

Appendix D

Supporting Documentation for
Modeling Analysis

Air Quality Modeling Inputs Summary for the Air Permit Application

By: D. Gordon
Date: 8/27/09
Checked By: I. Yung
Date: 8/31/09

Advanced Power
Cricket Valley Energy Center

	Units	Design Cases														
		Case 1A	Case 3	Case 6	Case 7	Case 9	Case 12	Case 19	Case 21	Case 24	Case 19A	Case 21A	Case 24A	Case 36/36A	Case 37	Case 39
CTG Fuel Type	--	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas
Ambient Temperature	°F	105	59	-8	105	59	-8	105	59	-8	105	59	-8	-8	105	59
CTG Percent Load Rate	%	100%	100%	100%	100%	100%	100%	75%	75%	75%	60%	60%	60%	50%	50%	50%
Duct Burner Operation	--	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N
Stack Mass Flow Rate	lb/hr	3,563,511	4,007,148	4,427,385	3,537,249	3,986,000	4,401,678	2,954,773	3,288,160	3,563,774	2,630,753	2,915,141	3,150,809	2,994,774	2,715,617	2,866,076
Stack Temperature	°F	235	220	224	229	221	224	224	216	220	221	214	222	222	222	222
Stack Temperature	K	385.9	377.6	379.8	382.6	378.2	379.8	379.8	375.4	377.6	378.2	374.3	378.7	378.7	378.7	378.7
Stack Volumetric Flow Rate	ACFM	1,084,089	1,174,582	1,299,066	1,060,949	1,165,340	1,287,087	879,196	953,657	1,035,838	778,904	842,198	917,662	871,728	802,447	836,426
Stack Volumetric Flow Rate	SCFM	823,472	911,901	1,002,644	812,916	903,396	993,399	678,581	744,766	804,185	603,823	659,674	710,348	674,791	621,162	647,464
Stack Exit Velocity	ft/s	63.7	69.0	76.4	62.4	68.5	75.7	51.7	56.1	60.9	45.8	49.5	53.9	51.2	47.2	49.2
Stack Exit Velocity	m/s	19.4	21.0	23.3	19.0	20.9	23.1	15.8	17.1	18.6	14.0	15.1	16.4	15.6	14.4	15.0
NO _x	g/s	2.21	2.29	2.47	1.63	1.82	2.04	1.31	1.45	1.61	1.12	1.24	1.37	1.25	1.01	1.12
CO	g/s	1.34	1.39	1.50	0.99	1.11	1.24	0.80	0.88	0.98	0.68	0.75	0.84	0.76	0.62	0.68
VOC	g/s	0.78	0.69	0.69	0.28	0.32	0.35	0.23	0.25	0.28	0.20	0.21	0.24	0.22	0.18	0.19
SO ₂	g/s	0.46	0.47	0.50	0.34	0.38	0.42	0.28	0.31	0.33	0.24	0.26	0.28	0.26	0.20	0.22
Total PM-10	g/s	2.01	1.87	1.94	1.26	1.26	1.39	1.26	1.26	1.26	1.26	1.26	1.26	1.01	1.01	1.01

START UP SHUTDOWN STACK PARAMETERS (by ARCADIS)

		Warm Start	Hot Start	Cold Start
Stack Volumetric Flow (ISO conditions)	scfm	903,396	903,396	903,396
time weighted average - % of exhaust flow	W%	36.4%	44%	62%
time weighted average - exhaust flow	scfm	328,836	394,784	560,106
average temperature of exhaust	F	205.5	223	188
average temperature of exhaust	C	96.4	106.1	86.7
average temperature of exhaust	K	369.5	379.3	359.8
time weighted average - exhaust flow	acfm	414,524	510,750	687,482
stack diameter	ft	19	19	19
stack velocity	ft/min	1462.0	1801.4	2424.7
stack velocity	m/s	7.43	9.15	12.32

