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SUPPLEMENT A
JULY 1993

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SUPPLEMENT A

TO

**EDMS Microcomputer Pollution
Model for Civilian Airports and
Air Forces Bases**

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for public release and sale; its
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NOTICE

The following pages contained in SUPPLEMENT A of the EDMS are to be appropriately inserted in the EDMS User's Guide. The associated page numbers will indicated which pages are to be added and which pages are to replace previous pages.

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Instructions for inserting SUPPLEMENT A
into Emissions and Dispersion Model System, User'S Guide.

Page	i(a)	insert after page i.	Revised Documentation page.
Page	iv	replaces same page.	Revised Table of Contents.
Page	v	replaces same page.	Revised Table of Contents.
Page	4	replaces same page.	Minor revision.
Pages	6 thru 7	replace same page.	Minor revision.
Pages	9 thru 12	replace same page.	Minor and major revision.
Page	14	replaces same page.	Minor revision.
Page	17	replaces same page.	Minor revision.
Page	21	replaces same page.	Major revision.
Pages	23 thru 27	replace same page.	Minor and major revision.
Page	31 thru 34	replaces same page.	Minor revision.
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This supplement announces the incorporation of the latest aircraft emission database (EPA, 1992) and the latest motor vehicle database (Mobile 5a) into the Emissions and Dispersion Modeling System (EDMS). (The Clean Air Act Amendments of 1990 requires that the latest emission information be used to establish the Conformity of an airport improvement project with the State Implementation Plan.) This supplement also documents the following model enhancements: (1) an expansion of the emissions inventory portion of the model to accommodate ground support equipment and airport spray painting facilities; (2) the condensation of the emissions report into a one page printout; (3) the summarizing of calculated concentrations into hourly average time periods associated with each pollutant; (4) the access of the dispersion output file (disperse.out) directly from the menu; (5) the addition of a gridding algorithm designed to permit the entry of up to 200 receptors into the model; (6) the expansion of the example problem procedure to accommodate gridding.					
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Menu Flow

