AIR QUALITY TECHNICAL REPORT

APPENDIX A

EMISSIONS AND OPERATING PARAMETERS

Table A-1
PEF Expansion Project
Emissions and Operating Parameters for Expansion CTG

Case	1) Hot Base	2) Hot Low	3) Avg. Base	4) Avg. Low	5) Cold Base	6) Cold Low
Ambient Temp, F	102	102	66	66	35	35
GT Load	100	50	100	50	100	50
GT heat input, MMBtu/hr (HHV	1642.0	1,067.20	1719.5	1116.7	1791.1	1159.2
Stack flow, lb/hr	3,325,000	2,295,000	3,484,000	2,325,000	3,635,000	2,369,000
Stack flow, acfm	2,933,650	2,249,983	3,009,083	2,276,233	3,072,833	2,300,917
Stack temp, F	830	784	798	755	766	723
Stack exhaust, vol %						
O2 (dry)	13.65%	14.24%	13.80%	14.02%	13.86%	13.91%
CO2 (dry)	4.18%	3.85%	4.09%	3.97%	4.06%	4.03%
H2O	9.55%	8.26%	8.42%	7.93%	7.64%	7.59%
Emissions						
NOx, ppmvd @ 15% O2	2.5	2.5	2.5	2.5	2.5	2.5
NOx, lb/hr	14.90	9.68	15.60	10.13	16.25	10.52
NOx, lb/MMBtu	0.0091	0.0091	0.0091	0.0091	0.0091	0.0091
SO2, ppmvd @ 15% O2	0.402	0.402	0.402	0.402	0.402	0.402
SO2, lb/hr	3.33	2.17	3.49	2.27	3.50	2.35
SO2, lb/MMBtu	0.0020	0.0020	0.0020	0.0020	0.0020	0.0020
CO, ppmvd @ 15% O2	6.00	6.00	6.00	6.00	6.00	6.00
CO, lb/hr	21.77	14.15	22.80	14.81	23.75	15.37
CO, lb/MMBtu	0.0133	0.0133	0.0133	0.0133	0.0133	0.0133
VOC, ppmvd @ 15% O2	2	2	2	2	2	2
VOC, lb/hr	4.16	2.70	4.35	2.83	4.53	2.93
VOC, lb/MMBtu	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025
PM10, lb/hr	9.0	9.0	9.0	9.0	9.0	9.0
PM10, lb/MMBtu	0.0055	0.0084	0.0052	0.0081	0.0050	0.0078
PM10, gr/dscf	0.00157	0.00222	0.00147	0.00219	0.00140	0.00215
NH3, ppmvd@15% O2	10.0	10.0	10.0	10.0	10.0	10.0
NH3, lb/hr	22.06	14.34	23.10	15.00	24.06	15.58

Table A-2
PEF Expansion Project
Detailed Calculations for Maximum Hourly, Daily, and Annual Criteria Pollutant Emissions for Expansion CTG

							NOx		SOx (1)		CO		VOC		PM10	
	Base Load			Startup			Base Load	Startup (2)	Base Load	Startup	Base Load	Startup (2)	Base Load	Startup (2)	Base Load	Startup
Equipment	max. hour	hrs/day	hrs/yr	max. hour	hrs/day	hrs/yr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Expansion CTG, baseload	0	22	8460	0	0	0	16.25	0.00	3.495	0.00	23.75	0.00	4.53	0.00	9.00	0.00
Expansion CTG, startups	0	0	0	1	2	300	0.00	80.00	0.00	3.495	0.00	902.00	0.00	16.00	0.00	9.00

	NOx			SOx			CO			VOC			PM10		
	Max	Max	Total	Max	Max	Total	Max	Max	Total	Max	Max	Total	Max	Max	Total
Equipment	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr
Expansion CTG, baseload	0.00	357.51	137,480	0.00	76.89	29,568	0.00	522.41	200,892	0.00	99.74	38,354	0.00	198.00	76,140
Expansion CTG, startups	80.00	92.49	24,000	3.50	6.99	1,049	902.00	1590.59	270,600	16.00	32.00	4,800	9.00	18.00	2,700
Total	80.00	450.00	164,250	3.50	84.00	30,616	902.00	2113.00	471,492	16.00	131.74	43,154	9.00	216.00	78,840
	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr	lb/hr	lb/day	lb/yr

Notes:

1. Startup emission rates for the simple cycle turbine are identical to those for the previously permitted combined cycle turbines.
2. Hourly SOx emission rate for the simple cycle turbine is identical to the emission limit for the existing combined cycle turbines.

Table A-3
PEF Expansion Project
Annual and Maximum Hourly Non-Criteria Pollutant Emissions for Expansion CTG

Pollutant	Emission Factor(1) lb/MMscf	Turbine Max. Hourly Emissions lbs/hr	Turbine Annual Emissions tpy
Ammonia	(2)	24.06	101.19
Propylene	7.71E-01	1.31	5.73
Hazardous Air Pollutants			
Acetaldehyde	4.08E-02	6.92E-02	0.30
Acrolein	6.54E-03	1.11E-02	4.86E-02
Benzene	1.23E-02	2.09E-02	9.13E-02
1,3-Butadiene	4.39E-04	7.44E-04	3.26E-03
Ethylbenzene	3.26E-02	5.53E-02	0.24
Formaldehyde	6.35E-02	0.11	0.47
Hexane	2.59E-01	0.44	1.92
Naphthalene	1.33E-03	2.25E-03	9.88E-03
PAHs (listed individually below)	1.79E-04	3.03E-04	1.33E-03
Anthracene			
Benzo(a)anthracene			
Benzo(a)pyrene			
Benzo(b)fluoranthrene			
Benzo(k)fluoranthrene			
Chrysene			
Dibenz(a,h)anthracene			
Indeno(1,2,3-cd)pyrene			
Propylene oxide	2.69E-02	4.56E-02	0.20
Toluene	1.33E-01	0.23	0.99
Xylene	6.53E-02	0.11	0.48
Total HAPs =			4.77

Notes:

(1) All factors except PAHs, hexane, formaldehyde and propylene from AP-42, Table 3.1-3, 4/00. Formaldehyde reflects 25 ppbvd MACT limit. Individual PAHs, hexane and propylene are CATEF mean results as AP-42 does not include factors for these compounds.

(2) Based on 10 ppm ammonia slip from SCR system.

(3) Based on maximum turbine firing rate of 1,791.0 MMBtu/hr and fuel HHV of 1,056.4 Btu/scf
1.70 MMscf/hr

(4) Based on maximum turbine firing rate (from (3)) for 8760 hrs/yr.
14,852 MMscf/yr

Table A-4
PEF Expansion Project
Annual and Maximum Hourly Non-Criteria Pollutant Emissions From Existing CTGs

Pollutant	CTG Emission Factor(1) lb/MMscf	CTGs Max. Hourly Emissions lbs/hr (each)	CTGs Annual Emissions tpy (each)
Ammonia	(2)	24.06	105.40
Propylene	7.71E-01	1.34	5.87
Hazardous Air Pollutants			
Acetaldehyde	4.08E-02	7.09E-02	0.31
Acrolein	6.54E-03	1.14E-02	4.98E-02
Benzene	1.23E-02	2.14E-02	9.37E-02
1,3-Butadiene	4.39E-04	7.63E-04	3.34E-03
Ethylbenzene	3.26E-02	5.67E-02	0.25
Formaldehyde	6.35E-02	0.11	0.48
Hexane	2.59E-01	0.45	1.97
Naphthalene	1.33E-03	2.31E-03	1.01E-02
PAHs (listed individually below)	1.79E-04	3.11E-04	1.36E-03
Anthracene			
Benzo(a)anthracene			
Benzo(a)pyrene			
Benzo(b)fluoranthrene			
Benzo(k)fluoranthrene			
Chrysene			
Dibenz(a,h)anthracene			
Indeno(1,2,3-cd)pyrene			
Propylene oxide	2.69E-02	4.68E-02	0.20
Toluene	1.33E-01	0.23	1.01
Xylene	6.53E-02	0.11	0.50
Total HAPs =			4.89

Notes:

(1) All factors except PAHs, hexane, formaldehyde and propylene from AP-42, Table 3.1-3, 4/00. Formaldehyde reflects 25 ppbvd MACT limit. Individual PAHs, hexane and propylene are CATEF mean results as AP-42 does not include factors for these compounds.

(2) Based on 10 ppm ammonia slip from SCR system.

(3) Based on maximum CTG firing rate of 1,837.0 MMBtu/hr and fuel HHV of 1,056.4 Btu/scf
1.74 MMscf/hr per CTG

(4) Based on maximum CTG firing rate (from (3)) for 8760 hrs/yr.
15,233 MMscf/yr per CTG

Table A-5
PEF Expansion Project
Annual and Maximum Hourly Non-Criteria Pollutant Emissions From Existing Auxiliary Equipment

Emergency Generator

Make	Caterpillar
Model	G3512
Fuel	Natural Gas
Engine Output (bhp)	815
Fuel Consumpton Rate (cfh)	6,480
Annual Operating Hours	200

Pollutant	Emission Factor (lb/mmcf)	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (lb/yr)
Acetaldehyde	5.29E-01	3.43E-03	0.69
Acrolein	5.90E-02	3.82E-04	0.08
Benzene	2.18E-01	1.41E-03	0.28
1,3-Butadiene	3.67E-01	2.38E-03	0.48
Formaldehyde	4.71E+00	3.05E-02	6.10
Naphthalene	2.51E-02	1.63E-04	0.03
PAHs	1.34E-04	8.71E-07	1.74E-04
Benz(a)anthracene	*5.88E-05*		
Benzo(b)fluoranthene	*4.09E-05*		
Benzo(k)fluoranthene	*7.83E-06*		
Benzo(a)pyrene	*2.70E-06*		
Chrysene	*1.43E-05*		
Dibenz(a,h)anthracene	*2.70E-06*		
Indeno(1,2,3-cd)pyrene	*7.17E-06*		
Toluene	2.39E-01	1.55E-03	0.31
Xylene	6.46E-01	4.19E-03	0.84

Diesel Fire Pump Engine

Make	John Deere
Model	JW6H-UF60
Fuel	Diesel
Engine Output (bhp)	360
Fuel Consumpton Rate (gal/hr)	17
Annual Operating Hours	200

Pollutant	Emission Factor (g/bhp-hr)	Maximum Hourly Emissions (lb/hr)	Maximum Annual Emissions (lb/yr)
Diesel exhaust particulate	7.00E-02	5.56E-02	11.11

APPENDIX B

MODELING ANALYSIS

BAKERSFIELD 1964 METEOROLOGICAL DATA SET

1964 WIND FREQUENCY DISTRIBUTION: ANNUAL
WIND SPEED AT 10 M HEIGHT (M/S)

	WIND SPEED (M/S)											
SECTOR	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10+	TOTAL
N	47.	50.	227.	167.	84.	43.	31.	21.	8.	1.	1.	680.
NNE	43.	24.	97.	100.	46.	24.	15.	9.	4.	0.	0.	362.
NE	49.	26.	124.	101.	43.	19.	8.	3.	2.	3.	0.	378.
ENE	46.	33.	123.	78.	19.	8.	2.	0.	1.	0.	0.	310.
E	91.	39.	278.	252.	50.	5.	1.	0.	0.	0.	0.	716.
ESE	82.	68.	367.	199.	42.	8.	1.	0.	0.	0.	0.	767.
SE	102.	86.	296.	137.	32.	5.	2.	0.	2.	2.	5.	669.
SSE	29.	59.	185.	70.	14.	6.	2.	4.	5.	4.	2.	380.
S	36.	63.	146.	37.	12.	3.	3.	5.	1.	1.	2.	309.
SSW	14.	45.	84.	32.	6.	4.	2.	0.	0.	0.	0.	187.
SW	29.	57.	112.	49.	7.	0.	1.	0.	0.	0.	0.	255.
WSW	34.	53.	129.	69.	29.	6.	2.	0.	0.	0.	0.	322.
W	34.	45.	130.	117.	44.	18.	6.	1.	2.	0.	1.	398.
WNW	41.	51.	189.	215.	140.	86.	33.	12.	6.	3.	2.	778.
NW	51.	41.	256.	313.	252.	167.	84.	41.	13.	2.	4.	1224.
NNW	39.	50.	216.	252.	187.	138.	78.	47.	22.	10.	10.	1049.
TOTAL	767.	790.	2959.	2188.	1007.	540.	271.	143.	66.	26.	27.	8784.

AVERAGE ANNUAL WIND SPEED (M/S) = 3.095

1964 WIND FREQUENCY DISTRIBUTION: FIRST QUARTER
WIND SPEED AT 10 M HEIGHT (M/S)

	WIND SPEED (M/S)											
SECTOR	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10+	TOTAL
N	13.	18.	45.	28.	15.	7.	5.	4.	2.	1.	0.	138.
NNE	5.	5.	15.	27.	10.	10.	7.	0.	1.	0.	0.	80.
NE	9.	7.	21.	28.	3.	8.	2.	0.	2.	1.	0.	81.
ENE	10.	12.	31.	23.	6.	2.	0.	0.	0.	0.	0.	84.
E	27.	16.	69.	122.	19.	0.	1.	0.	0.	0.	0.	254.
ESE	34.	33.	145.	80.	17.	4.	0.	0.	0.	0.	0.	313.
SE	36.	29.	91.	40.	12.	3.	1.	0.	1.	2.	5.	220.
SSE	11.	22.	51.	18.	3.	2.	2.	2.	1.	2.	0.	114.
S	16.	19.	39.	7.	6.	2.	0.	3.	1.	1.	1.	95.
SSW	8.	17.	22.	13.	3.	1.	0.	0.	0.	0.	0.	64.
SW	11.	13.	37.	14.	3.	0.	1.	0.	0.	0.	0.	79.
WSW	12.	16.	37.	18.	6.	3.	1.	0.	0.	0.	0.	93.
W	9.	14.	34.	16.	6.	1.	1.	0.	0.	0.	0.	81.
WNW	12.	15.	39.	28.	13.	8.	4.	2.	1.	0.	0.	122.
NW	17.	12.	53.	43.	29.	11.	6.	4.	1.	0.	0.	176.
NNW	12.	15.	46.	42.	26.	24.	18.	5.	1.	1.	0.	190.
TOTAL	242.	263.	775.	547.	177.	86.	49.	20.	11.	8.	6.	2184.

1964 WIND FREQUENCY DISTRIBUTION: SECOND QUARTER
WIND SPEED AT 10 M HEIGHT (M/S)

	WIND SPEED (M/S)											
SECTOR	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10+	TOTAL
N	13.	13.	68.	62.	43.	22.	16.	8.	5.	0.	1.	251.
NNE	19.	9.	31.	34.	15.	6.	6.	3.	1.	0.	0.	124.
NE	15.	2.	29.	28.	12.	3.	2.	1.	0.	0.	0.	92.
ENE	8.	4.	17.	14.	5.	3.	0.	0.	0.	0.	0.	51.
E	19.	4.	40.	34.	3.	0.	0.	0.	0.	0.	0.	100.
ESE	13.	15.	56.	17.	2.	0.	0.	0.	0.	0.	0.	103.
SE	26.	19.	65.	16.	1.	0.	0.	0.	0.	0.	0.	127.
SSE	5.	12.	30.	16.	0.	0.	0.	0.	0.	0.	0.	63.
S	9.	9.	27.	4.	1.	0.	0.	0.	0.	0.	0.	50.
SSW	3.	9.	15.	3.	1.	0.	0.	0.	0.	0.	0.	31.
SW	8.	10.	21.	4.	0.	0.	0.	0.	0.	0.	0.	43.
WSW	6.	9.	25.	10.	4.	0.	1.	0.	0.	0.	0.	55.
W	5.	7.	20.	28.	15.	8.	2.	0.	2.	0.	1.	88.
WNW	5.	17.	46.	48.	42.	27.	10.	5.	3.	3.	1.	207.
NW	13.	13.	61.	79.	83.	74.	38.	22.	5.	1.	4.	393.
NNW	13.	8.	55.	90.	67.	71.	38.	31.	19.	7.	7.	406.
TOTAL	180.	160.	606.	487.	294.	214.	113.	70.	35.	11.	14.	2184.

