

4.2 Emission Projections

By opting to comply under the limited maintenance plan, the IDEM is not required to project emissions for Lake and Marion Counties over the maintenance period. However, the IDEM has chosen to provide this additional information within this redesignation request document.

Emissions were projected to the year 2007 to allow for any possible delays in redesignation. As shown in Enclosure B, Item 2 the vast majority of CO emissions originate from a handful of major sources (mainly steel plants in Lake County and a foundry in Marion County). Projections for these are based on EGAS defaults or information from sources. Details of the projections are shown in Enclosure C, Item 1 and the graphs in Enclosure C, Item 3. A summary is presented in Table III on the following page.

TABLE III

Projected Growth 1996-2007 Summary for a Typical Winter Day

County	Source Type	Base Yr. 1996	Projected Yr. 2007	Change
Lake		**(1995 and estimated 2007 for the mobile sources)**		
	Mobile Sources	302.00	246.00	-18.6%
	Area Sources	46.00	38.00	-17.4%
	Steel Plants	383.55	414.23	+8.0%
	Other Pt. Sources	18.57	10.21	-45.0%
	Total	750.12	708.44	- 5.8%
Marion				
	Mobile Sources	911.00	944.00	+ 3.6%
	Area Sources	140.00	114.00	-18.6%
	Foundry	103.99	120.63	+16.0%
	Other Pt. Sources	4.08	4.43	+ 8.5%
	Total	1159.07	1183.06	+ 2.0%

The mobile source emissions include the Vehicle Miles Traveled (VMT) emissions. These VMT emissions were taken from the Highway Performance Monitoring System. The CO emissions for mobile sources, for a typical winter day, are expected to decrease in Lake County and increase slightly in Marion County, by the projected year.

Area Source emissions listed above include stationary area sources, such as furnaces, as well as non-road area sources, such as lawnmowers. In both counties, area source emissions for a typical winter day are expected to decrease by the projected year.

As noted above, some of the CO point source emissions are expected to increase in both Lake and Marion Counties. By the projected year of 2007, the overall CO emissions for a typical winter day in Lake County are expected to decrease by about 5.8 percent. The CO emissions for a typical winter day in Marion County are expected to increase by about 2 percent by the projected year. However, the projected levels for Marion County will be considerably lower than the CO levels in 1986, when the last exceedance occurred. These trends are shown in the graphs in Enclosure C, Item 3.

4.3 Demonstration of Maintenance

Ambient air quality data from all monitoring sites indicate that the National Ambient Air Quality Standards for carbon monoxide were being met in 1996. Total emissions of CO from all sources are projected to decrease between 1996-2007. Therefore, attainment is expected to be maintained through the projected year 2007.

By opting to comply under the limited maintenance plan, the U.S. EPA provides that Lake and Marion Counties can be considered to satisfy the maintenance demonstration requirement because both counties are nonclassifiable areas whose monitoring data shows that the areas are meeting the air quality criteria for a limited maintenance area. Specifically, the CO design value for the years 1996 and 1997 in Lake County is 3.8 ppm , and is 3.9 ppm in Marion County. Both counties therefore qualify for the limited maintenance plan option because their design values are at or below 7.65 ppm (85% of exceedance levels of the CO NAAQS).

In keeping with the EPA's guidance, the Department will continue to monitor emissions in both counties to ensure the CO design values for the areas remain at or below 7.65 ppm. Additionally, the Department will continue to apply the following measures in both counties:

1. Application of prevention of significant deterioration (PSD) requirements for new or expanded sources.

2. Continued implementation of any control measures already in the SIP.

3. Continued applicability of Federal measures (such as the Federal motor vehicle control program).

4.4 Permanent and Enforceable Emission Reductions

Permanent and enforceable reductions of carbon monoxide emissions in Marion County has contributed to the attainment of the carbon monoxide standard by permanently rerouting downtown traffic. Reductions of carbon monoxide emissions in Lake County were attained by controlling auto emissions.