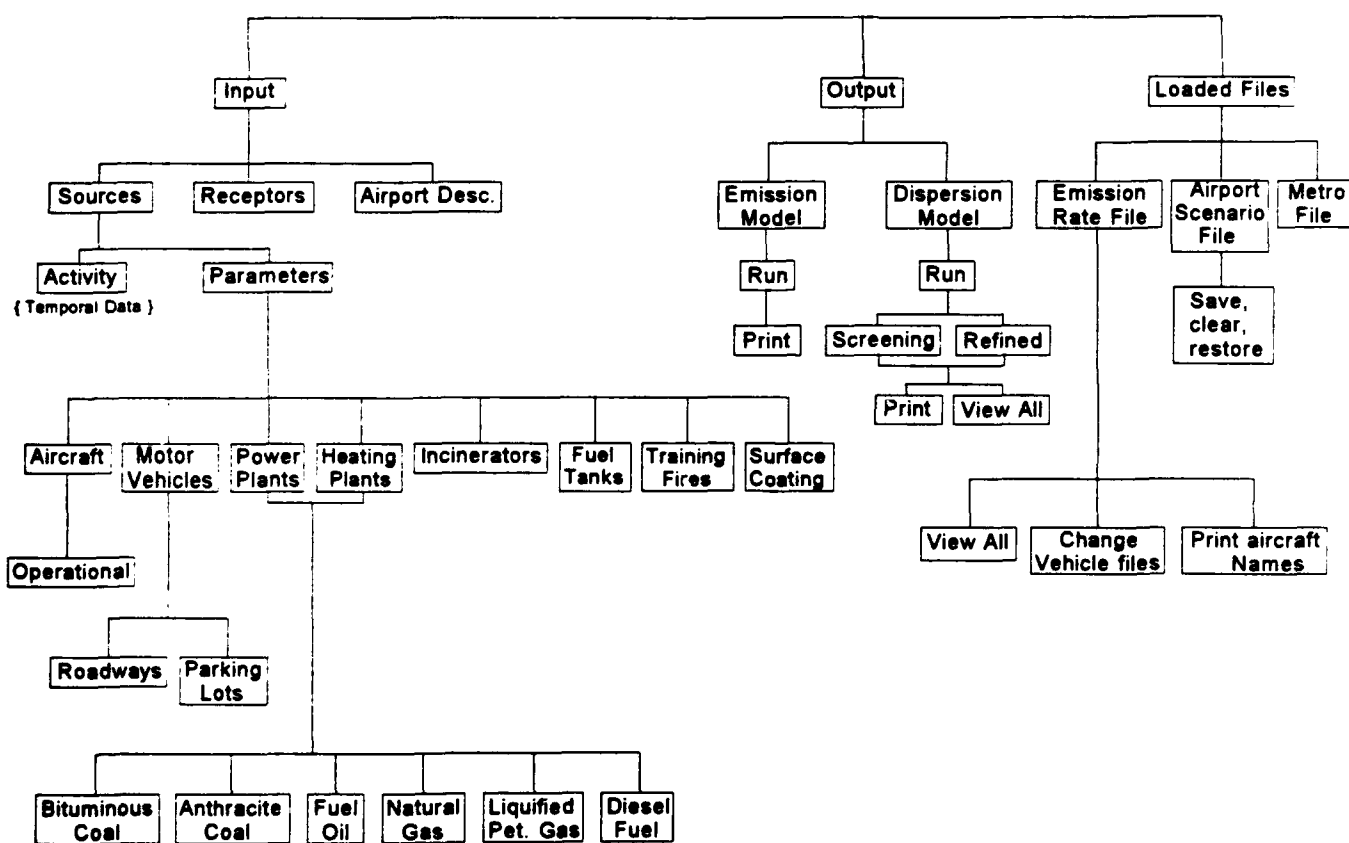


FIGURE 2

SUPPLEMENT A

3 - SYSTEM SET-UP

3.1 HARDWARE

EDMS requires the following hardware:

1. An IBM PC/XT/AT or compatible computer.
2. At least 400 kilobytes of free memory.
3. One floppy disk drive.
4. One hard drive with at least 5 megabytes free.

In addition, the following items should enhance model performance:

1. A computer with an 80486 processor.
2. An additional 10 megabytes on the hard drive.

3.2 SOFTWARE

EDMS requires the following software:

- 1) MS-DOS version 2.1 or higher
- 2) 2 diskettes containing the EDMS code

Note: These diskettes can be purchased for \$40 from the :

Federal Aviation Administration
800 Independence Avenue, SW.
AEE-120
Washington, D.C. 20591
Attn: Howard M. Segal
Telephone: (202) 267-3494

SUPPLEMENT A

3.3 INSTALLATION OF CODE

Loading instructions are as follows:

1. The CONFIG.SYS file of the computer must have its FILE and BUFFER commands set at 30 or above.

Note: Reboot the computer if you change these settings.

2. Insert disk #1 into the "A" or "B" drive.
3. Type "A:" or "B:"
4. Type "INSTALL" and follow instructions.

This install program does the following:

1. Permits the user to select any letter hard drive.
2. Creates a sub directory called "EDMS793".
3. Copies EDMS code from 2 diskettes into "\EDMS793" sub directory.

4.3.1.2 Source inputs

Table 1 lists source characteristics.

TABLE 1

SOURCE INPUTS (refer to Figure 3)

Source	Coordinates (M)				Source Activity *	Duty Cycle	
	x1	y1	x2	y2		Record Name	%Activity (Temporal Factor)
Power Plant G	800	400			4 m tons/hr bituminous coal	POWER	100% activity for all days, months & hours
Runway C	1600	1050	000	900	10 DC9s/hr. 12 727s/hr.	SCENARIO	1200 - 90% activity 1300 - 60% activity all other activity is 100%
Queue B	150	760	1500	820	10 DC9s/hr. 12 727s/hr	SCENARIO	same as "Runway"
Roadway E	320	500	770	660	340 veh/hr 15 mi/hr 20% cold	SCENARIO	same as "Runway"
Roadway D	880	530	910	610	1500 veh/hr 5 mi/hr 20% cold	SCENARIO	same as "Runway"
Parking Lot F	870 830	520 660	910 770	620 580	150 veh/hr 5 mi/hr 80% cold	SCENARIO	same as "Runway"

* Source activity for the peak hour of the year.