1964 WIND FREQUENCY DISTRIBUTION: THIRD QUARTER
WIND SPEED AT 10 M HEIGHT (M/S)

	WIND SPEED (M/S)											
SECTOR	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10+	TOTAL
N	19.	8.	70.	44.	11.	6.	4.	7.	0.	0.	0.	169.
NNE	15.	1.	30.	22.	9.	3.	1.	4.	0.	0.	0.	85.
NE	11.	9.	32.	15.	9.	3.	1.	0.	0.	0.	0.	80.
ENE	22.	8.	24.	15.	2.	0.	0.	0.	0.	0.	0.	71.
E	24.	9.	49.	25.	1.	0.	0.	0.	0.	0.	0.	108.
ESE	17.	11.	61.	17.	1.	0.	0.	0.	0.	0.	0.	107.
SE	22.	14.	70.	33.	4.	1.	0.	0.	0.	0.	0.	144.
SSE	7.	14.	56.	15.	1.	0.	0.	0.	0.	0.	0.	93.
S	2.	12.	28.	9.	0.	0.	0.	0.	0.	0.	0.	51.
SSW	0.	8.	15.	6.	0.	0.	0.	0.	0.	0.	0.	29.
SW	5.	14.	26.	4.	3.	0.	0.	0.	0.	0.	0.	52.
WSW	9.	13.	32.	20.	12.	1.	0.	0.	0.	0.	0.	87.
W	15.	11.	39.	37.	14.	7.	2.	0.	0.	0.	0.	125.
WNW	20.	10.	65.	82.	61.	42.	15.	1.	0.	0.	0.	296.
NW	13.	6.	71.	136.	100.	64.	32.	12.	4.	1.	0.	439.
NNW	14.	14.	73.	70.	54.	29.	10.	4.	1.	0.	3.	272.
TOTAL	215.	162.	741.	550.	282.	156.	65.	28.	5.	1.	3.	2208.

1964 WIND FREQUENCY DISTRIBUTION: FOURTH QUARTER
WIND SPEED AT 10 M HEIGHT (M/S)

	WIND SPEED (M/S)											
SECTOR	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10+	TOTAL
N	2.	11.	44.	33.	15.	8.	6.	2.	1.	0.	0.	122.
NNE	4.	9.	21.	17.	12.	5.	1.	2.	2.	0.	0.	73.
NE	14.	8.	42.	30.	19.	5.	3.	2.	0.	2.	0.	125.
ENE	6.	9.	51.	26.	6.	3.	2.	0.	1.	0.	0.	104.
E	21.	10.	120.	71.	27.	5.	0.	0.	0.	0.	0.	254.
ESE	18.	9.	105.	85.	22.	4.	1.	0.	0.	0.	0.	244.
SE	18.	24.	70.	48.	15.	1.	1.	0.	1.	0.	0.	178.
SSE	6.	11.	48.	21.	10.	4.	0.	2.	4.	2.	2.	110.
S	9.	23.	52.	17.	5.	1.	3.	2.	0.	0.	1.	113.
SSW	3.	11.	32.	10.	2.	3.	2.	0.	0.	0.	0.	63.
SW	5.	20.	28.	27.	1.	0.	0.	0.	0.	0.	0.	81.
WSW	7.	15.	35.	21.	7.	2.	0.	0.	0.	0.	0.	87.
W	5.	13.	37.	36.	9.	2.	1.	1.	0.	0.	0.	104.
WNW	4.	9.	39.	57.	24.	9.	4.	4.	2.	0.	1.	153.
NW	8.	10.	71.	55.	40.	18.	8.	3.	3.	0.	0.	216.
NNW	0.	13.	42.	50.	40.	14.	12.	7.	1.	2.	0.	181.
TOTAL	130.	205.	837.	604.	254.	84.	44.	25.	15.	6.	4.	2208.

Table B-1
Dimensions of On-Site Structures
PEF and PEF Expansion

Feature	Height (feet)	Length (feet)	Width (feet)	Diameter (feet)
New Structures				
Expansion CTG				
Combustion turbine & generator (base unit)	20.0	166.5	43.1	--
Air Inlet	45.0	66.4	43.1	--
CTG stack	131.0	--	--	22.75
Existing Structures				
Existing CTGs (3 units)				
Combustion turbines & generators (base unit)	20.0	231.9	69.5	--
HRSGs	78.0	66.9	65.9	--
CTG stacks	150.0	--	--	18.0
Cooling Tower (east)	42.0	419.1	71.1	--
Cooling Tower (west)	42.0	214.2	69.5	--
Steam Turbine (3 units)	40.0	100.6	36.3	--
Water Treatment Bldg	38.0	117.8	80.9	--
Electrical Equipment Bldg	38.0	107.9	63.3	
Administration Bldg	38.0	148.9	98.6	--
STG/Cooling Tower Electrical Eqt Bldg (2)	20.0	62.8	29.0	
ZLD Building	20.0	78.3	69.0	--
Ammonia Storage Tanks	10.0	83.0	32.7	--
CEMS Enclosures	10.0	36.3	15.6	--
Tanks				
Demineralized Water Tank	40.0	--	--	59.1
Raw Water Tank	37.0	--	--	65.4
Equalization Tank	40.0	--	--	46.7
HERO Waste Tank	40.0	--	--	46.7
NaZ Tank	26.0	--	--	46.7
WAC Waste Tank	24.0	--	--	46.7
Reactor/Clarifier	20.0	--	--	91.3
Clearwell	20.0	--	--	41.5

Table B-2
PEF Expansion Project
Emissions and Stack Parameters for Screening Modeling for the Expansion CTG

Turbine Case	Load/ Ambient Temp	Stack Diam (m)	Stack Height (m)	Exhaust Temp (deg K)	Exhaust Velocity (m/s)	NOx, g/s		SO2, g/s	CO, g/s		PM10, g/s
						1-hr	ann avg		1-hr	8-hr	
1	100/102F	6.934	39.929	716.333	36.662	1.877	2.158	0.420	2.743	30.470	1.134
2	60/102F	6.934	39.929	690.778	28.118	1.220	1.524	0.273	1.783	29.750	1.134
3	100/66F	6.934	39.929	698.556	37.605	1.966	2.244	0.440	2.873	30.567	1.134
4	60/66F	6.934	39.929	674.667	28.446	1.277	1.578	0.286	1.865	29.812	1.134
5	100/35F	6.934	39.929	680.778	38.402	2.048	2.323	0.440	2.992	30.657	1.134
6	60/35F	6.934	39.929	656.889	28.755	1.325	1.625	0.297	1.937	29.865	1.134

Table B-3
PEF Expansion Project
Results of the Turbine Screening Analysis for the Expansion CTG

Screening Modeling Results (ug/m3 per g/s)					
Turbine	**CTSCREEN Results, Complex & Intermediate Terrain**				
Case	1-hr	3-hr	8-hr	24-hr	annual
1	2.900	2.030	1.450	0.435	0.087
2	3.410	2.387	1.705	0.512	0.102
3	2.890	2.023	1.445	0.434	0.087
4	3.420	2.394	1.710	0.513	0.103
5	2.880	2.016	1.440	0.432	0.086
6	3.440	2.408	1.720	0.516	0.103

Screening Modeling Results (ug/m3 per g/s)					
Turbine	**ISCST Results, Simple Terrain**				
Case	1-hr	3-hr	8-hr	24-hr	annual
1	1.066	0.959	0.746	0.426	0.107
2	2.012	1.811	1.409	0.805	0.201
3	1.046	0.941	0.732	0.418	0.105
4	1.992	1.793	1.395	0.797	0.199
5	1.045	0.940	0.731	0.418	0.104
6	1.980	1.782	1.386	0.792	0.198

Turbine Emission Rates for Screening Modeling (g/s)								
Turbine	NOx				CO	CO (startup)		
Case	1-hr	startup	annual	SO2	(operations)	1-hr	8-hr	PM10
1	1.877	n/a	2.158	0.420	2.743	n/a	30.470	1.134
2	1.220	10.08	1.524	0.273	1.783	113.652	29.750	1.134
3	1.966	n/a	2.244	0.440	2.873	n/a	30.567	1.134
4	1.277	10.08	1.578	0.286	1.865	113.652	29.812	1.134
5	2.048	n/a	2.323	0.440	2.992	n/a	30.657	1.134
6	1.325	10.08	1.625	0.297	1.937	113.652	29.865	1.134

		Modeled Impacts, ug/m3, by Pollutant and Averaging Period												
Turbine	**Load/ Ambient**	NOx			SO2				CO (operations)		CO (startup)		PM10	
Case	**Temp**	1-hr	Startup	Annual	1-hr	3-hr	24-hr	Annual	1-hr	8-hr	1-hr	8-hr	24-hr	Annual
1	100%/102F	5.44	n/a	0.230	1.218	0.853	0.183	0.0448	7.95	3.98	n/a	44.18	0.49	0.121
2	50%/102F	4.16	34.37	0.307	0.931	0.652	0.220	0.0550	6.08	3.04	387.55	50.72	**0.91**	**0.228**
3	100%/66F	5.68	n/a	0.235	**1.272**	**0.890**	0.191	0.0460	8.30	4.15	n/a	44.17	0.49	0.119
4	50%/66F	4.37	34.47	0.314	0.977	0.684	0.228	0.0569	6.38	3.19	388.69	50.98	0.90	0.226
5	100%/35F	**5.90**	n/a	0.243	1.268	0.888	0.190	0.0460	**8.62**	**4.31**	n/a	44.15	0.49	0.118
6	50%/35F	4.56	**34.68**	**0.322**	1.020	0.714	**0.235**	**0.0587**	6.66	3.33	**390.96**	**51.37**	0.90	0.225

Table B-4
PEF Expansion Project
Emission Rates and Stack Parameters for Modified Facility

	Stack Diam, m	Stack Height, m	Exh Temp, Deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	Emission Rates, g/s			
						NOx	SO2	CO	PM10
One-Hour Averaging Period: NOx, CO									
Expansion Turbine	6.934	39.929	680.778	1450.22	38.402	2.048	--	2.992	--
Turbine 1/HRSG	5.486	45.720	364.278	520.09	21.999	2.146	--	3.140	--
Turbine 2/HRSG	5.486	45.720	364.278	520.09	21.999	2.146	--	3.140	--
Turbine 3/HRSG	5.486	45.720	364.278	520.09	21.999	2.146	--	3.140	--
Emergency Gen.	0.305	7.620	660.889	2.00	27.39	0.232	--	0.456	--
Fire Pump Engine	0.152	6.096	727.589	0.93	50.921	0.560	--	2.900E-02	--
One-Hour Averaging Period: SO2									
Expansion Turbine	6.934	39.929	698.556	1420.13	37.605	--	0.440	--	--
Turbine 1/HRSG	5.486	45.720	364.278	520.09	21.999	--	0.440	--	--
Turbine 2/HRSG	5.486	45.720	364.278	520.09	21.999	--	0.440	--	--
Turbine 3/HRSG	5.486	45.720	364.278	520.09	21.999	--	0.440	--	--
Emergency Gen.	0.305	7.620	660.889	2.00	27.39	--	1.764E-03	--	--
Fire Pump Engine	0.152	6.096	727.589	0.93	50.921	--	1.710E-02	--	--
Three-Hour Averaging Period									
Expansion Turbine	6.934	39.929	698.556	1420.13	37.605	--	0.440	--	--
Turbine 1/HRSG	5.486	45.720	364.278	520.09	21.999	--	0.440	--	--
Turbine 2/HRSG	5.486	45.720	364.278	520.09	21.999	--	0.440	--	--
Turbine 3/HRSG	5.486	45.720	364.278	520.09	21.999	--	0.440	--	--
Emergency Gen.	0.305	7.620	660.889	2.00	27.392	--	5.880E-04	--	--
Fire Pump Engine	0.152	6.096	727.589	0.93	50.921	--	5.700E-03	--	--
Eight-Hour Averaging Period									
Expansion Turbine	6.934	39.929	680.778	1450.22	38.402	--	--	30.657	--
Turbine 1/HRSG	5.486	45.720	364.278	520.09	21.999	--	--	3.140	--
Turbine 2/HRSG	5.486	45.720	364.278	520.09	21.999	--	--	3.140	--
Turbine 3/HRSG	5.486	45.720	364.278	520.09	21.999	--	--	3.140	--
Emergency Gen.	0.305	7.620	660.889	2.00	27.392	--	--	5.702E-02	--
Fire Pump Engine	0.152	6.096	727.589	0.93	50.921	--	--	3.625E-03	--
24-Hour Averaging Period: SO2									
Expansion Turbine	6.934	39.929	656.889	1085.91	28.755	--	0.297	--	--
Turbine 1/HRSG	5.486	45.720	364.278	520.09	21.999	--	0.440	--	--
Turbine 2/HRSG	5.486	45.720	364.278	520.09	21.999	--	0.440	--	--
Turbine 3/HRSG	5.486	45.720	364.278	520.09	21.999	--	0.440	--	--
Emergency Gen.	0.305	7.620	660.889	2.00	27.392	--	7.350E-05	--	--
Fire Pump Engine	0.152	6.096	727.589	0.93	50.921	--	7.125E-04	--	--
24-Hour Averaging Period: PM10									
Expansion Turbine	6.934	39.929	690.778	1061.87	28.118	--	--	--	1.134
Turbine 1/HRSG	5.486	45.720	364.278	520.09	21.999	--	--	--	1.134
Turbine 2/HRSG	5.486	45.720	364.278	520.09	21.999	--	--	--	1.134
Turbine 3/HRSG	5.486	45.720	364.278	520.09	21.999	--	--	--	1.134
Emergency Gen.	0.305	7.620	660.889	2.00	27.392	--	--	--	6.30E-05
Fire Pump Engine	0.152	6.096	727.589	0.93	50.921	--	--	--	1.21E-03
4-Cell Cooling Tower	9.144	19.507	301.678	387.94	5.907	--	--	--	1.46E-02
8-Cell Cooling Tower	9.144	19.507	301.678	387.94	5.907	--	--	--	1.45E-02
Annual Averaging Period: NO2, SO2									
Expansion Turbine	6.934	39.929	656.889	1085.91	28.755	1.625	0.297	--	--
Turbine 1/HRSG	5.486	45.720	364.278	520.09	21.999	1.652	0.406	--	--
Turbine 2/HRSG	5.486	45.720	364.278	520.09	21.999	1.652	0.406	--	--
Turbine 3/HRSG	5.486	45.720	364.278	520.09	21.999	1.652	0.406	--	--
Emergency Gen.	0.305	7.620	660.889	2.00	27.392	5.293E-03	4.027E-05	--	--
Fire Pump Engine	0.152	6.096	727.589	0.93	50.921	1.279E-02	3.904E-04	--	--
Annual Averaging Period: PM10									
Expansion Turbine	6.934	39.929	690.778	1061.87	28.118	--	--	--	1.134
Turbine 1/HRSG	5.486	45.720	364.278	520.09	21.999	--	--	--	1.076
Turbine 2/HRSG	5.486	45.720	364.278	520.09	21.999	--	--	--	1.076
Turbine 3/HRSG	5.486	45.720	364.278	520.09	21.999	--	--	--	1.076
Emergency Gen.	0.305	7.620	660.889	2.00	27.392	--	--	--	3.452E-05
Fire Pump Engine	0.152	6.096	727.589	0.93	50.921	--	--	--	1.598E-04
4-Cell Cooling Tower	9.144	19.507	301.678	387.94	5.907	--	--	--	1.460E-02
8-Cell Cooling Tower	9.144	19.507	301.678	387.94	5.907	--	--	--	1.449E-02