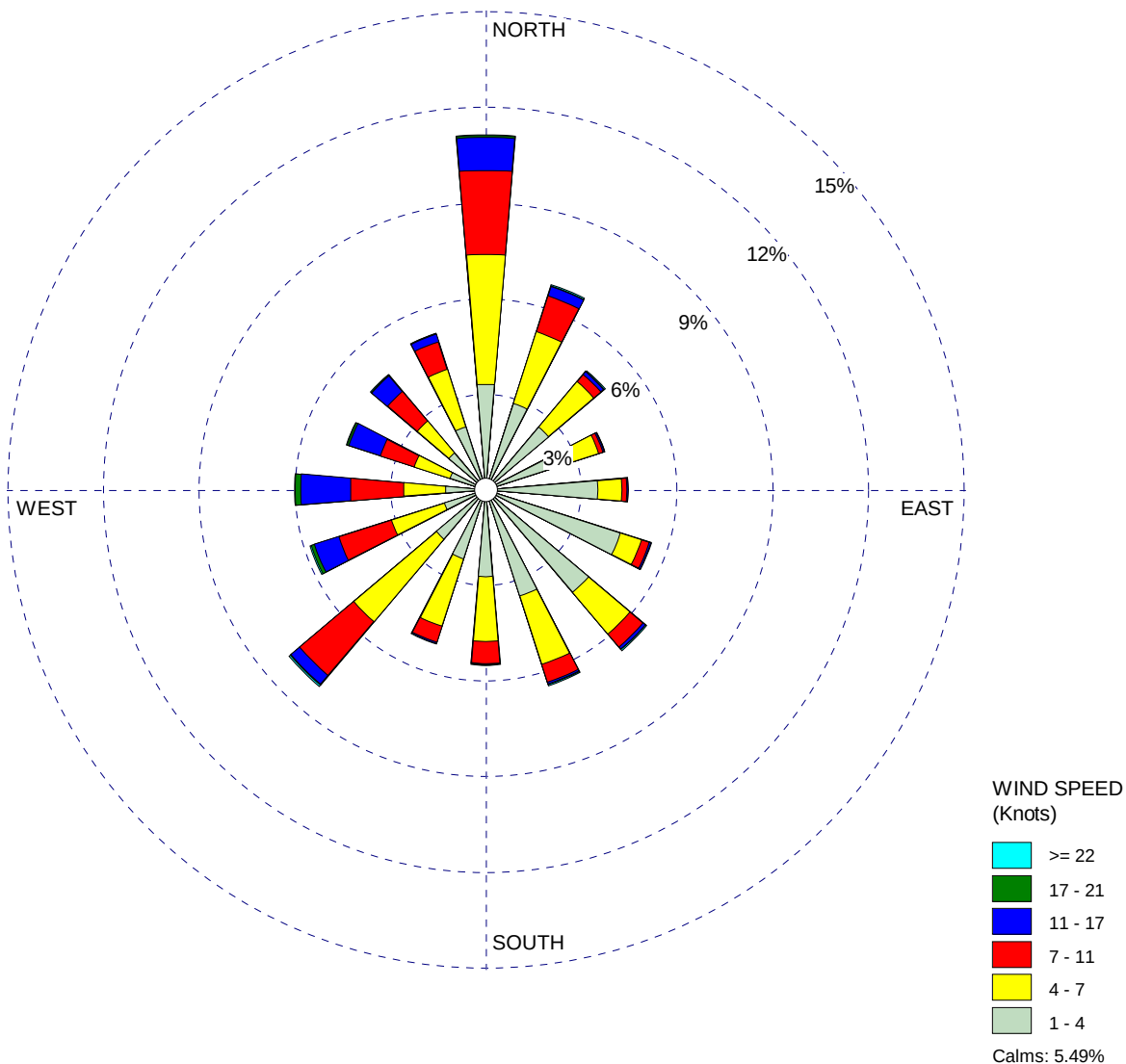
based on vendor data - warm start is avg of hot start and cold start

Stack Parameters	Units	Value
Stack Diameter	ft	19
Stack Diameter	m	5.8

WIND ROSE PLOT:

Wind Rose for 2005-2009

DISPLAY:

**Wind Speed
Direction (blowing from)**

COMMENTS:

DATA PERIOD:

2005 2006 2007 2008 2009
Jan 1 - Dec 31
00:00 - 23:00

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

CALM WINDS:

5.49%

TOTAL COUNT:

40664 hrs.