4.3.2 RECEPTORS

There are two sets of receptors; the ones for the screening mode (Table 1B) and the ones for refined mode (Table 1A). The receptors coordinates for both sets are listed below.

TABLE 1A (refined)

Receptor Name	"X" Location (meters)	"Y" Location (meters)
#1 Main Terminal	920	600
#2 South of Main Terminal	1000	600
#3 Runway - North End	1650	1100
#4 North Terminal	550	610

TABLE 1B (screening)

Receptor Name	"X" Location (meters)	"Y" Location (meters)
receptor # 0	1500	900
receptor # 1	1500	1000
receptor # 2	1500	1100
receptor # 3	1600	900
receptor # 4	1600	1000
receptor # 5	1600	1100
receptor # 6	1700	900
receptor # 7	1700	1000
receptor # 8	1700	1100

4.3.3 METEOROLOGICAL DATA

Meteorological inputs are required for both the screening and refined runs.

SCREENING RUN

Parameter	Hourly averaged values
Wind speed (meters/second)	1
Wind direction (degrees)	225
Air temperature (degrees F.)	70
Pasquill/Gifford stability (1-6)	2

Note: Stability classes 1 - 6 correspond to Pasquill/Gifford stability classes A - F.

REFINED RUN

Meteorological data must be loaded into EDMS before starting a refined run. However, the user will not have to load a meteorological file before running the example problem because one such file has already been loaded into the model.

To further reduce run time, only 8 hours of meteorological data are scheduled to be processed; starting Aug 11 - 8:00 am and ending Aug 11 - 3:00 pm.

4.4 INSTRUCTIONS TO RUN MODEL

The example problem instructions incorporate some special notations. The word ENTER in the text means that the carriage return key (↵) should be pressed. Text entries must all be in upper (or lower) case since the data base distinguishes between upper and lower case characters. Quotes around numbers, characters, or words are for identification only. They are not to be typed in.

The 104 step example problem is listed below. The flow chart of Figure 2 should prove helpful if the user gets lost while running the example problem.

PREPARE FOR DATA ENTRY

<u>STEP</u>	<u>ACTION</u>	<u>PURPOSE</u>
1	turn on computer, monitor and printer	activate system
2	intentionally blank	
3	press CAPS LOCK key	set for upper case entry *
4	type "CD \EDMS" ENTER	change to the EDMS directory
5	type "EDMS" ENTER	execute EDMS program within the EDMS directory

NOTE:- Because EDMS is delivered with empty input screens, the user will not have to empty these screens before running the example problem. However, before a new scenario can be started, all input screens must be empty. Option 8 of the main menu shows how to empty these screens.

* This case must be consistently used throughout the data entry process.

ENTER TEMPORAL DATA

- | | | |
|----|-----------------------|---------------------------------------|
| 15 | type "2" ENTER | select TEMPORAL option |
| 16 | type "1" ENTER | select "add" option |
| 17 | type "POWER" ENTER | enter temporal record name |
| 18 | type ENTER 43 times | enter 1.0 for 100% |
| 19 | type "C" | save first record "POWER"; |
| 20 | type "SCENARIO" ENTER | start the second record (see Table 2) |
| 21 | press ENTER 12 times | enter default (1.0) |
| 22 | type ".9" ENTER | enter 90% (for 1200 hours) |
| 23 | type ".6" ENTER | enter 60% (for 1300 hours) |
| 24 | press enter 29 times | enter 100% |
| 25 | intentionally blank | |
| 26 | intentionally blank | |
| 27 | type "E" | save |
| 28 | type "11" ENTER | return to the main menu |

TABLE 2

TEMPORAL ACTIVITY

Temporal name SCENARIO

Hourly factors:

0 <u>1.00</u>	1 <u>1.00</u>	2 <u>1.00</u>	3 <u>1.00</u>	4 <u>1.00</u>	5 <u>1.00</u>
6 <u>1.00</u>	7 <u>1.00</u>	8 <u>1.00</u>	9 <u>1.00</u>	10 <u>1.00</u>	11 <u>1.00</u>
12 <u>0.90</u>	13 <u>0.60</u>	14 <u>1.00</u>	15 <u>1.00</u>	16 <u>1.00</u>	17 <u>1.00</u>
18 <u>1.00</u>	19 <u>1.00</u>	20 <u>1.00</u>	21 <u>1.00</u>	22 <u>1.00</u>	23 <u>1.00</u>

Daily factors:

Sun 1.00 Mon 1.00 Tue 1.00 Wed 1.00
 Thu 1.00 Fri 1.00 Sat 1.00

Monthly factors:

Jan 1.00 Feb 1.00 Mar 1.00 Apr 1.00 May 1.00 Jun 1.00
 Jul 1.00 Aug 1.00 Sep 1.00 Oct 1.00 Nov 1.00 Dec 1.00

TABLE 4

OPERATIONAL AIRCRAFT SOURCES (2)			
TEMPORAL SCENARIO			
Name DATA32 <u>MAIN</u>			
Runway:			
Location:	Point 1	X1 <u>1600</u>	Y1 <u>1050</u>
	Point 2	X2 <u>0</u>	Y2 <u>900</u>
Aircraft type AIRCFT <u>727</u>		(Q1X1,Q1Y1) (Q2X1,Q2Y1)	
Takeoffs(peak hour)	— <u>12.00</u>	Queue 1 /	\ Queue 2
	— <u>100.00</u>	/	\
Queue:		(X1,Y1)	Runway (X2,Y2)
Time in Mode:	QTIM <u>12.00</u>		
End point of queue #1:	Q1X1 <u>1500</u>	Q1Y1 <u>820</u>	
End point of queue #2:	Q2X1 <u>150</u>	Q2Y1 <u>760</u>	
QUENUM <u>1</u> (use default)			
Hourly touch and go:	HTGO <u>0.00</u>		

- | | | |
|----|-----------------|-------------------------|
| 50 | type "E" | save |
| 51 | type "10" ENTER | return to aircraft menu |
| 52 | type "10" ENTER | return to Sources menu |

ENTER RECEPTORS

- | | | |
|----|--|-----------------------------------|
| 66 | type "3" ENTER | select receptor |
| 67 | type "5" ENTER | prepare to enter grid coordinates |
| 68 | enter data from Table 8
type "E" to end | enter grid coordinates |
| 69 | type "11" ENTER | return to main menu |

TABLE 8

GRID

GRID DIMENSIONS (meters)

All entries should be divisible by 10. Maximum number of receptors 200.

Grid origin: X1: 1500 Y1: 900

Maximum distance from origin: X2: 1700 Y2: 1100

Distance between receptors: distance: 100

RUN DISPERSION MODEL IN SCREENING MODE - PRINT RESULTS

- | | | |
|----|------------------|--|
| 74 | type "6" ENTER | select dispersion menu |
| 75 | type "1" ENTER | enter new meteorological data |
| 76 | type "70" ENTER | enter temperature in degrees F |
| 77 | type "1" ENTER | enter wind speed |
| 78 | type "225" ENTER | enter wind direction |
| 79 | type "2" ENTER | enter stability class |
| 80 | type "E" | to save meteorological data |
| 81 | type "3" ENTER | initiate dispersion model
concentration |
| 82 | type "4" ENTER | print screening dispersion report |

Note: Verify that your printer is set to accept 132 characters.

- | | | |
|----|-----------------|---------------------|
| 83 | type "11" ENTER | return to main menu |
|----|-----------------|---------------------|

RUN DISPERSION MODEL IN REFINED MODE - PRINT RESULTS

- | | | |
|----|--|-----------------------------|
| 84 | type "3" ENTER | select receptors |
| 85 | type "3" ENTER
type "Y" | empty receptor file |
| 86 | type "1" ENTER | display receptor screen |
| 87 | enter data from Table 1A
(see page# 11) | enter receptors 1 through 4 |

Note: After entering the first receptors, press "C" to enter the next receptor.
After entering the last receptor, press "E" to end.