Table B-5
PEF Expansion Project
Calculation of Fumigation Impacts from Expansion CTG

CTG Emission Rates, g/s

	NOx	SO2	CO	PM10
Case 1	1.877	0.420	2.743	1.134
Case 2	1.220	0.273	1.783	1.134
Case 3	1.966	0.440	2.873	1.134
Case 4	1.277	0.286	1.865	1.134
Case 5	2.048	0.440	2.992	1.134
Case 6	1.325	0.297	1.937	1.134

Inversion Breakup Modeling Results from SCREEN3

	Unit Impacts,	Maximum One-Hour Avg Impacts, ug/m3				Distance to
	ug/m3 per g/s	NOx	SO2	CO	PM10	Maximum (m)
Case 1	0.2931	0.5502	0.1231	0.8040	0.3324	46,697
Case 2	0.3606	0.4400	0.0985	0.6429	0.4089	40,073
Case 3	0.2915	0.5730	0.1283	0.8373	0.3306	46,886
Case 4	0.3622	0.4624	0.1035	0.6757	0.4107	39,946
Case 5	0.2911	0.5961	0.1282	0.8710	0.3301	46,934
Case 6	0.3648	0.4835	0.1082	0.7065	0.4137	39,735

Flat Terrain Modeling Results from SCREEN3

	Unit Impacts,	Maximum One-Hour Avg Impacts, ug/m3				Distance to
	ug/m3 per g/s	NOx	SO2	CO	PM10	Maximum (m)
Case 1	0.2167	0.4068	0.0910	0.5944	0.2457	1539
Case 2	0.284	0.3465	0.0776	0.5063	0.3221	1419
Case 3	0.2152	0.4230	0.0947	0.6182	0.2440	1542
Case 4	0.2857	0.3647	0.0816	0.5330	0.3240	1416
Case 5	0.2148	0.4398	0.0946	0.6427	0.2436	1543
Case 6	0.2883	0.3821	0.0855	0.5583	0.3269	1412

Adjust unit impacts for longer averaging periods to account for 90-minute duration of fumigation

	1-hr unit	3-hr unit	8-hr unit	24-hr unit
Case 1	0.2931	0.2549	0.2310	0.2215
Case 2	0.3606	0.3223	0.2984	0.2888
Case 3	0.2915	0.2534	0.2295	0.2200
Case 4	0.3622	0.3240	0.3000	0.2905
Case 5	0.2911	0.2530	0.2291	0.2196
Case 6	0.3648	0.3266	0.3026	0.2931

Table B-5 (cont'd)

Calculation of Fumigation Impacts from Expansion CTG

Case/Avg Period	NOx	SO2	CO	PM10
One-Hour				
Case 1	0.5502	0.1231	0.8040	-
Case 2	0.4400	0.0985	0.6429	-
Case 3	0.5730	**0.1283**	0.8373	-
Case 4	0.4624	0.1035	0.6757	-
Case 5	**0.5961**	0.1282	**0.8710**	-
Case 6	0.4835	0.1082	0.7065	-
3 Hours				
Case 1	-	0.0964	-	-
Case 2	-	0.0792	-	-
Case 3	-	**0.10032**	-	-
Case 4	-	0.0833	-	-
Case 5	-	0.10025	-	-
Case 6	-	0.0872	-	-
8 Hours				
Case 1	-	-	0.4436	-
Case 2	-	-	0.3724	-
Case 3	-	-	0.4615	-
Case 4	-	-	0.3918	-
Case 5	-	-	**0.4798**	-
Case 6	-	-	0.4103	-
24 Hours				
Case 1	-	0.0372	-	0.1005
Case 2	-	0.0315	-	0.1310
Case 3	-	**0.03871**	-	0.0998
Case 4	-	0.0332	-	0.1318
Case 5	-	0.03868	-	0.0996
Case 6	-	0.0348	-	**0.1329**

NOTES TO TABLE B-5

INVERSION BREAKUP FUMIGATION ANALYSIS

Inversion breakup fumigation is generally a short-term phenomenon and was evaluated here as persisting for up to 90 minutes. SCREEN3 was used to model one-hour unit impacts from the turbine under 2.5 m/s winds and F stability (for fumigation impacts) and under all meteorological conditions (shown in the table as "Inversion Breakup Modeling Results from SCREEN3").

For longer-term averaging periods, impacts were calculated using the highest modeled impact from SCREEN3 for the corresponding averaging period. A sample calculation for 24-hour average PM_{10} for Case 1 is as follows:

- For Case 1, 1-hour average unit impact = 0.2931 μg/m3 per g/s
- For Case 1, max. 1-hour average flat terrain unit impact from SCREEN3 = 0.2167 μg/m3 per g/s
- For Case 1, the appropriate unit impact for the 24-hour averaging period is calculated as 1.5 hours of inversion breakup fumigation plus 22.5 hours of operation under typical conditions (from SCREEN3): [(1.5 * 0.2931 μg/m3 per g/s) + (22.5 * 0.2167 μg/m3 per g/s)] ÷ 24 hrs = 0.2215 $\mu g/m^3$ per g/s
- The PM_{10} emission rate is 1.134 g/s; the SCREEN3 persistence factor for converting 1-hour impacts to 24-hour impacts is 0.4
- 24-hour PM_{10} impact under fumigation conditions is calculated as 0.2215 $\mu g/m^3$ per g/s * 1.134 g/s * 0.4 = 0.1005 $\mu g/m^3$

Table B-6
PEF Expansion Project
Modeled Impacts During Turbine Startup
Assume expansion CTG and one combined cycle CTG in startup.

	Stack Diam, m	Stack Height, m	Exh Temp, Deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	Em Rates, g/s	
						NOx	CO
One-Hour Average							
Expansion CTG	6.93	39.93	680.8	1450.2	38.402	10.08	113.65
Turbine 1/HRSG	5.49	45.72	351.6	323.3	13.675	16.38	155.61
Eight-Hour Average							
Expansion CTG	6.93	39.93	656.9	1085.9	28.755	n/a	29.87
Turbine 1/HRSG	5.49	45.72	351.6	323.3	13.675	n/a	42.50

Table B-7
PEF Expansion Project
Commissioning Profile for Expansion CTG

Operating Mode	Hours of Operation(1)	Fuel Use MMBtu/hr (2) (HHV)	Emission Factors (lbs/MMBtu)					Hourly Emissions (lbs/hr)			
			NOx(3)	CO(4)	VOC(5)	PM10(6)	SOx(7)	NOx	CO	VOC	PM10
Expansion CTG - FSNL	4	358.22	0.3624	2.518	0.045	n/a	0.001011	129.8	902.0	16.0	9.0
Expansion CTG - Min. Load, no SCR or ox cat	20	358.22	0.1522	0.225	0.02	n/a	0.001011	54.5	80.6	7.2	9.0
Expansion CTG - FSNL (if necessary)	24	358.22	0.3624	0.225	0.02	n/a	0.001011	129.8	80.6	7.2	9.0
Expansion CTG - Multiple Loads - Full SCR	48	1791.1	0.05889	0.0133	0.0025	n/a	0.001011	105.5	23.8	4.5	9.0
Total =	96										

Notes:
(1) Hours of Operation - based on information supplied by Calpine for the Gilroy plant.
(2) Fuel Use
- No Load test: Based on 20% of maximum heat input rating.
- Minimum Load test: Based on 20% of maximum heat input rating.
- Multiple Load test: Based on 100% of maximum heat input rating.

(3) NOx Emission Factors
- No Load test: Based on 100 ppm @ 15% O2.
- Minimum Load test: Based on maximum uncontrolled emission rate of 42 ppm @ 15% O2.
- Multiple Load Full SCR test: Based on NOx emission levels at the midway point between 30 ppm and 2.5 ppm @ 15% O2.

(4) CO Emission Factors
- No Load test: Assume same as startup emission rate.
- Minimum Load test: Based on maximum uncontrolled emission rate of 17 times controlled level, or 68 ppm @ 15% O2.
- Multiple Load Full SCR test: Based on unit meeting the project design level of 6 ppm @ 15% O2.

(5) VOC Emission Factors
- No Load test: Assume same as startup emission rate.
- Minimum Load test: Based on maximum uncontrolled emission rate of 8 times controlled level, or 16 ppm @ 15% O2.
- Multiple Load Full SCR test: Based on unit meeting the project design level of 2 ppm @ 15% O2.

(6) PM10 Emission Factors
- For all tests, based on project design PM10 level of 9.0 lbs/hr.

(7) SOx Emission Factors
- For all tests, based on project design maximum natural gas sulfur content of 0.75 gr/100 scf.

Table B-8
PEF Expansion Project
Modeled Impacts During Commissioning of Expansion CTG

	Stack Diam, m	Stack Height, m	Exh Temp, Deg K	Exhaust Flow, m3/s	Exhaust Velocity, m/s	Emission Rates, g/s		
						NOx	CO 1-hr	CO 8-hr
Expansion CTG	6.93	39.93	656.9	1085.9	28.755	16.380	113.652	56.826
Turbine 1/HRSG	5.49	45.72	362.3	495.8	20.971	2.146	3.140	3.140
Turbine 2/HRSG	5.49	45.72	362.3	495.8	20.971	2.146	3.140	3.140
Turbine 3/HRSG	5.49	45.72	362.3	495.8	20.971	2.146	3.140	3.140

Assume expansion CTG in commissioning and three existing CTGs at full load.