5.0 CONTROLS AND REGULATIONS

5.1 Implementation of Past SIP Revisions

The Indiana rules controlling carbon monoxide emissions are in effect and are being enforced. Indiana rule 326 IAC 9-1-2 requires all CO sources in Indiana to be in compliance with specified limits. All stationary sources of carbon monoxide commencing operation after March 21, 1972 are covered.

For Marion County, compliance is monitored by inspectors from the Indianapolis Air Pollution Control Section. It is a local agency with powers delegated from the State. Oversight is provided by IDEM.

In Lake County compliance is monitored by inspectors from the Hammond Air Pollution Control Department and the Gary Division of Air Pollution Control and IDEM's Northwest Office. The Department continues to manage the I/M program as per 326 IAC 13-1.1-1.

5.2 New Source Review Provisions

Indiana has a longstanding and fully implemented New Source Review procedure. This is addressed in rule 326 IAC 2. Currently, nonattainment area new source review applies (326 IAC 2-3). The implementation of this program has been delegated to the State by US EPA.

Any facility that is not listed in the 1990 emission inventory, or for the closing of which credit was taken in demonstrating attainment, will not be allowed to construct, reopen, modify or reconstruct without meeting any applicable permit rule requirement. The review process will be identical to that used for new sources.

5.3 Controls to Remain in Effect

Indiana has no intention of dropping or relaxing any of the already implemented control measures listed above after redesignation. Indiana hereby commits that any changes to its rules, or emission limits applicable to CO sources (326 IAC 9-1-1 and 326 IAC 9-1-2), will be submitted to U.S. EPA for approval as a SIP revision. This will include, where appropriate, a demonstration based on modeling that the standard will be maintained. Indiana does intend, upon redesignation, to apply 326 IAC 2-2 (Prevention of Significant Deterioration Requirements) rather than 326 IAC 2-3 (Emission Offset) for permitting any new sources or modifications. Indiana, through its Office of Enforcement, has in place the resources required to enforce actively any violations of its rules or permit provisions. After redesignation, it intends to continue enforcing all rules that relate to

the emission of carbon monoxide in the subject areas.

5.4 Conformity

Indiana adopted a general conformity (326 IAC 16-3-1) rule based on the federal standards on June 6, 1996. Likewise, a transportation conformity rule (326 IAC 19-2-1) was adopted to incorporate the revised federal standards on April 28, 1997. The consultation provisions of the transportation conformity rule are outlined and addressed via memorandums of understanding (MOUs) with the appropriate affected agencies. The transportation conformity consultation MOUs will be submitted to U.S. EPA along with State Rule 326 IAC 19-2-1 as a State Implementation Plan (SIP) in the near future.

Mobile source emissions have been determined to be a significant contributor to the Indianapolis CO maintenance area in the past. Therefore, whenever a regionally significant non-exempt project is planned for the Indianapolis CO maintenance area, a project-specific hot spot analysis will be conducted as part of the regional transportation conformity process. The hot spot analysis may be done as part of the environmental impact study for the project. The transportation conformity process and procedures for Marion County are outlined within an interagency MOU among the affected transportation and air quality agencies.

6.0 CORRECTIVE ACTIONS

6.1 Commitment to Revise Plan

Indiana hereby commits to review and, if necessary, revise its Maintenance plans for Lake and Marion Counties eight years after redesignation to attainment of the CO NAAQS, as required by Section 175(A) of the CAA. If Lake and Marion Counties can demonstrate the design values for the counties continue to be at or below 7.65 ppm or 85 % of the CO NAAQS, the limited maintenance plan option will be continued for the second ten-year maintenance plan.

6.2 Commitment for Contingency Measures

Indiana hereby commits to adopt and implement expeditiously necessary corrective actions in the following circumstances:

A Level I response would occur in the event that the carbon monoxide standard is violated. An evaluation would be performed to determine all additional control measures needed to assure future attainment of the National Ambient Air Quality Standard for carbon monoxide. In this case measures that could be implemented in a short time would be selected so as to be in place within twelve months after the Department verifies that a violation has occurred.