- | | | |
|----|-----------------|---------------------|
| 88 | type "11" ENTER | return to main menu |
|----|-----------------|---------------------|

- | | | |
|----|------------------------|--|
| 89 | type "5" ENTER | select emissions model menu |
| 90 | type "1" ENTER | run emissions model |
| 91 | type "11" ENTER | return to main menu |
| 92 | type "6" ENTER | select dispersion menu |
| 93 | type "5" ENTER | run dispersion for refined mode |
| 94 | type "8, 11, 08" ENTER | enter starting time (Aug 11-8:00 am) |
| 95 | type "8, 11, 15" ENTER | enter ending time (Aug 11-3:00 pm) |
| 96 | type "6" ENTER | select print options |
| 97 | type "3" ENTER | print maximum 8 hours
concentrations (CO) |
| 98 | type "11" ENTER | return to main menu |

SAVE AND ERASE DATA

- | | | |
|-----|--|---|
| 99 | type "8" ENTER | display save, delete, and
restore options |
| 100 | type "1" ENTER
(follow screen instructions) | save airport scenario on
floppy diskette |
| 101 | type "2" ENTER | erase saved scenario from hard disk |
| 102 | type "Y" ENTER | This action clears the hard disk to
accept new scenario data |
| 103 | type "11" ENTER | return to main menu |
| 104 | type "10" ENTER | leave the EDMS program and
return to DOS |

5. - GENERAL TASKS

5.1 ENTERING AIRCRAFT QUEUES

The user must enter two possible queue locations, one at each end of a runway. This is necessary because the model automatically selects the queue location associated with takeoff into the wind.

The number of queuing aircraft is determined either by observing queue length at peak hour or by multiplying estimated peak hour Time In Mode (TIM) —in minutes — by the estimated peak hour departure rate — in airplanes per minute. Having calculated the number of queuing aircraft, queue length is determined by adding up the length of all aircraft and the spacing between them.

The queue line extends from the end of the runway where aircraft first start their takeoff roll to the location on the taxiway where the last aircraft is queuing. This hypotenuse assumption for the aircraft queue will have an insignificant effect on model results.

5.2 ENTERING LONG-TERM METEOROLOGICAL DATA

The National Climatic Data Center (NCDC) distributes AIRWAY SURFACE OBSERVATION files for each weather station in the United States. Before a refined run can start, these files must be entered into EDMS. (Files can be obtained by contacting the NCDC in Ashville, North Carolina 28801). The procedure for entering these files is as follows:

- 1- Enter EDMS (follow steps noted on page 12)
- 2- Execute item 9 of the main menu
and follow instructions.

After entering a new weather station file, the weather station default file, which is for 1982 hourly weather observations at Stapleton International Airport (DEN), will be overwritten.

5.3 CHANGING THE MOTOR VEHICLE FLEET MIX YEAR

Emission rate (standards) files for 1990, 1995, 2000, and 2010 fleet mixes have been loaded into EDMS in accordance with Mobile 5a information provided by the EPA in March 1993. The user can select emission information for any one of these 4 years by selecting option 7 of the main menu and following the instructions that appear on the screen. When this is done, the file default, 1990 - high altitude, is overwritten.

As new issues of the Mobile model are released, they will be incorporated into EDMS. The user should check with the model issuer to determine what version of the Mobile model has been loaded into his version of EDMS.

5.4 VIEWING EMISSION RATE FILES

Exercising option 7 of the main menu will provide access to all emission rate information.

5.5 PRINTING OUT AIRCRAFT IDENTIFIERS

Explicit aircraft names (i.e. A7D/K; not A7D) must be entered into EDMS to avoid an error message. Option 7 of the main menu permits access to the specific aircraft names that EDMS will accept.