AVG. WIND SPEED:

5.13 Knots

DATE:

3/17/2010

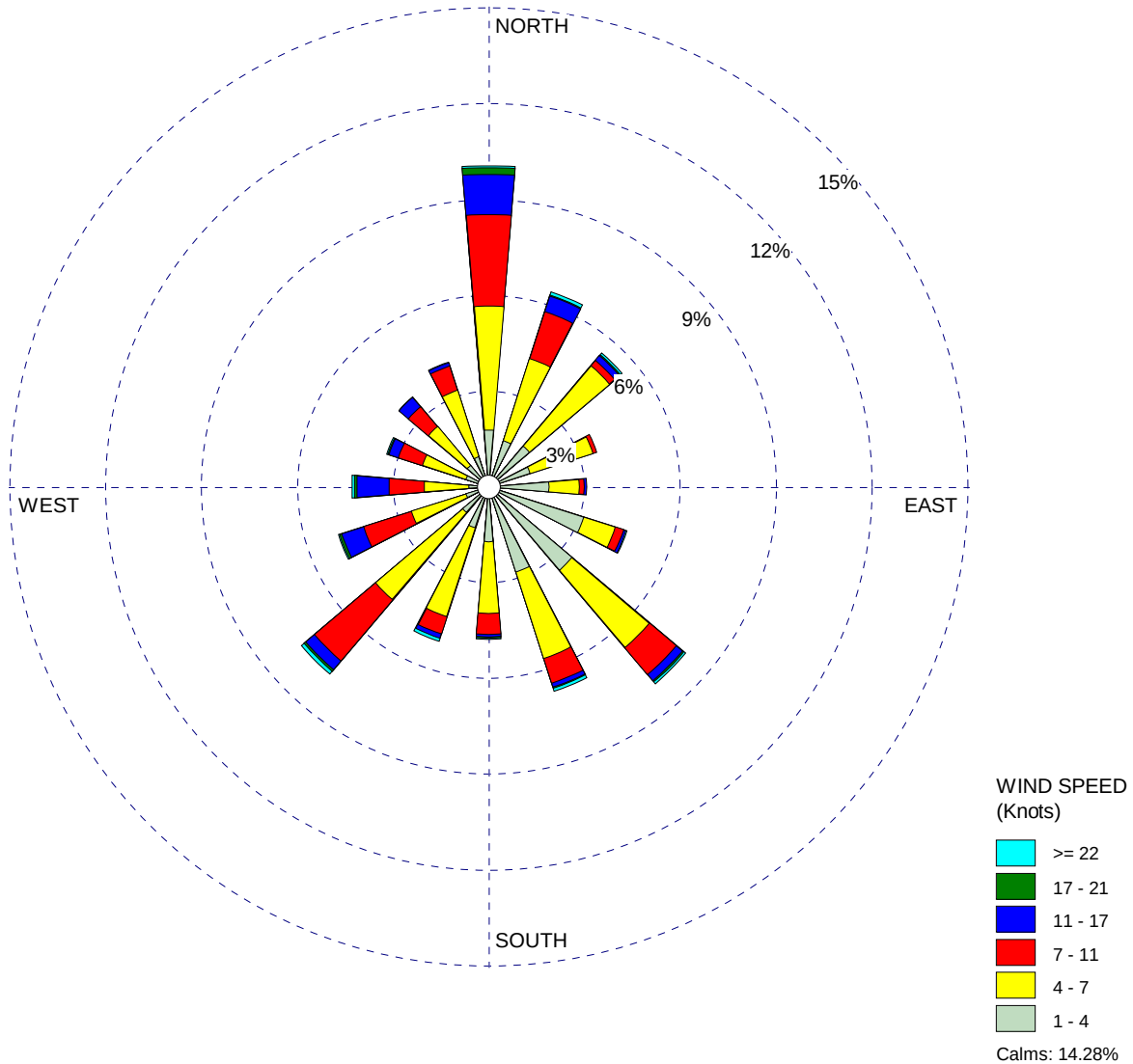
PROJECT NO.:



WIND ROSE PLOT:

Wind Rose for 2005

DISPLAY:

**Wind Speed
Direction (blowing from)**

COMMENTS:

DATA PERIOD:

2005
Mar 10 - Dec 31
00:00 - 23:00

CALM WINDS:

14.28%

AVG. WIND SPEED:

5.31 Knots

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

TOTAL COUNT:

6805 hrs.

