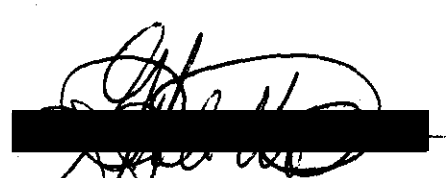
DCA97MA017
Addendum III to Meteorological Factual Report

Information provided by Detroit Edison regarding the exhaust stack plume height of Detroit Edison's Monroe Power Plant exhaust stack plume are contained as Attachments 1 - 10.



Gregory D. Salottolo
National Resource Specialist
Meteorology
May 29, 1997

Detroit Edison
2000 2nd Avenue
Detroit, Michigan 48226-1279
(313) 237-8000

May 29, 1997

Mr. Gregory Salottolo
National Transportation and Safety Board
AS30
490 L'Efant Plaza SW
Washington, D.C. 20594

Dear Mr. Salottolo:

In response to your request, I made computer screening model runs to project the height of Detroit Edison's Monroe Power Plant exhaust stack plume for various weather conditions on January 9, 1997. The weather conditions were: overcast skies, ambient ground-level temperature of 30°F, wind speeds of 10-12 knots and a wind direction of approximately 100 degrees. These conditions were recorded at the Fermi 2 site (which is on Lake Erie about 6 ½ miles northeast of Monroe Power Plant).

The attached screening model projection identifies the stabilized plume height for Monroe Power Plant's plume and the plume's horizontal and vertical spread. With overcast skies, mid afternoon sun angles and moderate wind speeds, the stability of the atmosphere was likely neutral (category D (4)) at 3:55 PM on January 9, 1997. The plume height was analyzed for wind speeds of 5, 6 and 7 meters per second (9.7-13.6 knots at the standard 10-meter measurement height).

Results project a maximum Monroe Power Plant plume centerline height of 724 meters with the range of appropriate wind speeds. This height corresponds to a wind speed of 5 meters per second. Sigma z values of 223 to 265 meters, at a downwind distance of 10 to 15 miles from the plant, indicate that approximately 90 percent of the plant's plume was below 1,040 meters above ground. The minimum probable stabilized plume height was 587 meters using a wind speed of 7 meters per second.

Please call me at ([redacted] if you have any questions about this analysis.

Respectfully submitted,

Michael P. Lebeis
Senior Engineer
Engineering Support Org.
Detroit Edison

(1)

BEE-Line SCREEN3 Version 3.20 05/28/97
14:31:23

Input File: COMAIR1.DTA
Output File: COMAIR1.LST

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Monroe PP Plume Height Projection for Weather Cond. in Monroe County on 1/9/97

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	.126000
STACK HEIGHT (M)	=	245.3640
STK INSIDE DIAM (M)	=	8.5344
STK EXIT VELOCITY (M/S)	=	36.5760
STK GAS EXIT TEMP (K)	=	405.3722
AMBIENT AIR TEMP (K)	=	272.0389
RECEPTOR HEIGHT (M)	=	1219.2000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	64.0080
MIN HORIZ BLDG DIM (M)	=	60.9600
MAX HORIZ BLDG DIM (M)	=	91.4400

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 2148.156 M**4/S**3; MOM. FLUX =16347.660 M**4/S**2.

*** STABILITY CLASS 4 ONLY ***
*** 10-METER WIND SPEED OF 5.00 M/S ONLY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	4	5.0	8.1	1600.0	723.58	3.85	3.85	NO
100.	.0000	4	5.0	8.1	1600.0	723.58	19.66	18.46	NO
200.	.0000	4	5.0	8.1	1600.0	723.58	29.42	26.37	NO
300.	.0000	4	5.0	8.1	1600.0	723.58	39.77	34.88	NO
400.	.0000	4	5.0	8.1	1600.0	723.58	49.38	42.47	NO
500.	.0000	4	5.0	8.1	1600.0	723.58	58.49	49.49	NO
600.	.0000	4	5.0	8.1	1600.0	723.58	67.24	56.09	NO
700.	.1015E-13	4	5.0	8.1	1600.0	723.58	75.70	62.37	NO
800.	.1678E-11	4	5.0	8.1	1600.0	723.58	83.94	68.37	NO
900.	.7237E-10	4	5.0	8.1	1600.0	723.58	91.98	74.15	NO
1000.	.1272E-08	4	5.0	8.1	1600.0	723.58	99.85	79.74	NO
1100.	.1098E-07	4	5.0	8.1	1600.0	723.58	107.58	84.94	NO
1200.	.6190E-07	4	5.0	8.1	1600.0	723.58	115.17	89.98	NO
1300.	.2539E-06	4	5.0	8.1	1600.0	723.58	122.66	94.89	NO