Figure B-1

Building Layout for GEP Analysis

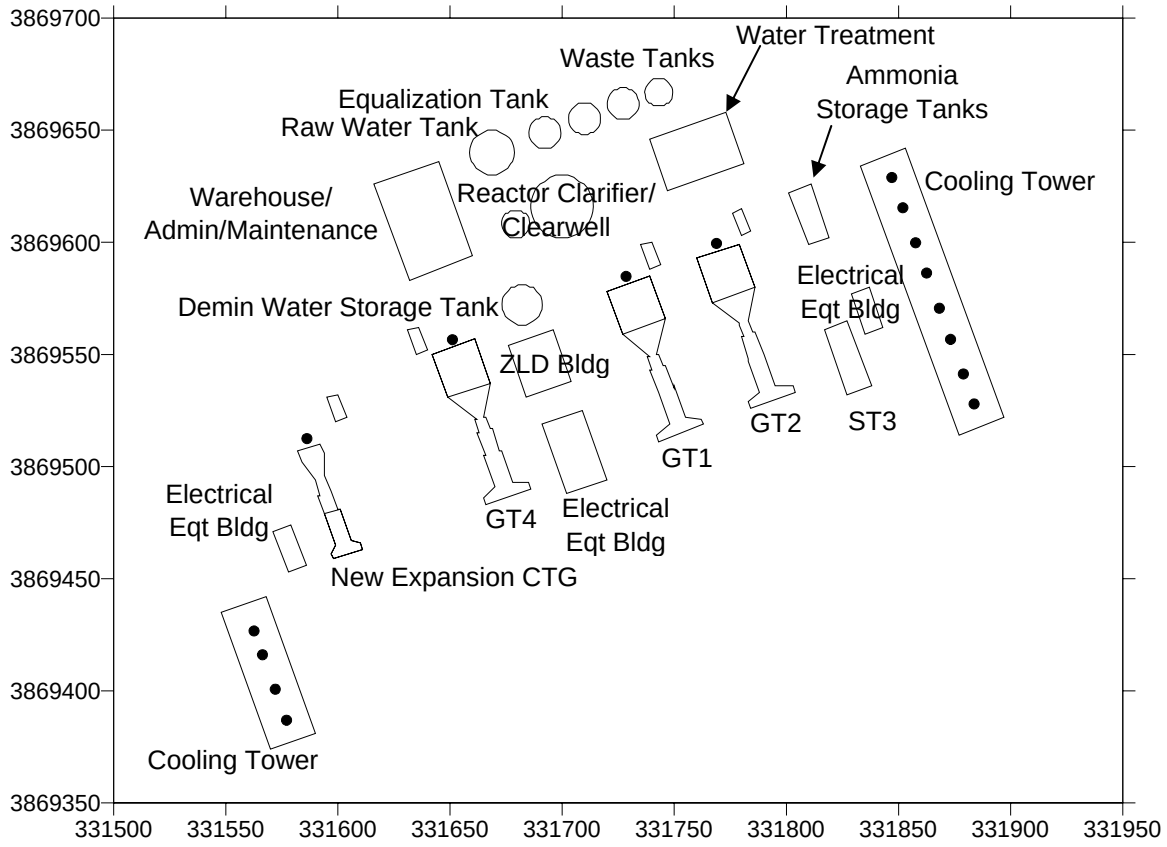


Figure B-2

Layout of the Receptor Grids: ISCST3

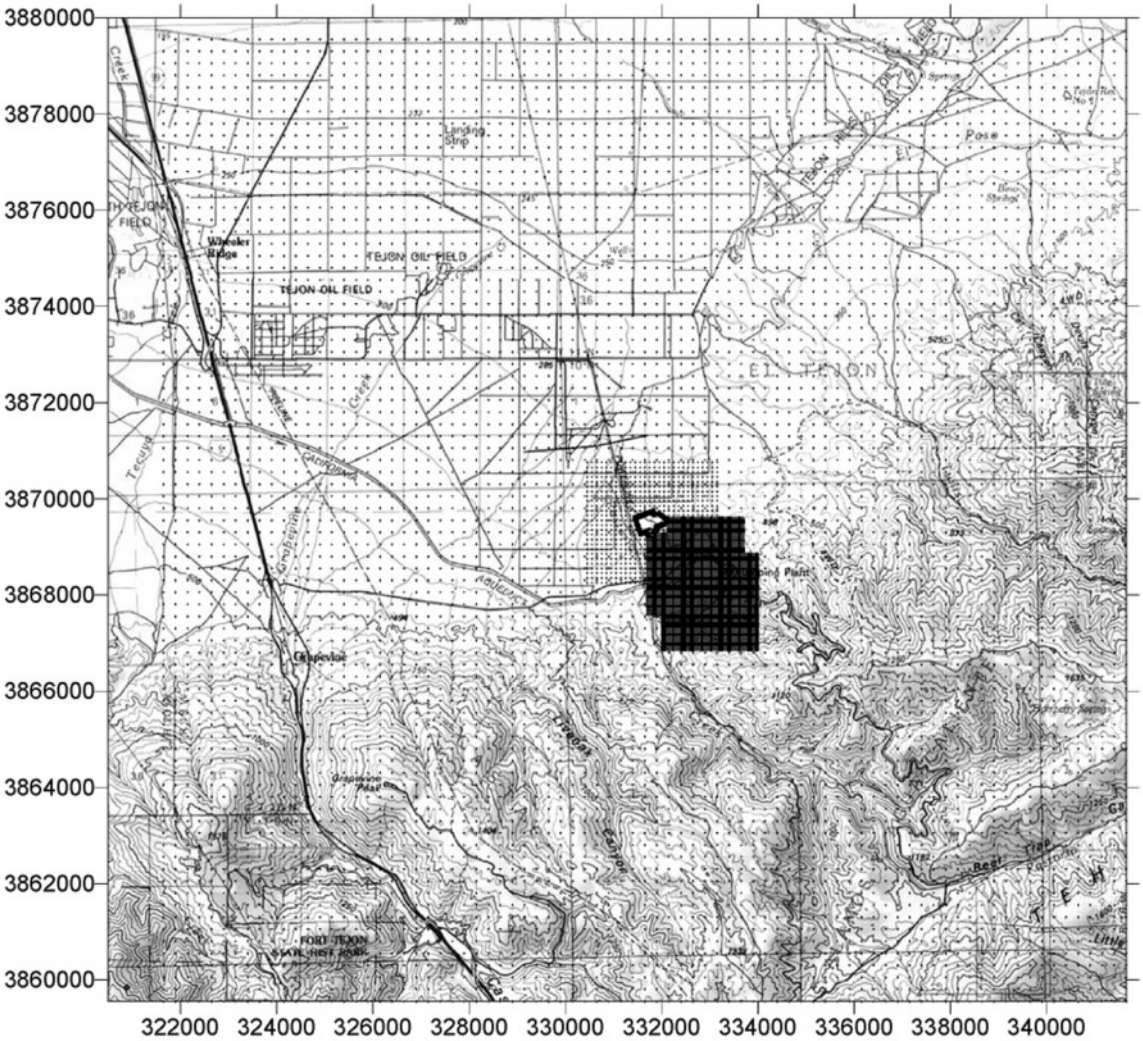
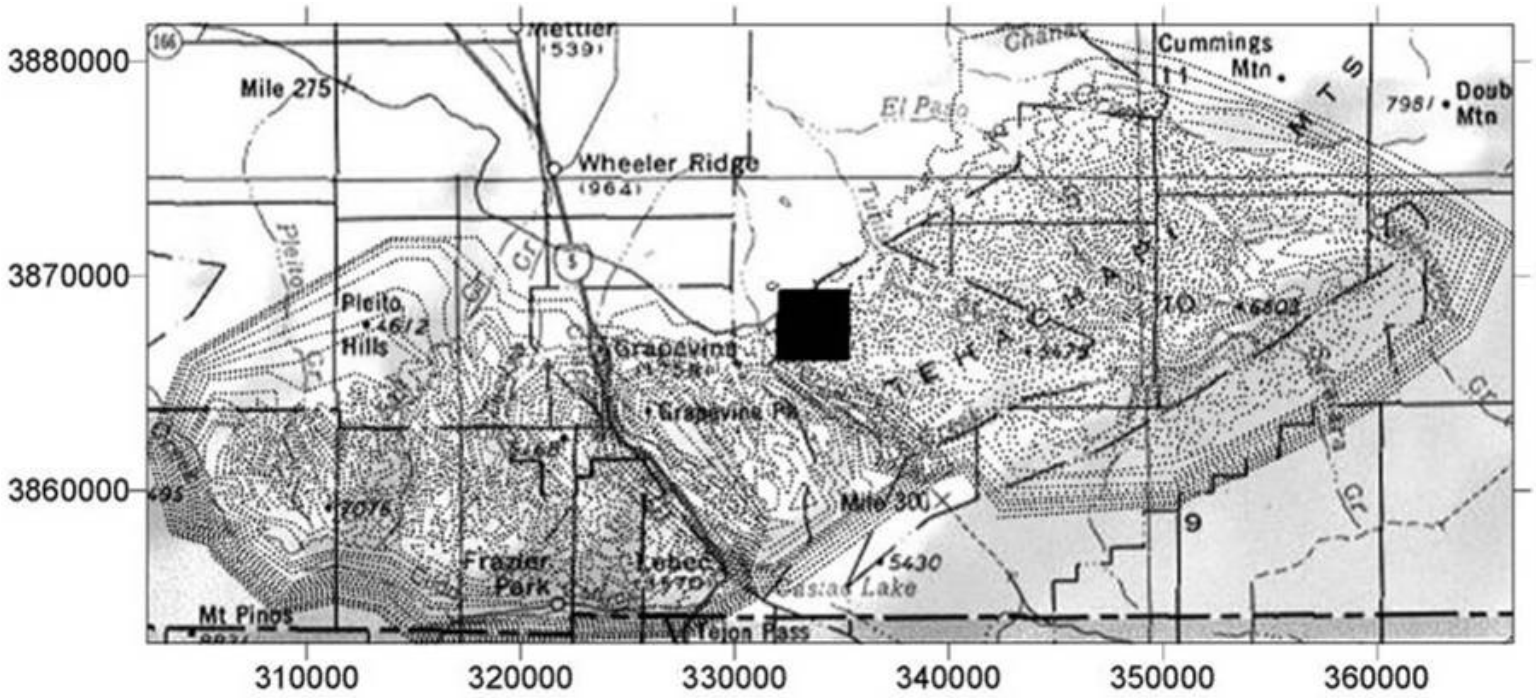


Figure B-3

Layout of the Receptor Grids: CTSCREEN



Attachment B-1

Class I Modeling Parameters

Nitrogen and Sulfate Deposition Background Values for Pinnacles National Monument

Year	Total Nitrogen Deposition (kg/ha-year)	Total Sulfur Deposition (kg/ha-year)
1999	3.7	0.87
2000	2.1	1.0
2001	2	0.6

Source: CASTNET/NADP

Calculation of Elemental Carbon and Organic Carbon Contributions to Fine Particulate Extinction Coefficients

Following recommendations provided by the FLMs, 25% of PM emissions are filterable and 75% of PM emissions are condensable. All filterable PM was considered elemental carbon (EC) and all condensable PM was considered organic carbon (OC) Sulfate emissions were included in the CALPUFF modeling assessment and the PM emissions were adjusted to reflect this to avoid double-counting. Thus, all OC was calculated to be the difference between condensable PM and sulfate.

For the PEF Expansion CTG,

PM_{10} emissions = 8 lb/hr (excluding sulfate portion)
SO_4 emissions = 1 lb/hr

EC = 0.25*8 = 2.0 lb/hr
OC = (0.75 * 8) – 1 = 5.0 lb/hr
EEPMF = [(2.0 * 10) + (5.0 * 4)]/(2.0 + 5.0) = **5.714**

The light extinction coefficients for EC and OC are 10 and 4, respectively. Thus the calculated light extinction coefficient for PM (EEPMF) for use in CALPOST is 5.714.

APPENDIX C

SCREENING HEALTH RISK ASSESSMENT

The screening level health risk assessment has been prepared using CARB's Hotspots Analysis and Reporting Program (HARP) computer program and associated guidance in the OEHHA's *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (August 2003). The HARP model was used to assess cancer risk as well as chronic and acute risk impacts. The assessment shows that the cancer risks from the new Expansion CTG as well as the existing PEF facility as a whole after modification will be well below the significance level of 10 in one million, and the acute and chronic health impacts will be well below the significance level of one. This appendix describes the procedures used to prepare this risk assessment.

C.1 Modeling Inputs

The risk assessment module of the HARP model was run using unit ground level impacts to obtain derived cancer risks for each toxic chemical of interest.[1] Cancer risks were obtained for the derived (OEHHA) method, the derived (adjusted) method, average point estimate and high-end point estimate options. The HARP model output was cancer risk by pollutant and route for each type of analysis, based on an exposure of 1.0 $\mu g/m^3$. The emission rates of the toxic air contaminants (see Tables A-3, A-4 and A-5) were then combined with the HARP unit values to determine weighted input values that were used in the ICSCT3 model to determine actual cancer risk and hazard indices. HARP model output showing the calculated unit risk values is included as Attachment C-1. Individual cancer risks are expressed in units of risk per $\mu g/m^3$ of exposure. To calculate the weighted risk for each source, the annual average emission rate in g/s for each pollutant was multiplied by the individual cancer risk for that pollutant in $(\mu g/m^3)^{-1}$. The resulting weighted cancer risks for each pollutant were then summed for the source. The same procedure was used to determine the acute and chronic health impacts associated with the proposed project.

Details of the calculations of risk "rates" for modeling are shown in Attachment C-2.

C.2 Risk Analysis Method

The total weighted risk "rate" for each source was used in place of emission rates with ISC model unit impact results to determine cancer risk and acute and chronic health hazard indices. The modeled value is total cancer risk or HHI, as appropriate, at each receptor. The modeling analysis for the health risk assessment was performed using the ISCST3 model and the 1963 Bakersfield meteorological data.

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[1] Procedure is described in Part B of Topic 8 of the HARP How-To Guides: How to Perform Health Analyses Using a Ground Level Concentration.

C.2.1 PEF Expansion Turbine

For the assessment of the risk from the expansion alone, the model was run with the weighted "risk" rates in place emission rates and the stack parameters for PEF Expansion turbine operating case that produced the highest annual average full-load impacts in the screening analysis (Case 1). The acute and chronic health hazard indices were modeled in the same manner.

The contribution of each toxic compound to total cancer risk and total HHI for each analysis method was then determined using the individual contribution of each compound to the total weighted risk "rate." This allocation is shown in the tables in Attachment C-2.

C.2.2 Total Risk from the Facility After Expansion

The total risk from the facility after modification was also modeled. Stack parameters and emission rates for the existing units are summarized in Table C-9. The contributions of individual compounds to total risk are shown in Tables C-4 through C-8.

C.3 Summary of Results

The results of the screening level health risk assessment are summarized in Table C-1.

Table C-1
Screening Level Risk Assessment Results

Risk Methodology	Incremental Risk from Expansion Project	Risk from Existing Facility	Total Facility Risk After Modification
Modeled Cancer Risk for 70-Year Exposure (in one million)			
MEI: Derived (OEHHA) Method	0.08	2.2	2.2
MEI: Average Point Estimate	0.03	1.5	1.5
MEI: High-end Point Estimate	0.08	2.2	2.2
MEI: Derived (adjusted) Method	0.08	1.7	1.7
Nearest Residence: High-end Point Estimate	<0.0001	0.005	0.005
Modeled Worker Cancer Risk (in one million)			
Worker Exposure: Derived (OEHHA) Method	0.02	0.34	0.34
Modeled Acute and Chronic Impacts			
Acute HHI	0.03	0.35	0.35
Chronic HHI	0.004	0.03	0.03

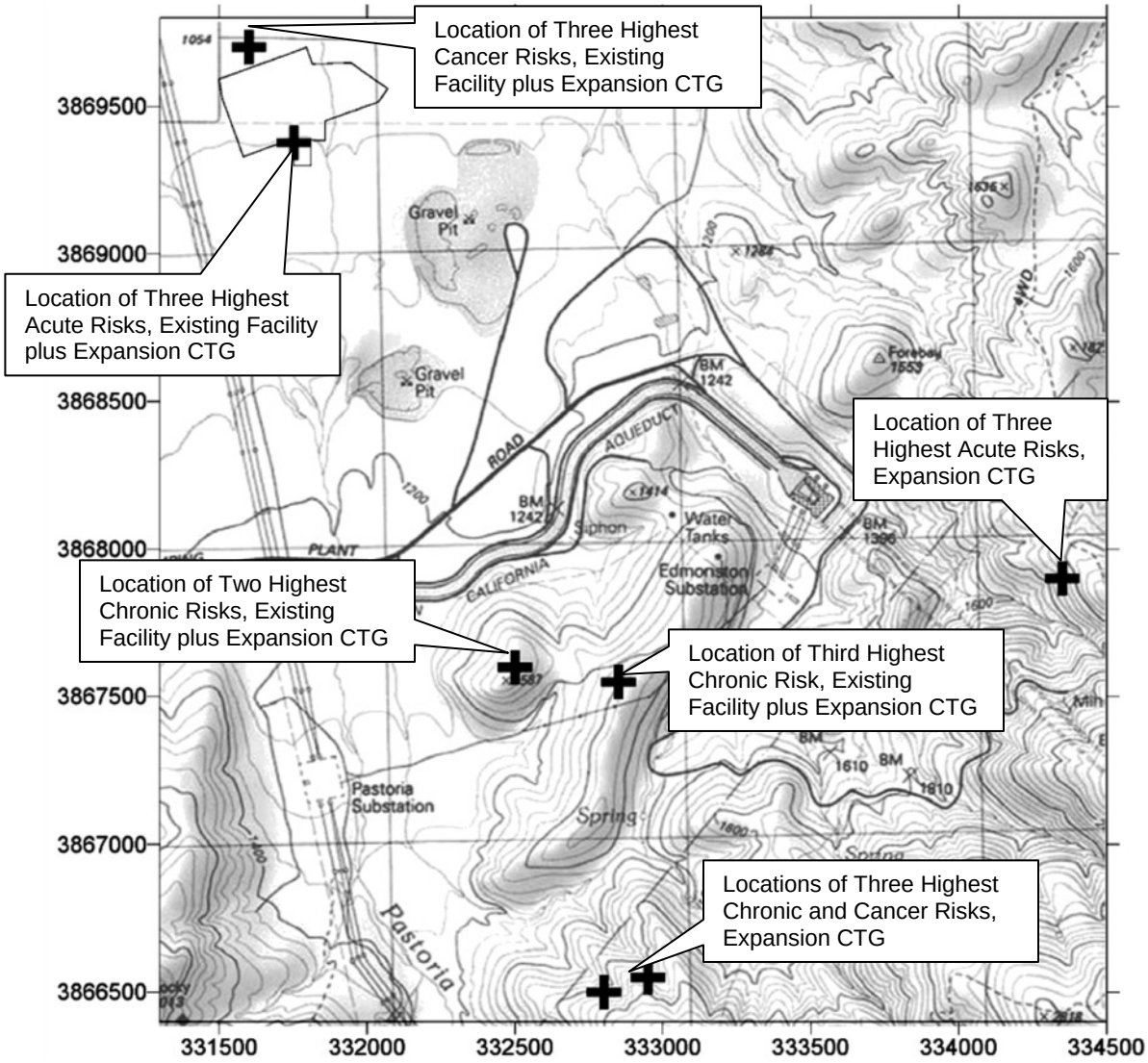
As shown in Table C-1, the cancer risk from the project is well below the significance level of 10 in one million. In addition, the acute and chronic health impacts are well below the significance level of one. Consequently, there are no significant toxic air contaminant impacts issues associated with the proposed project.

The locations of the three maximum cancer, acute and chronic risks from the expansion turbine are shown in Figure C-1.

The more detailed modeling results in Attachment C-2 show that the majority of the cancer risk from the existing facility is due to the existing Diesel fire pump engine. The range of cancer risks shown are for the location of the maximum modeled concentration, which is very close to the plant site, as shown in Figure C-1. The cancer risk at the nearest residence is much lower, as the nearest residence is over 8 km from the plant site. The SJVAPCD staff prepared a screening health risk assessment for the Diesel fire pump engine when the unit was permitted in 2004 and found that the maximum residential risk was 0.6 in one million. The SJVAPCD staff risk assessment is included as Attachment C-3.

