APPENDIX 5.9B

Risk Assessment Tables

Table 5.9B-1
NCPA Lodi Energy Center
Calculation of Modeling Inputs for Cancer Risk Assessment for Existing STIG

		Derived (OEHHA) Method		Worker Exp: Derived (OEHHA) Method	
Compound	Annual Average Emissions Per Engine g/s	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3 per g/s)
Ammonia	1.95E+00	0	0	0	0
Propylene	4.48E-02	0	0	0	0
Acetaldehyde	2.33E-03	3.77E-06	8.80E-03	5.72E-07	1.33E-03
Acrolein	3.73E-04	0	0	0	0
Benzene	7.00E-04	3.77E-05	2.64E-02	5.72E-06	4.00E-03
1,3-Butadiene	2.51E-05	2.26E-04	5.67E-03	3.43E-05	8.60E-04
Ethylbenzene	1.87E-03	3.28E-06	0.0061232	0	0
Formaldehyde	4.14E-02	7.91E-06	3.28E-01	1.20E-06	4.97E-02
Hexane	1.50E-02	0	0	0	0
Naphthalene	7.58E-05	4.52E-05	3.43E-03	6.86E-06	5.20E-04
PAHs (Note 1)	7.61E-06	6.58E-02	5.01E-01	6.00E-03	4.57E-02
Propylene Oxide	2.78E-03	4.90E-06	1.36E-02	7.43E-07	2.06E-03
Toluene	7.58E-03	0	0	0	0
Xylene	3.73E-03	0	0	0	0
			8.93E-01 per ug/m3		1.04E-01 per ug/m3

Notes:
(1) Emission rates for individual PAHs weighted by risk relative to B(a)P. See Table 5.1A-8.

Table 5.9B-2
NCPA Lodi Energy Center
Calculation of Modeling Inputs and HHIs for Acute and Chronic Risk Assessment for Existing STIG

	Acute Health Impacts			Chronic Health Impacts		
Compound	Max Hourly Emissions Per Engine g/s	HARP Acute HI (per ug/m3)	Acute HHI Model Input (per ug/m3 per g/s)	Annual Average Emissions, g/s	HARP Chronic HI (per ug/m3)	Chronic HHI Model Input (per ug/m3 per g/s)
Ammonia	1.95	3.13E-04	6.11E-04	1.954	5.00E-03	9.77E-03
Propylene	4.48E-02	--	--	4.480E-02	3.33E-04	1.49E-05
Acetaldehyde	2.33E-03	--	--	2.33E-03	1.11E-01	2.59E-04
Acrolein	3.73E-04	5.26E+00	1.96E-03	3.73E-04	1.67E+01	6.24E-03
Benzene	7.00E-04	7.69E-04	5.38E-07	7.00E-04	1.67E-02	1.17E-05
1,3-Butadiene	2.51E-05	--	--	2.51E-05	5.00E-02	--
Ethylbenzene	1.87E-03	--	--	1.87E-03	5.00E-04	9.33E-07
Formaldehyde	4.14E-02	1.06E-02	4.39E-04	4.14E-02	3.33E-01	1.38E-02
Hexane	1.50E-02	--	--	1.50E-02	1.43E-04	2.15E-06
Naphthalene	7.58E-05	--	--	7.58E-05	1.11E-01	8.42E-06
PAHs	7.61E-06	--	--	7.61E-06	--	--
Propylene Oxide	2.78E-03	3.23E-04	8.96E-07	2.78E-03	3.33E-02	9.25E-05
Toluene	7.58E-03	2.70E-05	2.05E-07	7.58E-03	3.33E-03	2.53E-05
Xylene	3.73E-03	4.55E-05	1.70E-07	3.73E-03	1.43E-03	5.34E-06
		Total =	3.02E-03		Total =	3.02E-02

Table 5.9B-3
NCPA Lodi Energy Center
Screening Health Risk Assessment Modeling Inputs for Existing Emergency Fire Pump Engine

Cancer Risk		Derived (OEHHA) Method		Worker Exp: Derived (OEHHA) Method	
Compound	Annual Average Emissions	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3	Unit Risk (per ug/m3)	Cancer Risk Model Input (per ug/m3
Diesel Particulate Matter	1.90E-04	4.15E-04	7.88E-02	6.29E-05	1.19E-02

Compound	Max Hourly Emissions for Em Gen. g/s	Model Input (per ug/m3 per g/s)	Contribution to Acute HHI	Average Emissions, g/s	HARP Chronic HI (per ug/m3)	Model Input (per ug/m3 per g/s)
Diesel Particulate Matter	1.90E-04	n/a	n/a	1.90E-04	2.00E-01	3.80E-05

Table 5.9B-4
NCPA Lodi Energy Center
Summary of Modeling Input Values for Cumulative Screening HRA

Unit	Derived (Adjusted) Method Cancer Risk (Res)	Derived (OEHHA) Method Cancer Risk (Worker)	Chronic HHI Model Input (per ug/m3)	Acute HHI Model Input (per ug/m3)
CTG/HRSG	3.359E+00	3.542E-01	5.947E-02	1.206E-02
Auxiliary Boiler	3.025E-03	2.839E-04	2.176E-05	1.170E-04
Existing Lodi CT #2	8.925E-01	1.042E-01	3.022E-02	3.015E-03
Existing Lodi Fire Pump Engine	7.879E-02	1.194E-02	3.797E-05	0

Stack Parameters				
	Stack Diam (m)	Stack Ht (m)	Exhaust Temp (deg K)	Exhaust Velocity (m/s)
CTG/HRSG	5.779	45.720	360.778	17.466
Auxiliary Boiler	0.914	12.192	463.556	14.997
Existing Lodi CT #2	2.788	28.042	682.594	51.934
Existing Lodi Fire Pump Engine	0.127	4.572	714.261	80.386