(2)

1400.	.8175E-06	4	5.0	8.1	1600.0	723.58	130.04	99.67	NO
1500.	.2180E-05	4	5.0	8.1	1600.0	723.58	137.33	104.33	NO
1600.	.5007E-05	4	5.0	8.1	1600.0	723.58	144.53	108.90	NO
1700.	.1020E-04	4	5.0	8.1	1600.0	723.58	151.66	113.36	NO
1800.	.1886E-04	4	5.0	8.1	1600.0	723.58	158.71	117.74	NO
1900.	.3217E-04	4	5.0	8.1	1600.0	723.58	165.69	122.04	NO
2000.	.5134E-04	4	5.0	8.1	1600.0	723.58	172.62	126.26	NO
2100.	.7746E-04	4	5.0	8.1	1600.0	723.58	179.48	130.41	NO
2200.	.1115E-03	4	5.0	8.1	1600.0	723.58	186.28	134.50	NO
2300.	.1541E-03	4	5.0	8.1	1600.0	723.58	193.04	138.52	NO
2400.	.2057E-03	4	5.0	8.1	1600.0	723.58	199.74	142.49	NO
2500.	.2665E-03	4	5.0	8.1	1600.0	723.58	206.40	146.40	NO
2600.	.3103E-03	4	5.0	8.1	1600.0	723.58	212.11	148.98	NO
2700.	.3163E-03	4	5.0	8.1	1600.0	723.58	216.45	149.57	NO
2800.	.3225E-03	4	5.0	8.1	1600.0	723.58	220.83	150.16	NO
2900.	.3287E-03	4	5.0	8.1	1600.0	723.58	225.24	150.76	NO
3000.	.3351E-03	4	5.0	8.1	1600.0	723.58	229.69	151.36	NO
3500.	.3642E-03	4	5.0	8.1	1600.0	723.58	252.37	154.20	NO
4000.	.3950E-03	4	5.0	8.1	1600.0	723.58	275.57	157.08	NO
4500.	.4273E-03	4	5.0	8.1	1600.0	723.58	299.09	159.98	NO
5000.	.4609E-03	4	5.0	8.1	1600.0	723.58	322.81	162.89	NO
5500.	.4957E-03	4	5.0	8.1	1600.0	723.58	346.65	165.82	NO
6000.	.5314E-03	4	5.0	8.1	1600.0	723.58	370.55	168.75	NO
6500.	.5678E-03	4	5.0	8.1	1600.0	723.58	394.46	171.68	NO
7000.	.6046E-03	4	5.0	8.1	1600.0	723.58	418.35	174.60	NO
7500.	.6416E-03	4	5.0	8.1	1600.0	723.58	442.21	177.52	NO
8000.	.6787E-03	4	5.0	8.1	1600.0	723.58	466.01	180.44	NO
8500.	.7156E-03	4	5.0	8.1	1600.0	723.58	489.75	183.34	NO
9000.	.7522E-03	4	5.0	8.1	1600.0	723.58	513.42	186.24	NO
9500.	.7883E-03	4	5.0	8.1	1600.0	723.58	537.01	189.12	NO
10000.	.8238E-03	4	5.0	8.1	1600.0	723.58	560.52	191.99	NO
15000.	.1082E-02	4	5.0	8.1	1600.0	723.58	791.11	217.85	NO
20000.	.1241E-02	4	5.0	8.1	1600.0	723.58	1013.99	241.94	NO
25000.	.1319E-02	4	5.0	8.1	1600.0	723.58	1230.39	264.56	NO
30000.	.1341E-02	4	5.0	8.1	1600.0	723.58	1441.34	285.92	NO
40000.	.1274E-02	4	5.0	8.1	1600.0	723.58	1849.88	321.48	NO
50000.	.1177E-02	4	5.0	8.1	1600.0	723.58	2244.02	353.66	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