Figure C-1

Locations of Top Three Acute, Chronic and Cancer Risks from Expansion CTG



Attachment C-1

HARP Model Risk Assessment Module Output

This file: C:\HARP\projects\demo\PointEstimateRisk.txt

Created by HARP Risk Module Version: 21.7.30
Creation date: 6/21/2004 12:20:51 PM

EXCEPTION REPORT
(there have been no changes or exceptions)

Point Estimate
GLC source: values edited by user
Exposure Duration: 70 year (adult resident)
Analysis Method: Derived (OEHHA) Method

CHEMICAL CROSS-REFERENCE TABLE

CHEM	CAS	ABBREVIATION	POLLUTANT NAME
0001	75070	Acetaldehyde	Acetaldehyde
0002	107028	Acrolein	Acrolein
0003	7664417	Ammonia	Ammonia
0004	71432	Benzene	Benzene
0005	106990	1,3-Butadiene	1,3-Butadiene
0006	9901	DieselExhPM	Diesel engine exhaust, particulate matter
0007	50000	Formaldehyde	Formaldehyde
0008	110543	Hexane	Hexane
0009	56553	B[a]anthracene	Benz[a]anthracene
0010	50328	B[a]P	Benzo[a]pyrene
0011	205992	B[b]fluoranthen	Benzo[b]fluoranthene
0012	207089	B[k]fluoranthen	Benzo[k]fluoranthene
0013	218019	Chrysene	Chrysene
0014	193395	In[1,2,3-cd]pyr	Indeno[1,2,3-cd]pyrene
0015	91203	Naphthalene	Naphthalene
0016	115071	Propylene	Propylene
0017	75569	Propylene Oxide	Propylene oxide
0018	108883	Toluene	Toluene
0019	1210	Xylenes	Xylenes (mixed)
0020	100414	Ethyl Benzene	Ethyl benzene
0021	120127	Anthracene	Anthracene
0022	53703	D[a,h]anthracen	Dibenz[a,h]anthracene

CHEMICAL GROUND LEVEL CONCENTRATIONS (micrograms/m^3)

CHEM	CAS	ABBREVIATION	AVERAGE	HOURLY MAX	WATER	PASTURE	FISH
0001	75070	Acetaldehyde	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0002	107028	Acrolein	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0003	7664417	Ammonia	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0004	71432	Benzene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0005	106990	1,3-Butadiene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0006	9901	DieselExhPM	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0007	50000	Formaldehyde	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0008	110543	Hexane	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0009	56553	B[a]anthracene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0010	50328	B[a]P	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0011	205992	B[b]fluoranthen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0012	207089	B[k]fluoranthen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0013	218019	Chrysene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0014	193395	In[1,2,3-cd]pyr	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0015	91203	Naphthalene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0016	115071	Propylene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0017	75569	Propylene Oxide	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0018	108883	Toluene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0019	1210	Xylenes	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0020	100414	Ethyl Benzene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0021	120127	Anthracene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0022	53703	D[a,h]anthracen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00

DOMINANT PATHWAYS FOR CANCER

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG
0001	YES	-	-	-	-	-	-	-	-	-	-	-
0002	-	-	-	-	-	-	-	-	-	-	-	-
0003	-	-	-	-	-	-	-	-	-	-	-	-
0004	YES	-	-	-	-	-	-	-	-	-	-	-
0005	YES	-	-	-	-	-	-	-	-	-	-	-
0006	YES	-	-	-	-	-	-	-	-	-	-	-
0007	YES	-	-	-	-	-	-	-	-	-	-	-
0008	-	-	-	-	-	-	-	-	-	-	-	-
0009	-	YES	YES	-	-	-	-	-	-	-	-	-
0010	-	YES	YES	-	-	-	-	-	-	-	-	-
0011	-	YES	YES	-	-	-	-	-	-	-	-	-
0012	-	YES	YES	-	-	-	-	-	-	-	-	-
0013	-	YES	YES	-	-	-	-	-	-	-	-	-
0014	-	YES	YES	-	-	-	-	-	-	-	-	-
0015	-	-	-	-	-	-	-	-	-	-	-	-
0016	-	-	-	-	-	-	-	-	-	-	-	-
0017	YES	-	-	-	-	-	-	-	-	-	-	-
0018	-	-	-	-	-	-	-	-	-	-	-	-
0019	-	-	-	-	-	-	-	-	-	-	-	-
0020	-	-	-	-	-	-	-	-	-	-	-	-
0021	-	-	-	-	-	-	-	-	-	-	-	-
0022	YES	YES	-	-	-	-	-	-	-	-	-	-

DERIVED DOSE BY PATHWAY (mg/(kg-d)) FOR CANCER CALCULATIONS

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	TOTAL
0001	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-04
0002	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.37E-04
0003	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.97E-04
0004	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-03
0005	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.65E-03
0006	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.03E-03
0007	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.40E-03
0008	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.66E-03
0009	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.21E-03
0010	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.77E-03
0011	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.32E-03
0012	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.87E-03
0013	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-02
0014	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-02
0015	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-02
0016	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-02
0017	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-02
0018	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-02
0019	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-02
0020	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-02
0021	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-02
0022	3.77E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-02

DERIVED CANCER RISK

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	MEAT	ORAL	TOTAL
0001	3.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-06
0002	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	3.77E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-05
0005	2.26E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.26E-04
0006	4.15E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.15E-04
0007	7.91E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.91E-06
0008	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0009	1.01E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.65E-03
0010	1.01E-03	1.35E-02	2.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-02	1.65E-02
0011	1.01E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.65E-03
0012	1.01E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.65E-03
0013	1.01E-05	1.35E-04	2.02E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-04	1.65E-04
0014	1.01E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.65E-03
0015	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

0016	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0017	4.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.90E-06
0018	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0019	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0022	1.55E-03	4.60E-03	6.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-03	6.84E-03
SUM	3.67E-03	2.36E-02	3.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-02	3.08E-02

DOMINANT PATHWAYS FOR CHRONIC

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG
0001	YES	-	-	-	-	-	-	-	-	-	-	-
0002	YES	-	-	-	-	-	-	-	-	-	-	-
0003	YES	-	-	-	-	-	-	-	-	-	-	-
0004	YES	-	-	-	-	-	-	-	-	-	-	-
0005	YES	-	-	-	-	-	-	-	-	-	-	-
0006	YES	-	-	-	-	-	-	-	-	-	-	-
0007	YES	-	-	-	-	-	-	-	-	-	-	-
0008	YES	-	-	-	-	-	-	-	-	-	-	-
0009	YES	YES	YES	-	-	-	-	-	-	-	-	-
0010	YES	YES	YES	-	-	-	-	-	-	-	-	-
0011	YES	YES	YES	-	-	-	-	-	-	-	-	-
0012	YES	YES	YES	-	-	-	-	-	-	-	-	-
0013	YES	YES	YES	-	-	-	-	-	-	-	-	-
0014	YES	YES	YES	-	-	-	-	-	-	-	-	-
0015	YES	-	-	-	-	-	-	-	-	-	-	-
0016	YES	-	-	-	-	-	-	-	-	-	-	-
0017	YES	-	-	-	-	-	-	-	-	-	-	-
0018	YES	-	-	-	-	-	-	-	-	-	-	-
0019	YES	-	-	-	-	-	-	-	-	-	-	-
0020	YES	-	-	-	-	-	-	-	-	-	-	-
0021	YES	-	-	-	-	-	-	-	-	-	-	-
0022	YES	YES	YES	-	-	-	-	-	-	-	-	-

INHALATION CONCENTRATION (ug/m^3) AND DERIVED DOSE BY PATHWAY (mg/(kg-d)) FOR CHRONIC CALCULATIONS

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG
0001	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0002	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0003	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0005	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0006	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0007	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0008	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0009	1.00E+00	1.17E-03	1.75E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0010	1.00E+00	1.17E-03	1.75E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0011	1.00E+00	1.17E-03	1.75E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0012	1.00E+00	1.17E-03	1.75E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0013	1.00E+00	1.17E-03	1.75E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0014	1.00E+00	1.17E-03	1.75E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0015	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0016	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0017	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0018	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0019	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0022	1.00E+00	1.17E-03	1.75E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

DERIVED CHRONIC HI

CHEM	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0001	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-01	0.00E+00	0.00E+00	1.11E-01
0002	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E+01	0.00E+00	0.00E+00	1.67E+01
0003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E-03	0.00E+00	0.00E+00	5.00E-03
0004	0.00E+00	1.67E-02	0.00E+00	1.67E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-02	1.67E-02
0005	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E-02	0.00E+00	0.00E+00	0.00E+00	5.00E-02

0006	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Q.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-01	0.00E+00	0.00E+00	2.00E-01
0007	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-01	0.00E+00	0.00E+00	3.33E-01
0008	0.00E+00	1.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-04
0009	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0010	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0011	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0012	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0013	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0014	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0015	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-01	0.00E+00	0.00E+00	1.11E-01
0016	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-04	0.00E+00	0.00E+00	3.33E-04
0017	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-02	0.00E+00	0.00E+00	3.33E-02
0018	0.00E+00	3.33E-03	0.00E+00	3.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-03	0.00E+00	0.00E+00	3.33E-03
0019	0.00E+00	1.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-03	0.00E+00	0.00E+00	1.43E-03
0020	0.00E+00	0.00E+00	0.00E+00	5.00E-04	5.00E-04	0.00E+00	5.00E-04	0.00E+00	5.00E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E-04
0021	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0022	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
SUM	0.00E+00	2.16E-02	0.00E+00	2.05E-02	5.00E-04	1.70E+01	5.00E-04	0.00E+00	5.00E-04	5.00E-02	1.75E+01	0.00E+00	1.67E-02	1.75E+01

ACUTE HI

CHEM	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0001	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0002	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E+00	0.00E+00	0.00E+00	5.26E+00
0003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.13E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.13E-04	0.00E+00	0.00E+00	3.13E-04
0004	0.00E+00	0.00E+00	0.00E+00	7.69E-04	0.00E+00	0.00E+00	0.00E+00	7.69E-04	0.00E+00	7.69E-04	0.00E+00	0.00E+00	7.69E-04	7.69E-04
0005	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0006	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0007	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-02	0.00E+00	1.06E-02	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	1.06E-02
0008	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0009	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0010	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0011	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0012	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0013	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0014	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0015	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0016	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0017	0.00E+00	0.00E+00	0.00E+00	3.23E-04	0.00E+00	3.23E-04	0.00E+00	0.00E+00	0.00E+00	3.23E-04	3.23E-04	0.00E+00	0.00E+00	3.23E-04
0018	0.00E+00	2.70E-05	0.00E+00	2.70E-05	0.00E+00	2.70E-05	0.00E+00	0.00E+00	0.00E+00	2.70E-05	2.70E-05	0.00E+00	0.00E+00	2.70E-05
0019	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.55E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.55E-05	0.00E+00	0.00E+00	4.55E-05
0020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0021	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0022	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
SUM	0.00E+00	2.70E-05	0.00E+00	1.12E-03	0.00E+00	5.27E+00	0.00E+00	1.14E-02	0.00E+00	1.12E-03	5.27E+00	0.00E+00	7.69E-04	5.27E+00

SITE PARAMETERS

DEPOSITION

Deposition rate (m/s) 0.02

DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway enabled ***

SOIL INGESTION

*** Pathway enabled ***

MOTHER'S MILK

*** Pathway enabled ***

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EXCEPTION REPORT
(there have been no changes or exceptions)

Point Estimate
GLC source: values edited by user
Exposure Duration: 70 year (adult resident)
Analysis Method: Average Point Estimate

CHEMICAL CROSS-REFERENCE TABLE

CHEM	CAS	ABBREVIATION	POLLUTANT NAME
0001	75070	Acetaldehyde	Acetaldehyde
0002	107028	Acrolein	Acrolein
0003	7664417	Ammonia	Ammonia
0004	71432	Benzene	Benzene
0005	106990	1,3-Butadiene	1,3-Butadiene
0006	9901	DieselExhPM	Diesel engine exhaust, particulate matter
0007	50000	Formaldehyde	Formaldehyde
0008	110543	Hexane	Hexane
0009	56553	B[a]anthracene	Benz[a]anthracene
0010	50328	B[a]P	Benzo[a]pyrene
0011	205992	B[b]fluoranthen	Benzo[b]fluoranthene
0012	207089	B[k]fluoranthen	Benzo[k]fluoranthene
0013	218019	Chrysene	Chrysene
0014	193395	In[1,2,3-cd]pyr	Indeno[1,2,3-cd]pyrene
0015	91203	Naphthalene	Naphthalene
0016	115071	Propylene	Propylene
0017	75569	Propylene Oxide	Propylene oxide
0018	108883	Toluene	Toluene
0019	1210	Xylenes	Xylenes (mixed)
0020	100414	Ethyl Benzene	Ethyl benzene
0021	120127	Anthracene	Anthracene
0022	53703	D[a,h]anthracen	Dibenz[a,h]anthracene

CHEMICAL GROUND LEVEL CONCENTRATIONS (micrograms/m^3)

CHEM	CAS	ABBREVIATION	AVERAGE	HOURLY MAX	WATER	PASTURE	FISH
0001	75070	Acetaldehyde	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0002	107028	Acrolein	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0003	7664417	Ammonia	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0004	71432	Benzene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0005	106990	1,3-Butadiene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0006	9901	DieselExhPM	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0007	50000	Formaldehyde	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0008	110543	Hexane	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0009	56553	B[a]anthracene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0010	50328	B[a]P	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0011	205992	B[b]fluoranthen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0012	207089	B[k]fluoranthen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0013	218019	Chrysene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0014	193395	In[1,2,3-cd]pyr	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0015	91203	Naphthalene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0016	115071	Propylene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0017	75569	Propylene Oxide	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0018	108883	Toluene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0019	1210	Xylenes	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0020	100414	Ethyl Benzene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0021	120127	Anthracene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0022	53703	D[a,h]anthracen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00

AVERAGE DOSE BY PATHWAY (mg/(kg-d)) FOR CANCER CALCULATIONS

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	TOTAL
0001	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.60E-04
0002	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.20E-04
0003	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.80E-04
0004	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.04E-03
0005	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-03
0006	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-03
0007	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-03
0008	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.08E-03
0009	2.60E-04	6.64E-05	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.57E-03
0010	2.60E-04	6.64E-05	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.07E-03
0011	2.60E-04	6.64E-05	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.56E-03
0012	2.60E-04	6.64E-05	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.06E-03
0013	2.60E-04	6.64E-05	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.55E-03
0014	2.60E-04	6.64E-05	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.05E-03
0015	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.31E-03
0016	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.57E-03
0017	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.83E-03
0018	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-03
0019	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.34E-03
0020	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.60E-03
0021	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.86E-03
0022	2.60E-04	6.64E-05	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.36E-03