A Level II response would be implemented in the event that the monitored ambient carbon monoxide values exceed 90 percent of the level of any ambient air quality standard at any site in the affected area.

A Level II response will consist of a study to determine whether the noted trends are likely to continue and, if so, the control measures necessary to reverse the trend taking into consideration ease and timing for implementation, as well as economic and social considerations. Implementation of necessary controls in response to a Level II trigger will take place as expeditiously as possible but in no event later than 18 months after the Department verifies that the levels specified have been exceeded.

Adoption of any control measures is subject to necessary administrative and legal approval. This will include publication of notices, an opportunity for public hearing, and other measures required by Indiana law (IC 13-14-8-7) for rule making by the Indiana Air Pollution Control Board. This law provides accelerated procedures for adopting interim control measures in the event of an emergency affecting public health.

In any event, the implementation plan would include an analysis, by a method mutually agreed

upon by Indiana and the U.S. EPA, to demonstrate that the proposed measures are adequate to return the area to attainment.

6.3 List of Contingency Measures

Contingency measures to be considered will be selected from the following list or from any other measure deemed appropriate and effective at the time the selection is made. The selection between measures will be based upon cost-effectiveness, emission reduction potential, economic and social considerations or other factors that IDEM deems appropriate. IDEM will solicit input from all interested and affected persons in the area prior to selecting appropriate contingency measures.

1) One or more transportation control measures:

A. Trip reduction programs, including but not limited to, employer-based transportation management plans, area wide rideshare programs, and work schedule changes;

B. Transit improvements;

C. Traffic flow improvements.

2) One or more stationary source control measures.

IDEM will examine the annual point source inventory for sources with increased emissions and new sources. No contingency measure shall be implemented without providing the opportunity for full public participation during which the relative costs and benefits of individual measures, at the time they are under consideration, can be fully evaluated.

6.4 List of Sources

The carbon monoxide sources potentially subject to future controls is by necessity basically the same as the current list of major sources which is found in Section 4.1, Table I above. As noted in Sections 6.2 and 6.3 above, sources subject to additional controls will be those which the planned study shows are responsible for triggering the contingency measures and the control of which will most effectively help to ensure compliance with the standards. In addition to reviewing the known sources, the possibility that the problem is attributable to new or previously unknown sources will not be overlooked. Also, IDEM would consider additional ways in which motor vehicle emissions could be reduced.

7.0 PUBLIC PARTICIPATION

In accordance with 40 CFR 51.102 public participation in the request was provided for as follows:

Notice of availability of the complete document and a public hearing was published in the Indianapolis Star and The Times, Munster.

Public hearings were held:

> Monday, November 8, 1999, 7:00pm (local time) at the Ivy Tech De la Garza Center, 410 E. Columbus Drive, East Chicago, Indiana in Room 100, and
>
> Wednesday, November 10, 1999, 7:00pm (local time) at the Indiana Government Center South, 402 West Washington Street, Indianapolis, Indiana, in Conference Room D.

Copies of the proofs of publication will be found in Enclosure E and the transcripts of the hearings will be found in Enclosure F.

8.0 CONCLUSION

Marion and Lake Counties in Indiana have attained the federal ambient carbon monoxide standards and complied with the applicable provisions of the 1990 Amendments to the Clean Air Act regarding redesignation of primary carbon monoxide nonattainment areas. Documentation to that effect is contained herein. A Request and Limited Maintenance Plan has been prepared that meets the requirement of Section 110(a)(1) of the 1990 Clean Air Act Amendments and is in accordance with U.S. EPA memorandum dated October 6, 1995. Enclosure D addresses all requirements of the plan including some that may not be covered above.

The State of Indiana hereby requests that Marion and Lake Counties be redesignated to carbon monoxide attainment simultaneously with the U.S. EPA approval of the Indiana State Implementation Plan provisions contained herein.