29999.	.1341E-02	4	5.0	8.1	1600.0	723.58	1441.34	285.92	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SCREEN DISCRETE DISTANCES ***
****

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
16000.	.1122E-02	4	5.0	8.1	1600.0	723.58	836.26	222.80	NO
17000.	.1157E-02	4	5.0	8.1	1600.0	723.58	881.12	227.68	NO
18000.	.1189E-02	4	5.0	8.1	1600.0	723.58	925.69	232.50	NO
19000.	.1217E-02	4	5.0	8.1	1600.0	723.58	969.97	237.25	NO
20000.	.1241E-02	4	5.0	8.1	1600.0	723.58	1013.99	241.94	NO

21000.	.1262E-02	4	5.0	8.1	1600.0	723.58	1057.75	246.58	NO
22000.	.1280E-02	4	5.0	8.1	1600.0	723.58	1101.27	251.15	NO
23000.	.1296E-02	4	5.0	8.1	1600.0	723.58	1144.54	255.67	NO
24000.	.1308E-02	4	5.0	8.1	1600.0	723.58	1187.58	260.14	NO
25000.	.1319E-02	4	5.0	8.1	1600.0	723.58	1230.39	264.56	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	.0000	CONC (UG/M**3)	=	.0000
CRIT WS @10M (M/S)	=	99.99	CRIT WS @10M (M/S)	=	99.99
CRIT WS @ HS (M/S)	=	99.99	CRIT WS @ HS (M/S)	=	99.99
DILUTION WS (M/S)	=	99.99	DILUTION WS (M/S)	=	99.99
CAVITY HT (M)	=	93.70	CAVITY HT (M)	=	80.00
CAVITY LENGTH (M)	=	131.04	CAVITY LENGTH (M)	=	70.26
ALONGWIND DIM (M)	=	60.96	ALONGWIND DIM (M)	=	91.44

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20 M/S (44.7 MH). CONC SET=0.0

****
END OF CAVITY CALCULATIONS
****

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	.1341E-02	29999.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

BEE-Line SCREEN3 Version 3.20 05/28/97
14:31:23

Input File: COMAIR2.DTA
Output File: COMAIR2.LST

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Monroe PP Plume Height Projection for Weather Cond. in Monroe County on 1/9/97

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	.126000
STACK HEIGHT (M)	=	245.3640
STK INSIDE DIAM (M)	=	8.5344
STK EXIT VELOCITY (M/S)	=	36.5760
STK GAS EXIT TEMP (K)	=	405.3722
AMBIENT AIR TEMP (K)	=	272.0389
RECEPTOR HEIGHT (M)	=	1219.2000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	64.0080
MIN HORIZ BLDG DIM (M)	=	60.9600
MAX HORIZ BLDG DIM (M)	=	91.4400

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 2148.156 M**4/S**3; MOM. FLUX =16347.660 M**4/S**2.