AVERAGE CANCER RISK

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	MEAT	ORAL	TOTAL
0001	2.60E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.60E-06
0002	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	2.60E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.60E-05
0005	1.56E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.56E-04
0006	2.86E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.86E-04
0007	5.46E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.46E-06
0008	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0009	1.01E-04	7.96E-05	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E-04	3.83E-04
0010	1.01E-03	7.96E-04	2.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E-03	3.83E-03
0011	1.01E-04	7.96E-05	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E-04	3.83E-04
0012	1.01E-04	7.96E-05	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E-04	3.83E-04
0013	1.01E-05	7.96E-06	2.02E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E-05	3.83E-05
0014	1.01E-04	7.96E-05	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.81E-04	3.83E-04
0015	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0016	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0017	3.38E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.38E-06
0018	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0019	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0022	1.07E-03	2.72E-04	6.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.62E-04	2.03E-03
SUM	2.97E-03	1.39E-03	3.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.93E-03	7.90E-03

SITE PARAMETERS

DEPOSITION

Deposition rate (m/s) 0.02

DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway enabled ***

SOIL INGESTION

*** Pathway enabled ***

MOTHER'S MILK

*** Pathway enabled ***

This file: C:\HARP\projects\demo\PointEstimateRisk.txt

Created by HARP Risk Module Version: 21.7.30
Creation date: 6/25/2004 11:17:11 AM

EXCEPTION REPORT
(there have been no changes or exceptions)

Point Estimate
GLC source: values edited by user
Exposure Duration: 70 year (adult resident)
Analysis Method: High-end Point Estimate

CHEMICAL CROSS-REFERENCE TABLE

CHEM	CAS	ABBREVIATION	POLLUTANT NAME
0001	75070	Acetaldehyde	Acetaldehyde
0002	107028	Acrolein	Acrolein
0003	7664417	Ammonia	Ammonia
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0006	9901	DieselExhPM	Diesel engine exhaust, particulate matter
0007	50000	Formaldehyde	Formaldehyde
0008	110543	Hexane	Hexane
0009	56553	B[a]anthracene	Benz[a]anthracene
0010	50328	B[a]P	Benzo[a]pyrene
0011	205992	B[b]fluoranthen	Benzo[b]fluoranthene
0012	207089	B[k]fluoranthen	Benzo[k]fluoranthene
0013	218019	Chrysene	Chrysene
0014	193395	In[1,2,3-cd]pyr	Indeno[1,2,3-cd]pyrene
0015	91203	Naphthalene	Naphthalene
0016	115071	Propylene	Propylene
0017	75569	Propylene Oxide	Propylene oxide
0018	108883	Toluene	Toluene
0019	1210	Xylenes	Xylenes (mixed)
0020	100414	Ethyl Benzene	Ethyl benzene
0021	120127	Anthracene	Anthracene
0022	53703	D[a,h]anthracen	Dibenz[a,h]anthracene

CHEMICAL GROUND LEVEL CONCENTRATIONS (micrograms/m^3)

CHEM	CAS	ABBREVIATION	AVERAGE	HOURLY MAX	WATER	PASTURE	FISH
0001	75070	Acetaldehyde	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0002	107028	Acrolein	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0003	7664417	Ammonia	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0004	71432	Benzene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0005	106990	1,3-Butadiene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0006	9901	DieselExhPM	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0007	50000	Formaldehyde	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0008	110543	Hexane	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0009	56553	B[a]anthracene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0010	50328	B[a]P	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0011	205992	B[b]fluoranthen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0012	207089	B[k]fluoranthen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0013	218019	Chrysene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0014	193395	In[1,2,3-cd]pyr	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0015	91203	Naphthalene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0016	115071	Propylene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0017	75569	Propylene Oxide	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0018	108883	Toluene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0019	1210	Xylenes	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0020	100414	Ethyl Benzene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0021	120127	Anthracene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0022	53703	D[a,h]anthracen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00

HIGH-END DOSE BY PATHWAY (mg/(kg-d)) FOR CANCER CALCULATIONS

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	TOTAL
0001	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-04
0002	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.54E-04
0003	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-03
0004	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.51E-03
0005	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.88E-03
0006	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.26E-03
0007	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.64E-03
0008	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.01E-03
0009	3.77E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.68E-03
0010	3.77E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.35E-03
0011	3.77E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.02E-03
0012	3.77E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.69E-03
0013	3.77E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-02
0014	3.77E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E-02
0015	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-02
0016	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-02
0017	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E-02
0018	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.45E-02
0019	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.49E-02
0020	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.53E-02
0021	3.77E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.57E-02
0022	3.77E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.73E-02

HIGH-END CANCER RISK

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	MEAT	ORAL	TOTAL
0001	3.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-06
0002	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	3.77E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.77E-05
0005	2.26E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.26E-04
0006	4.15E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.15E-04
0007	7.91E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.91E-06
0008	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0009	1.47E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.70E-03
0010	1.47E-03	1.35E-02	2.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-02	1.70E-02
0011	1.47E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.70E-03
0012	1.47E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.70E-03
0013	1.47E-05	1.35E-04	2.02E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-04	1.70E-04
0014	1.47E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.70E-03
0015	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0016	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0017	4.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.90E-06
0018	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0019	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0022	1.55E-03	4.60E-03	6.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-03	6.84E-03
SUM	4.31E-03	2.36E-02	3.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-02	3.15E-02

SITE PARAMETERS

DEPOSITION

Deposition rate (m/s) 0.02

DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway enabled ***

SOIL INGESTION

*** Pathway enabled ***

MOTHER'S MILK

*** Pathway enabled ***

This file: C:\HARP\projects\demo\PointEstimateRisk.txt

Created by HARP Risk Module Version: 21.7.30
Creation date: 6/25/2004 11:22:44 AM

EXCEPTION REPORT
(there have been no changes or exceptions)

Point Estimate
GLC source: values edited by user
Exposure Duration: 70 year (adult resident)
Analysis Method: Derived (Adjusted) Method

CHEMICAL CROSS-REFERENCE TABLE

CHEM	CAS	ABBREVIATION	POLLUTANT NAME
0001	75070	Acetaldehyde	Acetaldehyde
0002	107028	Acrolein	Acrolein
0003	7664417	Ammonia	Ammonia
0004	71432	Benzene	Benzene
0005	106990	1,3-Butadiene	1,3-Butadiene
0006	9901	DieselExhPM	Diesel engine exhaust, particulate matter
0007	50000	Formaldehyde	Formaldehyde
0008	110543	Hexane	Hexane
0009	56553	B[a]anthracene	Benz[a]anthracene
0010	50328	B[a]P	Benzo[a]pyrene
0011	205992	B[b]fluoranthen	Benzo[b]fluoranthene
0012	207089	B[k]fluoranthen	Benzo[k]fluoranthene
0013	218019	Chrysene	Chrysene
0014	193395	In[1,2,3-cd]pyr	Indeno[1,2,3-cd]pyrene
0015	91203	Naphthalene	Naphthalene
0016	115071	Propylene	Propylene
0017	75569	Propylene Oxide	Propylene oxide
0018	108883	Toluene	Toluene
0019	1210	Xylenes	Xylenes (mixed)
0020	100414	Ethyl Benzene	Ethyl benzene
0021	120127	Anthracene	Anthracene
0022	53703	D[a,h]anthracen	Dibenz[a,h]anthracene

CHEMICAL GROUND LEVEL CONCENTRATIONS (micrograms/m^3)

CHEM	CAS	ABBREVIATION	AVERAGE	HOURLY MAX	WATER	PASTURE	FISH
0001	75070	Acetaldehyde	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0002	107028	Acrolein	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0003	7664417	Ammonia	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0004	71432	Benzene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0005	106990	1,3-Butadiene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0006	9901	DieselExhPM	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0007	50000	Formaldehyde	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0008	110543	Hexane	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0009	56553	B[a]anthracene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0010	50328	B[a]P	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0011	205992	B[b]fluoranthen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0012	207089	B[k]fluoranthen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0013	218019	Chrysene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0014	193395	In[1,2,3-cd]pyr	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0015	91203	Naphthalene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0016	115071	Propylene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0017	75569	Propylene Oxide	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0018	108883	Toluene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0019	1210	Xylenes	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0020	100414	Ethyl Benzene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0021	120127	Anthracene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0022	53703	D[a,h]anthracen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00

DOMINANT PATHWAYS FOR CANCER

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG
0001	A	-	-	-	-	-	-	-	-	-	-	-
0002	-	-	-	-	-	-	-	-	-	-	-	-
0003	-	-	-	-	-	-	-	-	-	-	-	-
0004	A	-	-	-	-	-	-	-	-	-	-	-
0005	A	-	-	-	-	-	-	-	-	-	-	-
0006	A	-	-	-	-	-	-	-	-	-	-	-
0007	A	-	-	-	-	-	-	-	-	-	-	-
0008	-	-	-	-	-	-	-	-	-	-	-	-
0009	-	YES	YES	-	-	-	-	-	-	-	-	-
0010	-	YES	YES	-	-	-	-	-	-	-	-	-
0011	-	YES	YES	-	-	-	-	-	-	-	-	-
0012	-	YES	YES	-	-	-	-	-	-	-	-	-
0013	-	YES	YES	-	-	-	-	-	-	-	-	-
0014	-	YES	YES	-	-	-	-	-	-	-	-	-
0015	-	-	-	-	-	-	-	-	-	-	-	-
0016	-	-	-	-	-	-	-	-	-	-	-	-
0017	A	-	-	-	-	-	-	-	-	-	-	-
0018	-	-	-	-	-	-	-	-	-	-	-	-
0019	-	-	-	-	-	-	-	-	-	-	-	-
0020	-	-	-	-	-	-	-	-	-	-	-	-
0021	-	-	-	-	-	-	-	-	-	-	-	-
0022	A	YES	-	-	-	-	-	-	-	-	-	-

DERIVED DOSE BY PATHWAY (mg/(kg-d)) FOR CANCER CALCULATIONS

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	TOTAL
0001	2.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.90E-04
0002	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.49E-04
0003	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.09E-04
0004	2.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.10E-03
0005	2.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.39E-03
0006	2.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.68E-03
0007	2.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.97E-03
0008	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.23E-03
0009	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.78E-03
0010	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.33E-03
0011	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.88E-03
0012	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.43E-03
0013	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.98E-03
0014	2.60E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.15E-02
0015	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.18E-02
0016	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-02
0017	2.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.23E-02
0018	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.26E-02
0019	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-02
0020	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.31E-02
0021	2.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-02
0022	2.90E-04	1.12E-03	1.68E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-02

DERIVED CANCER RISK

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	MEAT	ORAL	TOTAL
0001	2.90E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.90E-06
0002	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	2.90E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.90E-05
0005	1.74E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.74E-04
0006	3.19E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.19E-04
0007	6.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.08E-06
0008	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0009	1.01E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.65E-03
0010	1.01E-03	1.35E-02	2.02E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-02	1.65E-02
0011	1.01E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.65E-03
0012	1.01E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.65E-03
0013	1.01E-05	1.35E-04	2.02E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-04	1.65E-04
0014	1.01E-04	1.35E-03	2.02E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.65E-03
0015	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

0016	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0017	3.76E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.76E-06
0018	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0019	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0022	1.19E-03	4.60E-03	6.90E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.29E-03	6.48E-03
SUM	3.15E-03	2.36E-02	3.54E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-02	3.03E-02

SITE PARAMETERS

DEPOSITION

Deposition rate (m/s) 0.02

DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway enabled ***

SOIL INGESTION

*** Pathway enabled ***

MOTHER'S MILK

*** Pathway enabled ***

This file: C:\HARP\projects\demo\PointEstimateRisk.txt

Created by HARP Risk Module Version: 21.7.30
Creation date: 6/21/2004 12:21:13 PM

EXCEPTION REPORT
(there have been no changes or exceptions)

Point Estimate
GLC source: values edited by user
Exposure Duration: Standard work schedule (49 wks/yr, 5 days/wk, 8 hrs/day, 40 yrs)
Analysis Method: Point estimate

CHEMICAL CROSS-REFERENCE TABLE

CHEM	CAS	ABBREVIATION	POLLUTANT NAME
0001	75070	Acetaldehyde	Acetaldehyde
0002	107028	Acrolein	Acrolein
0003	7664417	Ammonia	Ammonia
0004	71432	Benzene	Benzene
0005	106990	1,3-Butadiene	1,3-Butadiene
0006	9901	DieselExhPM	Diesel engine exhaust, particulate matter
0007	50000	Formaldehyde	Formaldehyde
0008	110543	Hexane	Hexane
0009	56553	B[a]anthracene	Benz[a]anthracene
0010	50328	B[a]P	Benzo[a]pyrene
0011	205992	B[b]fluoranthen	Benzo[b]fluoranthene
0012	207089	B[k]fluoranthen	Benzo[k]fluoranthene
0013	218019	Chrysene	Chrysene
0014	193395	In[1,2,3-cd]pyr	Indeno[1,2,3-cd]pyrene
0015	91203	Naphthalene	Naphthalene
0016	115071	Propylene	Propylene
0017	75569	Propylene Oxide	Propylene oxide
0018	108883	Toluene	Toluene
0019	1210	Xylenes	Xylenes (mixed)
0020	100414	Ethyl Benzene	Ethyl benzene
0021	120127	Anthracene	Anthracene
0022	53703	D[a,h]anthracen	Dibenz[a,h]anthracene

CHEMICAL GROUND LEVEL CONCENTRATIONS (micrograms/m^3)

CHEM	CAS	ABBREVIATION	AVERAGE	HOURLY MAX	WATER	PASTURE	FISH
0001	75070	Acetaldehyde	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0002	107028	Acrolein	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0003	7664417	Ammonia	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0004	71432	Benzene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0005	106990	1,3-Butadiene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0006	9901	DieselExhPM	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0007	50000	Formaldehyde	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0008	110543	Hexane	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0009	56553	B[a]anthracene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0010	50328	B[a]P	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0011	205992	B[b]fluoranthen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0012	207089	B[k]fluoranthen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0013	218019	Chrysene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0014	193395	In[1,2,3-cd]pyr	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0015	91203	Naphthalene	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00
0016	115071	Propylene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0017	75569	Propylene Oxide	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0018	108883	Toluene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0019	1210	Xylenes	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0020	100414	Ethyl Benzene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0021	120127	Anthracene	1.000E+00	1.000E+00	0.000E+00	0.000E+00	0.000E+00
0022	53703	D[a,h]anthracen	1.000E+00	1.000E+00	1.000E+00	1.000E+00	1.000E+00

AVERAGE DOSE BY PATHWAY (mg/(kg-d)) FOR CANCER CALCULATIONS

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	TOTAL
0001	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.72E-05
0002	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.14E-04
0003	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.71E-04
0004	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.29E-04
0005	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.86E-04
0006	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.43E-04
0007	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.00E-04
0008	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.57E-04
0009	5.72E-05	4.26E-04	5.54E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.96E-04
0010	5.72E-05	4.26E-04	5.54E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-03
0011	5.72E-05	4.26E-04	5.54E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-03
0012	5.72E-05	4.26E-04	5.54E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.61E-03
0013	5.72E-05	4.26E-04	5.54E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.15E-03
0014	5.72E-05	4.26E-04	5.54E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.69E-03
0015	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.75E-03
0016	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.80E-03
0017	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.86E-03
0018	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.92E-03
0019	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.98E-03
0020	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.03E-03
0021	5.72E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.09E-03
0022	5.72E-05	4.26E-04	5.54E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.63E-03