5.6 RESTORING AN OLD SCENARIO

Option 7 can also be used to restore previously saved scenarios. However, make sure that the scenario being restored was saved on same version of EDMS that you are using. To check version compatibility do the following:

1. Exit EDMS and enter DOS
2. Insert saved diskette into the "A:" drive.
3. Type "VOL A:" <ENTER>

The version number that was used to create the diskette will be noted in the screen text. If this number is different from the EDMS version that presently resides in your computer, you must reenter all input field data from the saved diskette into your on-line EDMS system.

5.7 RETRIEVING DISPERSION RESULTS

Hourly concentration values are written to a text file called DISPERSE.OUT. Option 6 of the main menu initiates access to this file.

6. - GENERAL INFORMATION

6.1 OPERATIONAL CONSTRAINTS IN ENTERING DATA AND RUNNING THE MODEL

6.1.1 DATA INPUT LIMITS

<u>FILE NAME</u>	<u>FILE DESCRIPTION</u>	<u>RECORD LIMIT</u>
------------------	-------------------------	---------------------

STANDARDS:

AIRZ	Aircraft	488 (61 aircraft * 8 geomodes)
MVEM	Motor Vehicles	60
TFEM	Training Fires	1
PPEF	Power Plants	22
INEF	Incinerators	5
TNEF	Tank Farms	7 (17 fuel types)
SCEF	Surface Coating	15

SOURCES:

ACTH	Temporal	30
RUNW	Aircraft Takeoffs	162 (ie. 4 runways * 41 aircraft)
ROAD	Roadways	300
VPRL	Car Parking	30
TANK	Tank Farms	20
FIRE	Training Fires	20
PLAN	Power Plants	20
HEAT	Heating Plants	20
INCI	Incinerators	20
SURF	Surface Coating	20

RECEPTORS:

RECP	Receptors	200
------	-----------	-----

6.1.2 DATA PROCESSING CONSTRAINTS

This section provides information on the time it takes to run the model and the amount of disk storage space needed to store modeling results. Table 9 lists the characteristics of 7 scenarios that were run during model development. These scenarios were run on a 386 -- 25 Mhz computer with an 80387 math coprocessor.

Let us assume that the variable and non-variable monthly temporal factor averages (1.0 and 0.5 from the above table) apply weekly and hourly as well. Values to be entered into equation (1) are therefore:

	VARIABLE	NON-VARIABLE
FACTOR AVERAGE - MONTH (from table)	0.5	1.0
FACTOR AVERAGE - DAYS (assumed same)	0.5	1.0
FACTOR AVERAGE - HOUR (assumed same)	0.5	1.0
ANNUAL OPERATIONS (assumed)	17,520	17,520
HOURS IN A YEAR - 8760		

THEN:

NON-VARIABLE FACTOR CALCULATION

$$17,520 / 8760 / 1 / 1 / 1 = 2 \text{ peak hour departures.}$$

VARIABLE FACTOR CALCULATION

$$17,520 / 8760 / 0.5 / 0.5 / 0.5 = 16 \text{ peak hour departures}$$

Notice that the peak hour departures are quite different even though the annual operations are the same - 17,520 departures.

6.3 FUEL CODES

Fuel code names are listed in Table 10.

TABLE 10

FUEL CODES

FUEL CODE	NAME	USAGE	
		STORAGE TANKS	TRAINING FIRES
3	Fuel Oil	√	
6	Diesel	√	
8	Automobile Gasoline	√	
9	Aviation Gasoline	√	
10	JP4	√	√
11	JP5	√	
13	JET A	√	

6.4 MODES AND TIMES IN MODE

The model refers to eight Geomodes, each of which has a different TIME IN MODE (TIM). (A Geomode is the title given to an aircraft operation such as taxi or takeoff with one exception – Geomode 5.) Geomode 5 does not list aircraft times in mode but rather incorporates the operational times of the Ground Support Equipment (GSE) that support each aircraft.

The relationship of EDMS Geomodes to EPA TIMES IN MODE are listed in Table 11. These values can be changed to airport specific times in mode if the user so desires.