*** STABILITY CLASS 4 ONLY ***
*** 10-METER WIND SPEED OF 6.00 M/S ONLY ***

****
*** SCREEN AUTOMATED DISTANCES ***
****

*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	4	6.0	9.7	1920.0	643.87	3.24	3.24	NO
100.	.0000	4	6.0	9.7	1920.0	643.87	17.12	15.74	NO
200.	.0000	4	6.0	9.7	1920.0	643.87	25.98	22.47	NO
300.	.0000	4	6.0	9.7	1920.0	643.87	35.42	29.82	NO
400.	.0000	4	6.0	9.7	1920.0	643.87	44.25	36.38	NO
500.	.0000	4	6.0	9.7	1920.0	643.87	52.68	42.46	NO
600.	.0000	4	6.0	9.7	1920.0	643.87	60.81	48.19	NO
700.	.0000	4	6.0	9.7	1920.0	643.87	68.70	53.64	NO
800.	.0000	4	6.0	9.7	1920.0	643.87	76.40	58.87	NO
900.	.0000	4	6.0	9.7	1920.0	643.87	83.93	63.90	NO
1000.	.2101E-15	4	6.0	9.7	1920.0	643.87	91.33	68.78	NO
1100.	.1155E-13	4	6.0	9.7	1920.0	643.87	98.61	73.25	NO
1200.	.2911E-12	4	6.0	9.7	1920.0	643.87	105.78	77.60	NO
1300.	.4101E-11	4	6.0	9.7	1920.0	643.87	112.85	81.82	NO

(5)

1400.	.3704E-10	4	6.0	9.7	1920.0	643.87	119.84	85.93	NO
1500.	.2366E-09	4	6.0	9.7	1920.0	643.87	126.74	89.94	NO
1600.	.1149E-08	4	6.0	9.7	1920.0	643.87	133.58	93.87	NO
1700.	.4470E-08	4	6.0	9.7	1920.0	643.87	140.35	97.71	NO
1800.	.1453E-07	4	6.0	9.7	1920.0	643.87	147.05	101.48	NO
1900.	.4069E-07	4	6.0	9.7	1920.0	643.87	153.70	105.18	NO
2000.	.1007E-06	4	6.0	9.7	1920.0	643.87	160.29	108.81	NO
2100.	.2245E-06	4	6.0	9.7	1920.0	643.87	166.83	112.38	NO
2200.	.4584E-06	4	6.0	9.7	1920.0	643.87	173.33	115.89	NO
2300.	.8678E-06	4	6.0	9.7	1920.0	643.87	179.78	119.35	NO
2400.	.1539E-05	4	6.0	9.7	1920.0	643.87	186.18	122.76	NO
2500.	.2582E-05	4	6.0	9.7	1920.0	643.87	192.55	126.13	NO
2600.	.3558E-05	4	6.0	9.7	1920.0	643.87	198.21	128.42	NO
2700.	.3844E-05	4	6.0	9.7	1920.0	643.87	202.85	129.10	NO
2800.	.4151E-05	4	6.0	9.7	1920.0	643.87	207.51	129.78	NO
2900.	.4478E-05	4	6.0	9.7	1920.0	643.87	212.20	130.47	NO
3000.	.4827E-05	4	6.0	9.7	1920.0	643.87	216.92	131.16	NO
3500.	.6738E-05	4	6.0	9.7	1920.0	643.87	240.80	134.44	NO
4000.	.9209E-05	4	6.0	9.7	1920.0	643.87	265.01	137.73	NO
4500.	.1233E-04	4	6.0	9.7	1920.0	643.87	289.40	141.03	NO
5000.	.1618E-04	4	6.0	9.7	1920.0	643.87	313.85	144.33	NO
5500.	.2083E-04	4	6.0	9.7	1920.0	643.87	338.33	147.62	NO
6000.	.2635E-04	4	6.0	9.7	1920.0	643.87	362.77	150.90	NO
6500.	.3278E-04	4	6.0	9.7	1920.0	643.87	387.16	154.17	NO
7000.	.4016E-04	4	6.0	9.7	1920.0	643.87	411.48	157.42	NO
7500.	.4850E-04	4	6.0	9.7	1920.0	643.87	435.71	160.66	NO
8000.	.5779E-04	4	6.0	9.7	1920.0	643.87	459.85	163.87	NO
8500.	.6803E-04	4	6.0	9.7	1920.0	643.87	483.89	167.06	NO
9000.	.7919E-04	4	6.0	9.7	1920.0	643.87	507.83	170.24	NO
9500.	.9122E-04	4	6.0	9.7	1920.0	643.87	531.67	173.39	NO
10000.	.1041E-03	4	6.0	9.7	1920.0	643.87	555.41	176.51	NO
15000.	.2441E-03	4	6.0	9.7	1920.0	643.87	787.50	204.34	NO
20000.	.3880E-03	4	6.0	9.7	1920.0	643.87	1011.18	229.85	NO
25000.	.5061E-03	4	6.0	9.7	1920.0	643.87	1228.07	253.55	NO
30000.	.5912E-03	4	6.0	9.7	1920.0	643.87	1439.36	275.76	NO
40000.	.6575E-03	4	6.0	9.7	1920.0	643.87	1848.34	312.48	NO
50000.	.6672E-03	4	6.0	9.7	1920.0	643.87	2242.75	345.51	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