AVERAGE CANCER RISK

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	MEAT	ORAL	TOTAL
0001	5.72E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.72E-07
0002	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	5.72E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.72E-06
0005	3.43E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.43E-05
0006	6.29E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.29E-05
0007	1.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-06
0008	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0009	2.23E-05	5.12E-04	6.65E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-04	6.00E-04
0010	2.23E-04	5.12E-03	6.65E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-03	6.00E-03
0011	2.23E-05	5.12E-04	6.65E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-04	6.00E-04
0012	2.23E-05	5.12E-04	6.65E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-04	6.00E-04
0013	2.23E-06	5.12E-05	6.65E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-05	6.00E-05
0014	2.23E-05	5.12E-04	6.65E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.78E-04	6.00E-04
0015	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0016	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0017	7.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.43E-07
0018	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0019	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0022	2.34E-04	1.75E-03	2.27E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.98E-03	2.21E-03
SUM	6.54E-04	8.96E-03	1.16E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.01E-02	1.08E-02

INHALATION CONCENTRATION (ug/m^3) AND AVERAGE DOSE BY PATHWAY (mg/(kg-d)) FOR CHRONIC CALCULATIONS

CHEM	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG
0001	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0002	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0003	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0004	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0005	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0006	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0007	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0008	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0009	1.00E+00	1.11E-03	1.44E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0010	1.00E+00	1.11E-03	1.44E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0011	1.00E+00	1.11E-03	1.44E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0012	1.00E+00	1.11E-03	1.44E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0013	1.00E+00	1.11E-03	1.44E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0014	1.00E+00	1.11E-03	1.44E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

0015	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0016	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0017	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0018	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0019	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0020	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0021	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0022	1.00E+00	1.11E-03	1.44E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

AVERAGE CHRONIC HI

CHEM	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0001	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-01	0.00E+00	0.00E+00	1.11E-01
0002	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E+01	0.00E+00	0.00E+00	1.67E+01
0003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E-03	0.00E+00	0.00E+00	5.00E-03
0004	0.00E+00	1.67E-02	0.00E+00	1.67E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-02	1.67E-02
0005	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E-02	0.00E+00	0.00E+00	0.00E+00	5.00E-02
0006	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.00E-01	0.00E+00	0.00E+00	2.00E-01
0007	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-01	0.00E+00	0.00E+00	3.33E-01
0008	0.00E+00	1.43E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-04
0009	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0010	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0011	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0012	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0013	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0014	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0015	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.11E-01	0.00E+00	0.00E+00	1.11E-01
0016	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-04	0.00E+00	0.00E+00	3.33E-04
0017	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-02	0.00E+00	0.00E+00	3.33E-02
0018	0.00E+00	3.33E-03	0.00E+00	3.33E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.33E-03	0.00E+00	0.00E+00	3.33E-03
0019	0.00E+00	1.43E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.43E-03	0.00E+00	0.00E+00	1.43E-03
0020	0.00E+00	0.00E+00	0.00E+00	5.00E-04	5.00E-04	0.00E+00	5.00E-04	0.00E+00	5.00E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E-04
0021	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0022	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
SUM	0.00E+00	2.16E-02	0.00E+00	2.05E-02	5.00E-04	1.70E+01	5.00E-04	0.00E+00	5.00E-04	5.00E-02	1.75E+01	0.00E+00	1.67E-02	1.75E+01

ACUTE HI

CHEM	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0001	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0002	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.26E+00	0.00E+00	0.00E+00	5.26E+00
0003	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.13E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.13E-04	0.00E+00	0.00E+00	3.13E-04
0004	0.00E+00	0.00E+00	0.00E+00	7.69E-04	0.00E+00	0.00E+00	0.00E+00	7.69E-04	0.00E+00	7.69E-04	0.00E+00	0.00E+00	7.69E-04	7.69E-04
0005	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0006	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0007	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-02	0.00E+00	1.06E-02	0.00E+00	0.00E+00	1.06E-02	0.00E+00	0.00E+00	1.06E-02
0008	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0009	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0010	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0011	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0012	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0013	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0014	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0015	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0016	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0017	0.00E+00	0.00E+00	0.00E+00	3.23E-04	0.00E+00	3.23E-04	0.00E+00	0.00E+00	0.00E+00	3.23E-04	3.23E-04	0.00E+00	0.00E+00	3.23E-04
0018	0.00E+00	2.70E-05	0.00E+00	2.70E-05	0.00E+00	2.70E-05	0.00E+00	0.00E+00	0.00E+00	2.70E-05	2.70E-05	0.00E+00	0.00E+00	2.70E-05
0019	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.55E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.55E-05	0.00E+00	0.00E+00	4.55E-05
0020	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0021	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
0022	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.00E-30
SUM	0.00E+00	2.70E-05	0.00E+00	1.12E-03	0.00E+00	5.27E+00	0.00E+00	1.14E-02	0.00E+00	1.12E-03	5.27E+00	0.00E+00	7.69E-04	5.27E+00

SITE PARAMETERS

DEPOSITION

Deposition rate (m/s) 0.02

DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway enabled ***

SOIL INGESTION

*** Pathway enabled ***

MOTHER'S MILK

*** Pathway enabled ***

Attachment C-2

Calculation of Weighted Risk Rates for Modeling

Table C-2
PEF Expansion Project
Calculation of Modeling Inputs and Cancer Risk for Expansion CTG Risk Assessment

		Derived (OEHHA) Method			Average Point Estimate			High-End Point Estimate			Derived (Adjusted) Method			Worker Exp: Derived (OEHHA) Method		
Compound	Annual Average Emissions Per Turbine, g/s	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (2)	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (3)	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (4)	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (5)	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (6)
Ammonia	2.91E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Propylene	1.65E-01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acetaldehyde	8.72E-03	3.77E-06	3.29E-02	2.91E-03	2.60E-06	2.27E-02	2.00E-03	3.77E-06	3.29E-02	2.91E-03	2.90E-06	2.53E-02	2.24E-03	5.72E-07	4.99E-03	4.41E-04
Acrolein	1.40E-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzene	2.63E-03	3.77E-05	9.91E-02	8.76E-03	2.60E-05	6.83E-02	6.04E-03	3.77E-05	9.91E-02	8.76E-03	2.90E-05	7.62E-02	6.74E-03	5.72E-06	1.50E-02	1.33E-03
1,3-Butadiene	9.38E-05	2.26E-04	2.12E-02	1.87E-03	1.56E-04	1.46E-02	1.29E-03	2.26E-04	2.12E-02	1.88E-03	1.74E-04	1.63E-02	1.44E-03	3.43E-05	3.22E-03	2.85E-04
Ethylbenzene	6.96E-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Formaldehyde	1.36E-02	7.91E-06	1.07E-01	9.49E-03	5.46E-06	7.40E-02	6.55E-03	7.91E-06	1.07E-01	9.49E-03	6.08E-06	8.24E-02	7.29E-03	1.20E-06	1.63E-02	1.44E-03
Hexane	5.53E-02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Naphthalene	2.84E-04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAHs (listed individually below) (Note 1)	3.82E-05	1.65E-02	6.31E-01	5.58E-02	3.83E-03	1.46E-01	1.30E-02	1.70E-02	6.50E-01	5.75E-02	1.65E-02	6.31E-01	5.58E-02	6.00E-03	2.29E-01	2.03E-02
Benzo(a)anthracene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-02*			*6.00E-04*		
Benzo(a)pyrene		*1.65E-02*			*3.83E-03*			*1.70E-02*			*1.65E-03*			*6.00E-03*		
Benzo(b)fluoranthrene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-03*			*6.00E-04*		
Benzo(k)fluoranthrene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-03*			*6.00E-04*		
Chrysene		*1.65E-04*			*3.83E-05*			*1.70E-04*			*1.65E-04*			*6.00E-05*		
Dibenz(a,h)anthracene		*6.84E-03*			*2.03E-03*			*6.84E-03*			*6.48E-03*			*2.21E-03*		
Indeno(1,2,3-cd)pyrene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-03*			*6.00E-04*		
Propylene oxide	5.75E-03	4.90E-06	2.82E-02	2.49E-03	3.38E-06	1.94E-02	1.72E-03	4.90E-06	2.82E-02	2.49E-03	3.76E-06	2.16E-02	1.91E-03	7.43E-07	4.27E-03	3.78E-04
Toluene	2.84E-02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Xylene	1.39E-02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			9.19E-01 per ug/m3	0.08134 in one million		3.46E-01 per ug/m3	0.03057 in one million		9.39E-01 per ug/m3	0.08304 in one million		8.53E-01 per ug/m3	0.07545 in one million		2.73E-01 per ug/m3	0.02417 in one million

Notes:
(1) Maximum unit risk value applied to all PAHs for purposes of this analysis.
(2) Based on modeled cancer risk from the CTG of 0.081 in one million.
(3) Based on modeled cancer risk from the CTG of 0.031 in one million.
(4) Based on modeled cancer risk from the CTG of 0.083 in one million.
(5) Based on modeled cancer risk from the CTG of 0.075 in one million.
(6) Based on modeled cancer risk from the CTG of 0.024 in one million.

Table C-3
PEF Expansion Project
Calculation of Modeling Inputs and HHIs for Expansion CTG Risk Assessment

Compound	Max Hourly Emissions Per Turbine g/s	HARP Acute HI (per ug/m3)	Acute HHI Model Input (per ug/m3 per g/s)	Modeled Contribution to Acute HHI	Annual Average Emissions, g/s	HARP Chronic HI (per ug/m3)	Chronic HHI Model Input (per ug/m3 per g/s)	Modeled Contribution to Chronic HHI
Ammonia	3.0320	3.13E-04	9.49E-04	3.56E-03	2.91E+00	5.00E-03	1.46E-02	1.29E-03
Propylene	0.1647	--	--	--	1.65E-01	3.33E-04	5.48E-05	4.86E-06
Acetaldehyde	8.716E-03	--	--	--	8.72E-03	1.11E-01	9.67E-04	8.57E-05
Acrolein	1.397E-03	5.26E+00	7.35E-03	2.75E-02	1.40E-03	1.67E+01	2.33E-02	2.07E-03
Benzene	2.628E-03	7.69E-04	2.02E-06	7.57E-06	2.63E-03	1.67E-02	4.39E-05	3.89E-06
1,3-Butadiene	9.378E-05	--	--	--	9.38E-05	5.00E-02	4.69E-06	4.15E-07
Ethylbenzene	6.964E-03	--	--	--	6.96E-03	5.00E-04	3.48E-06	3.08E-07
Formaldehyde	1.356E-02	1.06E-02	1.44E-04	5.39E-04	1.36E-02	3.33E-01	4.52E-03	4.00E-04
Hexane	5.533E-02	--	--	--	5.53E-02	1.43E-04	7.91E-06	7.01E-07
Naphthalene	2.841E-04	--	--	--	2.84E-04	1.11E-01	3.15E-05	2.79E-06
PAHs (listed individually below)	3.824E-05	--	--	--	3.82E-05	--	--	--
Benzo(a)anthracene								
Benzo(a)pyrene								
Benzo(b)fluoranthrene								
Benzo(k)fluoranthrene								
Chrysene								
Dibenz(a,h)anthracene								
Indeno(1,2,3-cd)pyrene								
Propylene oxide	5.746E-03	3.23E-04	1.86E-06	6.96E-06	5.75E-03	3.33E-02	1.91E-04	1.69E-05
Toluene	2.841E-02	2.70E-05	7.67E-07	2.88E-06	2.84E-02	3.33E-03	9.46E-05	8.38E-06
Xylene	1.395E-02	4.55E-05	6.35E-07	2.38E-06	1.39E-02	1.43E-03	1.99E-05	1.77E-06
		Total =	8.45E-03	0.03166		Total =	4.38E-02	0.00388

Table C-4
PEF Expansion Project
Summary of Modeling Input Values for HRA: Expansion CTG

Unit	Derived (OEHHA) Method Cancer Risk (Res)	Average Point Estimate Cancer Risk (Res)	High-end Point Estimate Cancer Risk (Res)	Derived (Adjusted) Method Cancer Risk (Res)	Derived (OEHHA) Method Cancer Risk (Worker)	Acute HHI Model Input (per ug/m3)	Chronic HHI Model Input (per ug/m3)
Expansion CTG	9.194E-01	3.455E-01	9.386E-01	8.528E-01	2.732E-01	8.447E-03	4.382E-02

All modeling input values are in units of per ug/m3

Table C-5
PEF Expansion Project
Calculation of Cancer Risk Assessment Modeling Inputs and Results for Existing CTGs

		Derived (OEHHA) Method			Average Point Estimate			High-End Point Estimate			Derived (Adjusted) Method			Worker Exp: Derived (OEHHA) Method		
Compound	Annual Average Emissions Per Turbine, g/s	Unit Risk (per ug/m3)	Model Input (each turbine, per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (2)	Unit Risk (per ug/m3)	Model Input (each turbine, per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (3)	Unit Risk (per ug/m3)	Model Input (each turbine, per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (4)	Unit Risk (per ug/m3)	Model Input (each turbine, per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (5)	Unit Risk (per ug/m3)	Model Input (each turbine, per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (6)
Ammonia	3.03E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Propylene	1.69E-01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acetaldehyde	8.94E-03	3.77E-06	3.37E-02	2.44E-02	2.60E-06	2.32E-02	1.68E-02	3.77E-06	3.37E-02	2.44E-02	2.90E-06	2.59E-02	1.88E-02	5.72E-07	5.11E-03	3.71E-03
Acrolein	1.43E-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzene	2.69E-03	3.77E-05	1.02E-01	7.36E-02	2.60E-05	7.01E-02	5.08E-02	3.77E-05	1.02E-01	7.36E-02	2.90E-05	7.82E-02	5.67E-02	5.72E-06	1.54E-02	1.12E-02
1,3-Butadiene	9.62E-05	2.26E-04	2.17E-02	1.58E-02	1.56E-04	1.50E-02	1.09E-02	2.26E-04	2.17E-02	1.58E-02	1.74E-04	1.67E-02	1.21E-02	3.43E-05	3.30E-03	2.39E-03
Ethylbenzene	7.14E-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Formaldehyde	1.39E-02	7.91E-06	1.10E-01	7.98E-02	5.46E-06	7.59E-02	5.50E-02	7.91E-06	1.10E-01	7.97E-02	6.08E-06	8.46E-02	6.13E-02	1.20E-06	1.67E-02	1.21E-02
Hexane	5.67E-02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Naphthalene	2.91E-04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAHs (listed individually below) (Note 1)	3.92E-05	1.65E-02	6.47E-01	4.69E-01	3.83E-03	1.50E-01	1.09E-01	1.70E-02	6.67E-01	4.83E-01	1.65E-02	6.47E-01	4.69E-01	6.00E-03	2.35E-01	1.71E-01
Benzo(a)anthracene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-02*			*6.00E-04*		
Benzo(a)pyrene		*1.65E-02*			*3.83E-03*			*1.70E-02*			*1.65E-03*			*6.00E-03*		
Benzo(b)fluoranthrene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-03*			*6.00E-04*		
Benzo(k)fluoranthrene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-03*			*6.00E-04*		
Chrysene		*1.65E-04*			*3.83E-05*			*1.70E-04*			*1.65E-04*			*6.00E-05*		
Dibenz(a,h)anthracene		*6.84E-03*			*2.03E-03*			*6.84E-03*			*6.48E-03*			*2.21E-03*		
Indeno(1,2,3-cd)pyrene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-03*			*6.00E-04*		
Propylene oxide	5.89E-03	4.90E-06	2.89E-02	2.09E-02	3.38E-06	1.99E-02	1.44E-02	4.90E-06	2.89E-02	2.09E-02	3.76E-06	2.22E-02	1.61E-02	7.43E-07	4.38E-03	3.17E-03
Toluene	2.91E-02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Xylene	1.43E-02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			9.43E-01 per ug/m3	0.68361 in one million		3.54E-01 per ug/m3	0.25689 in one million		9.63E-01 per ug/m3	0.69782 in one million		8.75E-01 per ug/m3	0.63403 in one million		2.80E-01 per ug/m3	0.20311 in one million

Notes:
(1) Maximum unit risk value applied to all PAHs for purposes of this analysis.
(2) Based on modeled cancer risk from the CTGs of 0.68 in one million.
(3) Based on modeled cancer risk from the CTGs of 0.26 in one million.
(4) Based on modeled cancer risk from the CTGs of 0.70 in one million.
(5) Based on modeled cancer risk from the CTGs of 0.63 in one million.
(6) Based on modeled cancer risk from the CTGs of 0.20 in one million.