TABLE 11
MODES ASSIGNED TO CIVIL AIRCRAFT

EDMS MODES	EPA MODES	EPA TIMES IN MODE (MIN)		
		TURBO FAN* TURBO JET	TURBO* PROP	PISTON**
1 - RUNWAY TAKEOFF	TAKEOFF	0.7	0.5	0.3
2 - RUNWAY QUEUE	***RUNWAY QUEUE	12.0	12.0	4.0
3 - TOUCH AND GO				
4 - TAXIWAY CYCLE	***TAXI OUT	7.0	7.0	8.0
	***TAXI IN	7.0	7.0	4.0
5 - GROUND SUPPORT EQUIPMENT ****				
6 - ENGINE TESTING				
7 - CLIMB	CLIMB	2.2	2.5	6.0
8 - APPROACH	APPROACH	4.0	4.5	6.0

* Page 58473, Federal Register, December 30, 1982 (Final Engine Emission Standards)

** Page 19101, Federal Register, July 17, 1973 (Initial Engine Emission Standards)

*** 26 minute EPA taxi-idle time in mode breakdown (estimated)

**** The model includes GSE operating time defaults for each item of GSE.

6.5 HARD DRIVE DESIGNATION

This new version of EDMS will operate properly in any assigned hard drive. (i.e. C, D, E, F....Z). The drive is assigned by the user during model installation.

Note: If EDMS has been installed in a drive that is not the "C" drive, EDMS assumes that your primary or bootable hard drive is "C".

6.6 TEXT CHARACTERS

All data fields should contain only numeric and/or alphabetic characters. The introduction of other characters, such as semicolons or commas, will distort file writing procedures and will cause an error message to appear. Also, to avoid possible case mismatch problems, all data entry characters should be in upper case.

7 - REFERENCES

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1

DISPERSION REPORT (Screening Mode)

CONCENTRATION - ALL SOURCES

INPUT					RECEPTORS (m)			OUTPUT				
DATE	HR	W/S m/s	WD DEG	P/G A=1				CONCENTRATIONS (gm/m^3)				
					NO	X	Y	CO	HC	NOx	SOx	PART
JAN-1-00	0	1	225	2	1	1500	900	2.20E-05	1.42E-06	3.59E-06	1.87E-05	7.68E-06
JAN-1-00	0	1	225	2	2	1500	1000	5.45E-05	3.58E-06	7.61E-06	3.84E-05	1.58E-05
JAN-1-00	0	1	225	2	3	1500	1100	1.65E-04	2.66E-05	1.34E-03	9.22E-05	2.18E-05
JAN-1-00	0	1	225	2	4	1600	900	1.24E-03	3.01E-04	1.87E-04	4.78E-05	6.11E-06
JAN-1-00	0	1	225	2	5	1600	1000	4.37E-03	1.06E-03	6.57E-04	1.51E-04	1.44E-05
JAN-1-00	0	1	225	2	6	1800	1100	8.64E-04	2.02E-04	2.90E-03	1.55E-04	2.31E-05
JAN-1-00	0	1	225	2	7	1700	900	1.24E-04	2.93E-05	1.97E-05	1.33E-05	4.13E-06
JAN-1-00	0	1	225	2	8	1700	1000	2.80E-03	6.78E-04	4.22E-04	1.01E-04	1.10E-05
JAN-1-00	0	1	225	2	9	1700	1100	7.06E-03	1.71E-03	1.72E-03	2.55E-04	2.01E-05