47420.	.6682E-03	4	6.0	9.7	1920.0	643.87	2142.24	337.28	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SCREEN DISCRETE DISTANCES ***
****

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
16000.	.2739E-03	4	6.0	9.7	1920.0	643.87	832.85	209.61	NO
17000.	.3035E-03	4	6.0	9.7	1920.0	643.87	877.88	214.79	NO
18000.	.3325E-03	4	6.0	9.7	1920.0	643.87	922.60	219.89	NO
19000.	.3607E-03	4	6.0	9.7	1920.0	643.87	967.03	224.91	NO
20000.	.3880E-03	4	6.0	9.7	1920.0	643.87	1011.18	229.85	NO

21000.	.4142E-03	. 4	6.0	9.7	1920.0	643.87	1055.05	234.73	NO
22000.	.4391E-03	4	6.0	9.7	1920.0	643.87	1098.67	239.53	NO
23000.	.4628E-03	4	6.0	9.7	1920.0	643.87	1142.04	244.26	NO
24000.	.4851E-03	4	6.0	9.7	1920.0	643.87	1185.17	248.94	NO
25000.	.5061E-03	4	6.0	9.7	1920.0	643.87	1228.07	253.55	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	.0000	CONC (UG/M**3)	=	.0000
CRIT WS @10M (M/S)	=	99.99	CRIT WS @10M (M/S)	=	99.99
CRIT WS @ HS (M/S)	=	99.99	CRIT WS @ HS (M/S)	=	99.99
DILUTION WS (M/S)	=	99.99	DILUTION WS (M/S)	=	99.99
CAVITY HT (M)	=	93.70	CAVITY HT (M)	=	80.00
CAVITY LENGTH (M)	=	131.04	CAVITY LENGTH (M)	=	70.26
ALONGWIND DIM (M)	=	60.96	ALONGWIND DIM (M)	=	91.44

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20 M/S (44.7 MH). CONC SET=0.0

****
END OF CAVITY CALCULATIONS
****

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	.6682E-03	47420.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
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(7)

BEE-Line SCREEN3 Version 3.20 05/28/97
14:31:23

Input File: COMAIR3.DTA
Output File: COMAIR3.LST

*** SCREEN3 MODEL RUN ***
*** VERSION DATED 96043 ***

Monroe PP Plume Height Projection for Weather Cond. in Monroe County on 1/9/97

SIMPLE TERRAIN INPUTS:

SOURCE TYPE	=	POINT
EMISSION RATE (G/S)	=	.126000
STACK HEIGHT (M)	=	245.3640
STK INSIDE DIAM (M)	=	8.5344
STK EXIT VELOCITY (M/S)	=	36.5759
STK GAS EXIT TEMP (K)	=	405.3722
AMBIENT AIR TEMP (K)	=	272.0389
RECEPTOR HEIGHT (M)	=	1219.2000
URBAN/RURAL OPTION	=	RURAL
BUILDING HEIGHT (M)	=	64.0080
MIN HORIZ BLDG DIM (M)	=	60.9600
MAX HORIZ BLDG DIM (M)	=	91.4400

THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

BUOY. FLUX = 2148.150 M**4/S**3; MOM. FLUX =16347.570 M**4/S**2.