Table C-6
PEF Expansion Project
Calculation of Risk Assessment Modeling Inputs and Results for Existing CTGs

Compound	Max Hourly Emissions Per Turbine g/s	HARP Acute HI (per ug/m3)	Acute HHI Model Input (per ug/m3 per g/s)	Modeled Contribution to Acute HHI	Annual Average Emissions, g/s	HARP Chronic HI (per ug/m3)	Chronic HHI Model Input (per ug/m3 per g/s)	Modeled Contribution to Chronic HHI
Ammonia	3.0320	3.13E-04	9.49E-04	2.61E-02	3.03E+00	5.00E-03	1.52E-02	1.10E-02
Propylene	0.1689	--	--	--	1.69E-01	3.33E-04	5.63E-05	4.08E-05
Acetaldehyde	8.939E-03	--	--	--	8.94E-03	1.11E-01	9.92E-04	7.19E-04
Acrolein	1.433E-03	5.26E+00	7.54E-03	2.07E-01	1.43E-03	1.67E+01	2.39E-02	1.73E-02
Benzene	2.695E-03	7.69E-04	2.07E-06	5.70E-05	2.69E-03	1.67E-02	4.50E-05	3.26E-05
1,3-Butadiene	9.619E-05	--	--	--	9.62E-05	5.00E-02	4.81E-06	3.49E-06
Ethylbenzene	7.143E-03	--	--	--	7.14E-03	5.00E-04	3.57E-06	2.59E-06
Formaldehyde	1.391E-02	1.06E-02	1.47E-04	4.05E-03	1.39E-02	3.33E-01	4.63E-03	3.36E-03
Hexane	5.675E-02	--	--	--	5.67E-02	1.43E-04	8.11E-06	5.88E-06
Naphthalene	2.914E-04	--	--	--	2.91E-04	1.11E-01	3.23E-05	2.34E-05
PAHs (listed individually below)	3.922E-05	--	--	--	3.92E-05	--	--	--
Benzo(a)anthracene								
Benzo(a)pyrene								
Benzo(b)fluoranthrene								
Benzo(k)fluoranthrene								
Chrysene								
Dibenz(a,h)anthracene								
Indeno(1,2,3-cd)pyrene								
Propylene oxide	5.894E-03	3.23E-04	1.90E-06	5.24E-05	5.89E-03	3.33E-02	1.96E-04	1.42E-04
Toluene	2.914E-02	2.70E-05	7.87E-07	2.16E-05	2.91E-02	3.33E-03	9.70E-05	7.03E-05
Xylene	1.431E-02	4.55E-05	6.51E-07	1.79E-05	1.43E-02	1.43E-03	2.05E-05	1.48E-05
		Total =	8.64E-03	0.23757		Total =	4.52E-02	0.03275

Table C-7
PEF Expansion Project
Cancer Risk Assessment Modeling Inputs and Results for Existing Auxiliary Equipment

		Derived (OEHHA) Method			Average Point Estimate			High-End Point Estimate			Derived (Adjusted) Method			Worker Exposure: Derived (OEHHA) Method		
Compound	Annual Average Emissions, g/s	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (2)	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (3)	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (4)	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (5)	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Modeled Contribution to Cancer Risk (6)
Emergency Generator																
Acetaldehyde	9.86E-06	3.77E-06	3.72E-05	1.02E-03	2.60E-06	2.56E-05	7.05E-04	3.77E-06	3.72E-05	1.02E-03	2.90E-06	2.86E-05	7.86E-04	5.72E-07	5.64E-06	1.55E-04
Acrolein	1.10E-06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Benzene	4.06E-06	3.77E-05	1.53E-04	4.21E-03	2.60E-05	1.06E-04	2.90E-03	3.77E-05	1.53E-04	4.21E-03	2.90E-05	1.18E-04	3.24E-03	5.72E-06	2.32E-05	6.39E-04
1,3-Butadiene	6.84E-06	2.26E-04	1.55E-03	4.25E-02	1.56E-04	1.07E-03	2.93E-02	2.26E-04	1.55E-03	4.25E-02	1.74E-04	1.19E-03	3.27E-02	3.43E-05	2.35E-04	6.45E-03
Formaldehyde	8.78E-05	7.91E-06	6.94E-04	1.91E-02	5.46E-06	4.79E-04	1.32E-02	7.91E-06	6.94E-04	1.91E-02	6.08E-06	5.34E-04	1.47E-02	1.20E-06	1.05E-04	2.90E-03
Naphthalene	4.68E-07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAHs (listed individually below) (Note 1)	2.51E-09	1.65E-02	4.13E-05	1.14E-03	3.83E-03	9.60E-06	2.64E-04	1.70E-02	4.26E-05	1.17E-03	1.65E-02	4.13E-05	1.14E-03	6.00E-03	1.50E-05	4.13E-04
Benzo(a)anthracene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-02*			*6.00E-04*		
Benzo(a)pyrene		*1.65E-02*			*3.83E-03*			*1.70E-02*			*1.65E-03*			*6.00E-03*		
Benzo(b)fluoranthrene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-03*			*6.00E-04*		
Benzo(k)fluoranthrene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-03*			*6.00E-04*		
Chrysene		*1.65E-04*			*3.83E-05*			*1.70E-04*			*1.65E-04*			*6.00E-05*		
Dibenz(a,h)anthracene		*6.84E-03*			*2.03E-03*			*6.84E-03*			*6.48E-03*			*2.21E-03*		
Indeno(1,2,3-cd)pyrene		*1.65E-03*			*3.83E-04*			*1.70E-03*			*1.65E-03*			*6.00E-04*		
Toluene	4.46E-06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Xylene	1.20E-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			2.47E-03 per ug/m3	0.06793 in one million		1.69E-03 per ug/m3	0.04638 in one million		2.47E-03 per ug/m3	0.06798 in one million		1.91E-03 per ug/m3	0.05254 in one million		3.84E-04 per ug/m3	0.01055 in one million
Diesel Fire Pump Engine																
Diesel Exhaust Particulate	1.60E-04	4.15E-04	6.63E-02 per ug/m3	2.21299 in one million	2.86E-04	4.57E-02 per ug/m3	1.52527 in one million	4.15E-04	6.63E-02 per ug/m3	2.21299 in one million	3.19E-04	5.10E-02 per ug/m3	1.70112 in one million	6.29E-05	1.01E-02 per ug/m3	0.33535 in one million

Notes:
(1) Maximum unit risk value applied to all PAHs for purposes of this analysis.

Table C-8
PEF Expansion Project
Calculation of Risk Assessment Modeling Inputs and Results for Existing Auxiliary Equipment

Compound	Max Hourly Emissions for Em Gen. g/s	HARP Acute HI (per ug/m3)	Acute HHI Model Input (per ug/m3 per g/s)	Modeled Contribution to Acute HHI	Annual Average Emissions, g/s	HARP Chronic HI (per ug/m3)	Chronic HHI Model Input (per ug/m3 per g/s)	Modeled Contribution to Chronic HHI
Emergency Generator								
Acetaldehyde	4.319E-04	--	--		9.86E-06	1.11E-01	1.09E-06	3.00E-05
Acrolein	4.817E-05	5.26E+00	2.53E-04	3.01E-01	1.10E-06	1.67E+01	1.84E-05	5.04E-04
Benzene	1.780E-04	7.69E-04	1.37E-07	1.63E-04	4.06E-06	1.67E-02	6.79E-08	1.86E-06
1,3-Butadiene	2.996E-04	--	--		6.84E-06	5.00E-02	3.42E-07	9.39E-06
Formaldehyde	3.846E-03	1.06E-02	4.08E-05	4.84E-02	8.78E-05	3.33E-01	2.92E-05	8.02E-04
Naphthalene	2.049E-05	--	--	--	4.68E-07	1.11E-01	5.19E-08	1.43E-06
PAHs (listed individually below)	1.097E-07	--	--	--	2.51E-09	--	--	--
Benzo(a)anthracene								
Benzo(a)pyrene								
Benzo(b)fluoranthrene								
Benzo(k)fluoranthrene								
Chrysene								
Dibenz(a,h)anthracene								
Indeno(1,2,3-cd)pyrene								
Toluene	1.951E-04	2.70E-05	5.27E-09	6.26E-06	4.46E-06	3.33E-03	1.48E-08	4.07E-07
Xylene	5.274E-04	4.55E-05	2.40E-08	2.85E-05	1.20E-05	1.43E-03	1.72E-08	4.73E-07
		Total =	2.94E-04	0.34946		Total =	4.92E-05	0.00135
Fire Pump Engine								
Particulate Em from Diesel-Fueled Engines	7.00E-03	n/a	n/a	n/a	1.60E-04	0.2	3.20E-05	0.00107
						Total =	3.20E-05	

Table C-9
PEF Expansion Project
Summary of Modeling Input Values for HRA: Cumulative Analysis

Modeling Input Rates

Unit	Derived (OEHHA) Method Cancer Risk (Res)	Average Point Estimate Cancer Risk (Res)	High-end Point Estimate Cancer Risk (Res)	Derived (Adjusted) Method Cancer Risk (Res)	Derived (OEHHA) Method Cancer Risk (Worker)	Acute HHI Model Input (per ug/m3)	Chronic HHI Model Input (per ug/m3)
Expansion CTG	9.194E-01	3.455E-01	9.386E-01	8.528E-01	2.732E-01	8.447E-03	4.382E-02
Existing CTG1	9.431E-01	3.544E-01	9.627E-01	8.747E-01	2.802E-01	8.639E-03	4.518E-02
Existing CTG2	9.431E-01	3.544E-01	9.627E-01	8.747E-01	2.802E-01	8.639E-03	4.518E-02
Existing CTG3	9.431E-01	3.544E-01	9.627E-01	8.747E-01	2.802E-01	8.639E-03	4.518E-02
Existing Emergency Generator	2.472E-03	1.688E-03	2.474E-03	1.912E-03	3.839E-04	2.943E-04	4.919E-05
Existing Diesel Fire Pump Engine	6.632E-02	4.571E-02	6.632E-02	5.098E-02	1.005E-02	--	3.196E-05

All modeling input values are in units of per ug/m3

Stack Parameters for Cumulative HRA				
Unit	Stack Diameter, m	Stack Height, m	Exhaust Temp, deg K	Exhaust Velocity, m/s
Expansion CTG	6.934	39.929	716.333	36.662
Existing CTG1 (1)	5.490	45.720	364.260	20.940
Existing CTG2 (1)	5.490	45.720	364.260	20.940
Existing CTG3 (1)	5.490	45.720	364.260	20.940
Existing Emergency Generator (1)	0.3048	7.620	660.930	27.390
Existing Diesel Fire Pump Engine (2)	0.152	6.096	727.594	50.921

Notes:
(1) Source: February 2002 PEF 250 MW Expansion AFC
(2) Source: SJVUAPCD September 2004 Risk Management Review Report

Attachment C-3

SJVAPCD Risk Management Review for Existing Diesel Fire Pump Engine

San Joaquin Valley Air Pollution Control District
Risk Management Review

To:	Duane Goodwin, AQE—Permit Services
From:	Matthew Cegielski, AQS - Technical Services
Date:	September 21, 2004
Facility Name:	Pastoria Energy Facility,LLC
Location:	P.O. Box 866, Lebec, CA 93243
Application #(s):	Facility ID S-3636 12-0
Project #:	Project# S-1043487

A. RMR SUMMARY

RMR Summary			
Categories	**Diesel-Fired IC Engine (Unit 12-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	N/A[1]	N/A[1]	N/A
Acute Hazard Index	N/A[2]	N/A[2]	N/A
Chronic Hazard Index	N/A[2]	N/A[2]	N/A
Maximum Individual Cancer Risk (10^{-6})	0.57	0.57	0.57
T-BACT Required?	No		
Special Permit Conditions?	Yes		

1 Prioritization for this unit was not conducted since it has been determined that all diesel-fired IC engines will result in a prioritization score greater than 1.0.

2 Acute and Chronic Hazard Indices were not calculated since there is no risk factor, or the risk factor is so low that the risk has been determined to be insignificant for this type of unit.

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Unit # 12-0

1. Modified {1901} The PM10 emissions rate shall not exceed **0.07** g/hp-hr based on US EPA certification using ISO 8178 test procedure. [District Rule 2201]
2. {1902} The sulfur content of the diesel fuel used shall not exceed 0.05% by weight. [District Rule 2201] N
3. {1898} The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102] N
4. {1344} The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed **200** hours per year. [District NSR Rule and District Rule 4701] N

Nancy Matthews

B. RMR REPORT

I. Project Description

Technical Services received a request on September 21, 2004, to perform a Risk Management Review for a proposed installation of a 360 hp diesel-fired emergency IC engine powering an electrical generator.

II. Analysis

Technical Services performed a screening level health risk assessment using the SCREEN3 program and Diesel Exhaust Risk spreadsheet.

The following parameters were used for the review:

Analysis Parameters Unit 12-0			
Source Type	Point	**Location Type**	Urban
Stack Height (m)	6.096	**Closest Receptor (m)**	305
Stack Diameter. (m)	0.152	**Type of Receptor**	Residential
Stack Exit Velocity (m/s)	50.921	**Max Hours per Year**	200
Stack Exit Temp. (°K)	727.594	**Fuel Type**	Diesel
Hp-hr	360	**PM_{10} g/hp-hr**	0.07

III. Conclusion

The cancer risk associated with the operation of the proposed diesel IC engine is less than 1.0 in a million. In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

Diesel Exhaust Risk Spreadsheet

Facility Name	Pastoria Energy Facility,LLC.		
Facility ID	S-3636-12-0		
Date	9/21/2004		
Hp Rate	360		
PM10 Rate g/bhp/hr	0.07		
Hours Of Operation	200		
Worksite X/Q (1-hr)	117.8	**Annual Worksite X/Q**	11.78
Res. X/Q (1 Hr)	117.8	**Annual Res X/Q**	11.78
Previous Facility Risk	0.00E+00	**Risk Allowed**	9.9E-06
OEHHA Preliminary URF	3.0 *10 E-4		

	g/hr	**Lbs/hr**	**Lbs/Yr**	**G/s/Yr**
	25.2	0.055568	11.11356119	0.00016
Res. Risk	**5.65E-07**		Hours allowed:	3,506
Worksite Risk	**3.71E-07**		Hours allowed:	5,335

Nancy Matthews