CONCENTRATION - BY SOURCE TYPE

CARBON MONOXIDE (gm/m ³)												
DATE	HOURL	RECP	ROADWAYS	PARKING	POWER PLANTS	HEATING PLANTS	INCINERATORS	TRAINING FIRES	FUEL FACILITY	SURFACE COATING	AIRCRAFT QUEUES	AIRCRAFT TAKEOFFS
JAN-1-00	0	1	1.703E-05	2.081E-06	2.879E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
JAN-1-00	0	2	4.208E-05	6.551E-06	5.913E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
JAN-1-00	0	3	5.848E-05	1.117E-05	8.191E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.712E-05
JAN-1-00	0	4	5.649E-06	6.601E-07	2.290E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.234E-03	0.000E+00
JAN-1-00	0	5	1.892E-05	2.726E-06	5.398E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.348E-03	0.000E+00
JAN-1-00	0	6	3.522E-05	6.072E-06	8.647E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.308E-04	1.830E-04
JAN-1-00	0	7	1.876E-06	2.190E-07	1.549E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.200E-04	0.000E+00
JAN-1-00	0	8	7.937E-06	1.091E-06	4.136E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.787E-03	0.000E+00
JAN-1-00	0	9	1.875E-05	3.013E-06	7.555E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.990E-03	4.336E-05

NITROGEN OXIDES (gm/m ³)												
DATE	HOURL	RECP	ROADWAYS	PARKING	POWER PLANTS	HEATING PLANTS	INCINERATORS	TRAINING FIRES	FUEL FACILITY	SURFACE COATING	AIRCRAFT QUEUES	AIRCRAFT TAKEOFFS
JAN-1-00	0	1	4.363E-07	3.622E-08	3.119E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
JAN-1-00	0	2	1.094E-06	1.151E-07	8.405E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
JAN-1-00	0	3	1.572E-06	1.963E-07	8.874E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.332E-03
JAN-1-00	0	4	1.448E-07	1.180E-08	2.481E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.846E-04	0.000E+00
JAN-1-00	0	5	4.904E-07	4.790E-08	5.848E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.503E-04	0.000E+00
JAN-1-00	0	6	9.335E-07	1.067E-07	9.368E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.435E-05	2.799E-03
JAN-1-00	0	7	4.811E-08	3.848E-09	1.878E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.794E-05	0.000E+00
JAN-1-00	0	8	2.054E-07	1.917E-08	4.481E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.169E-04	0.000E+00
JAN-1-00	0	9	4.935E-07	5.294E-08	8.185E-06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.046E-03	6.831E-04

A5

DISPERSION REPORT

(Refined Mode)

TOP 8 HOUR AVERAGE CONCENTRATIONS OF CO

RECEPTOR	HOUR	CONCENTRATION (gm / m ³)
1	8	1.2084E-03
	8	1.1991E-03
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
2	8	7.5049E-05
	8	7.5049E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
3	8	4.9836E-05
	8	4.9836E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
4	8	9.2185E-05
	8	9.1744E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00

SUPPLEMENT A

SUPPLEMENTARY

INFORMATION



U.S. Department of
Transportation

Office of the Secretary
of Transportation

400 Seventh St., S.W.
Washington, D.C. 20590

November 17, 1993

DTIC-FDAC, Building #5
Attn: Selection Section
Cameron Sta. Alexandria
Virginia 22304-6145

Dear Madam/ Sir:

This is to inform you of an errata sheet to a supplement of a technical report. The supplement is:

SUPPLEMENT A

To

EDMS Microcomputer Pollution Model for
Civilian Airports and Air Forces Bases

Attached, please find and process the errata sheet as a replacement page for the existing page A5.

Your prompt attention to this matter is greatly appreciated. Thank you.

Please send me a receipt for this document.

Cordially,

D'Borah K. Hart
D'Borah K. Hart
Library Technician

AD 4871596

DISPERSION REPORT

(Refined Mode)

TOP 8 HOUR AVERAGE CONCENTRATIONS OF CO

RECEPTOR	HOUR	CONCENTRATION (gm / m ³)
1	8	1.2084E-03
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
2	8	7.5049E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
3	8	4.9836E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
4	8	9.2185E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00

DISPERSION REPORT

(Refined Mode)

TOP 8 HOUR AVERAGE CONCENTRATIONS OF CO

RECEPTOR	HOUR	CONCENTRATION (gm / m ³)
1	8	1.2084E-03
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
2	8	7.5049E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
3	8	4.9836E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
4	8	9.2185E-05
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00
	0	0.0000E+00