*** STABILITY CLASS 4 ONLY ***
*** 10-METER WIND SPEED OF 7.00 M/S ONLY ***

****
*** SCREEN AUTOMATED DISTANCES ***
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*** TERRAIN HEIGHT OF 0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
1.	.0000	4	7.0	11.3	2240.0	586.94	2.79	2.79	NO
100.	.0000	4	7.0	11.3	2240.0	586.94	15.32	13.75	NO
200.	.0000	4	7.0	11.3	2240.0	586.94	23.67	19.75	NO
300.	.0000	4	7.0	11.3	2240.0	586.94	32.51	26.31	NO
400.	.0000	4	7.0	11.3	2240.0	586.94	40.85	32.16	NO
500.	.0000	4	7.0	11.3	2240.0	586.94	48.84	37.60	NO
600.	.0000	4	7.0	11.3	2240.0	586.94	56.57	42.73	NO
700.	.0000	4	7.0	11.3	2240.0	586.94	64.10	47.62	NO
800.	.0000	4	7.0	11.3	2240.0	586.94	71.47	52.31	NO
900.	.0000	4	7.0	11.3	2240.0	586.94	78.69	56.84	NO
1000.	.0000	4	7.0	11.3	2240.0	586.94	85.79	61.22	NO
1100.	.0000	4	7.0	11.3	2240.0	586.94	92.78	65.20	NO
1200.	.0000	4	7.0	11.3	2240.0	586.94	99.69	69.06	NO
1300.	.0000	4	7.0	11.3	2240.0	586.94	106.50	72.81	NO

1400.	.2908E-15	4	7.0	11.3	2240.0	586.94	113.24	76.46	NO
1500.	.5157E-14	4	7.0	11.3	2240.0	586.94	119.91	80.03	NO
1600.	.6003E-13	4	7.0	11.3	2240.0	586.94	126.52	83.51	NO
1700.	.4977E-12	4	7.0	11.3	2240.0	586.94	133.06	86.92	NO
1800.	.3130E-11	4	7.0	11.3	2240.0	586.94	139.55	90.27	NO
1900.	.1566E-10	4	7.0	11.3	2240.0	586.94	145.99	93.55	NO
2000.	.6477E-10	4	7.0	11.3	2240.0	586.94	152.38	96.78	NO
2100.	.2282E-09	4	7.0	11.3	2240.0	586.94	158.73	99.95	NO
2200.	.7015E-09	4	7.0	11.3	2240.0	586.94	165.03	103.06	NO
2300.	.1920E-08	4	7.0	11.3	2240.0	586.94	171.29	106.14	NO
2400.	.4752E-08	4	7.0	11.3	2240.0	586.94	177.51	109.16	NO
2500.	.1078E-07	4	7.0	11.3	2240.0	586.94	183.70	112.15	NO
2600.	.1830E-07	4	7.0	11.3	2240.0	586.94	189.34	114.24	NO
2700.	.2172E-07	4	7.0	11.3	2240.0	586.94	194.18	115.01	NO
2800.	.2571E-07	4	7.0	11.3	2240.0	586.94	199.05	115.78	NO
2900.	.3036E-07	4	7.0	11.3	2240.0	586.94	203.94	116.55	NO
3000.	.3574E-07	4	7.0	11.3	2240.0	586.94	208.84	117.32	NO
3500.	.7343E-07	4	7.0	11.3	2240.0	586.94	233.55	120.97	NO
4000.	.1416E-06	4	7.0	11.3	2240.0	586.94	258.44	124.62	NO
4500.	.2577E-06	4	7.0	11.3	2240.0	586.94	283.39	128.25	NO
5000.	.4446E-06	4	7.0	11.3	2240.0	586.94	308.33	131.87	NO
5500.	.7313E-06	4	7.0	11.3	2240.0	586.94	333.20	135.47	NO
6000.	.1152E-05	4	7.0	11.3	2240.0	586.94	358.00	139.04	NO
6500.	.1745E-05	4	7.0	11.3	2240.0	586.94	382.69	142.58	NO
7000.	.2552E-05	4	7.0	11.3	2240.0	586.94	407.28	146.09	NO
7500.	.3617E-05	4	7.0	11.3	2240.0	586.94	431.74	149.57	NO
8000.	.4983E-05	4	7.0	11.3	2240.0	586.94	456.09	153.02	NO
8500.	.6691E-05	4	7.0	11.3	2240.0	586.94	480.32	156.43	NO
9000.	.8781E-05	4	7.0	11.3	2240.0	586.94	504.43	159.82	NO
9500.	.1129E-04	4	7.0	11.3	2240.0	586.94	528.43	163.17	NO
10000.	.1424E-04	4	7.0	11.3	2240.0	586.94	552.31	166.49	NO
15000.	.6256E-04	4	7.0	11.3	2240.0	586.94	785.31	195.74	NO
20000.	.1381E-03	4	7.0	11.3	2240.0	586.94	1009.47	222.25	NO
25000.	.2194E-03	4	7.0	11.3	2240.0	586.94	1226.67	246.67	NO
30000.	.2916E-03	4	7.0	11.3	2240.0	586.94	1438.17	269.46	NO
40000.	.3746E-03	4	7.0	11.3	2240.0	586.94	1847.41	306.93	NO
50000.	.4141E-03	4	7.0	11.3	2240.0	586.94	2241.98	340.49	NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND 1. M:

59100.	.4261E-03	4	7.0	11.3	2240.0	586.94	2590.75	368.51	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** SCREEN DISCRETE DISTANCES ***
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DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	SIGMA Y (M)	SIGMA Z (M)	DWASH
16000.	.7618E-04	4	7.0	11.3	2240.0	586.94	830.78	201.23	NO
17000.	.9075E-04	4	7.0	11.3	2240.0	586.94	875.91	206.63	NO
18000.	.1061E-03	4	7.0	11.3	2240.0	586.94	920.73	211.92	NO
19000.	.1219E-03	4	7.0	11.3	2240.0	586.94	965.25	217.13	NO
20000.	.1381E-03	4	7.0	11.3	2240.0	586.94	1009.47	222.25	NO

(9)

21000.	.1545E-03	4	7.0	11.3	2240.0	586.94	1053.42	227.28	NO
22000.	.1710E-03	4	7.0	11.3	2240.0	586.94	1097.11	232.24	NO
23000.	.1874E-03	4	7.0	11.3	2240.0	586.94	1140.54	237.12	NO
24000.	.2035E-03	4	7.0	11.3	2240.0	586.94	1183.72	241.93	NO
25000.	.2194E-03	4	7.0	11.3	2240.0	586.94	1226.67	246.67	NO

DWASH= MEANS NO CALC MADE (CONC = 0.0)
DWASH=NO MEANS NO BUILDING DOWNWASH USED
DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

****
*** REGULATORY (Default) ***
PERFORMING CAVITY CALCULATIONS
WITH ORIGINAL SCREEN CAVITY MODEL
(BRODE, 1988)
****

*** CAVITY CALCULATION - 1 ***			*** CAVITY CALCULATION - 2 ***		
CONC (UG/M**3)	=	.0000	CONC (UG/M**3)	=	.0000
CRIT WS @10M (M/S)	=	99.99	CRIT WS @10M (M/S)	=	99.99
CRIT WS @ HS (M/S)	=	99.99	CRIT WS @ HS (M/S)	=	99.99
DILUTION WS (M/S)	=	99.99	DILUTION WS (M/S)	=	99.99
CAVITY HT (M)	=	93.70	CAVITY HT (M)	=	80.00
CAVITY LENGTH (M)	=	131.04	CAVITY LENGTH (M)	=	70.26
ALONGWIND DIM (M)	=	60.96	ALONGWIND DIM (M)	=	91.44

CAVITY CONC NOT CALCULATED FOR CRIT WS > 20 M/S (44.7 MH). CONC SET=0.0

****
END OF CAVITY CALCULATIONS
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*** SUMMARY OF SCREEN MODEL RESULTS ***
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CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	.4261E-03	59100.	0.

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** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
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