DATE:

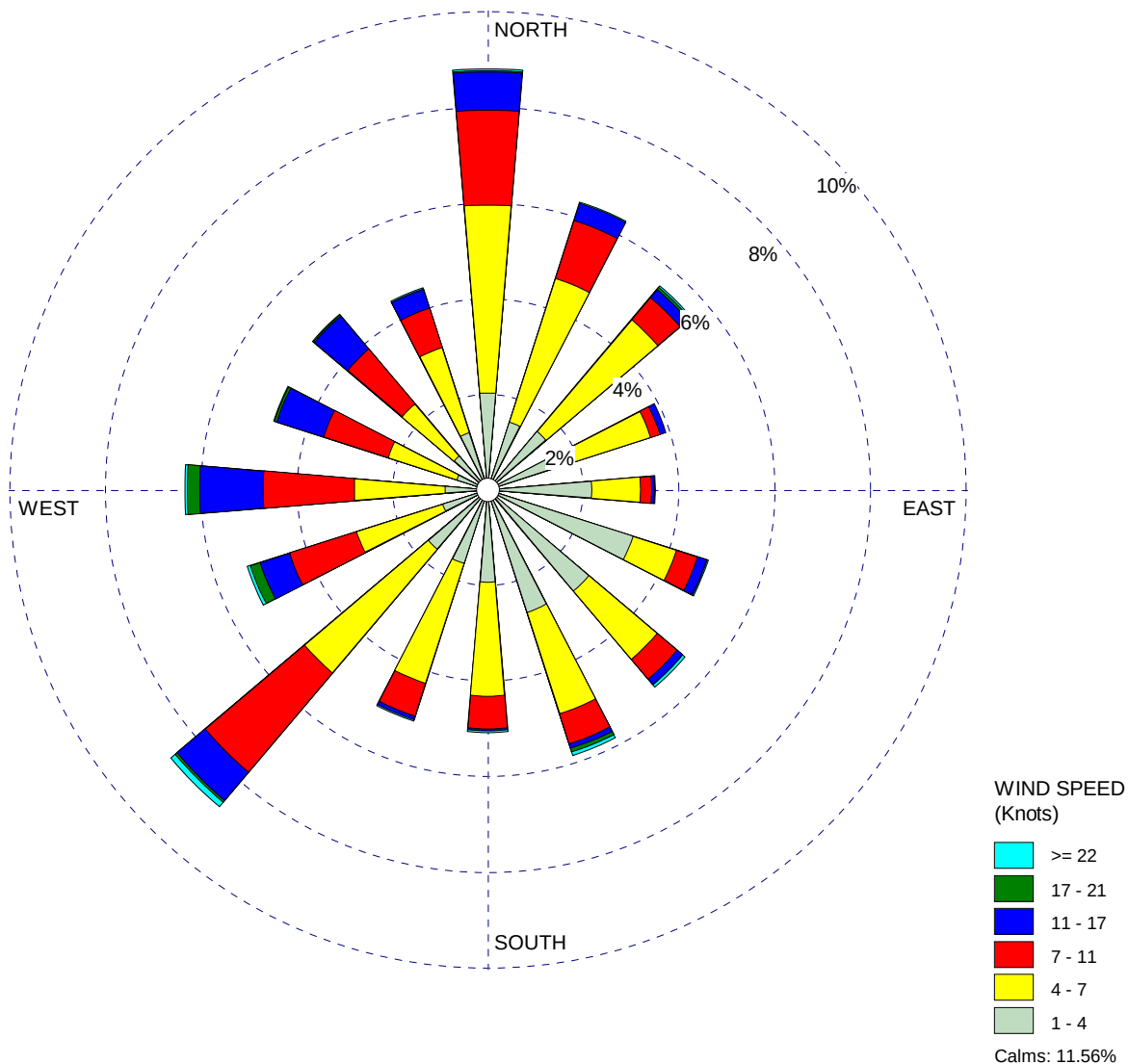
3/17/2010



PROJECT NO.:

WIND ROSE PLOT:
Wind Rose for 2006

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS:

DATA PERIOD:

2006
Jan 1 - Dec 31
00:00 - 23:00

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

CALM WINDS:

11.56%

TOTAL COUNT:

8519 hrs.

AVG. WIND SPEED:

5.53 Knots

DATE:

3/17/2010

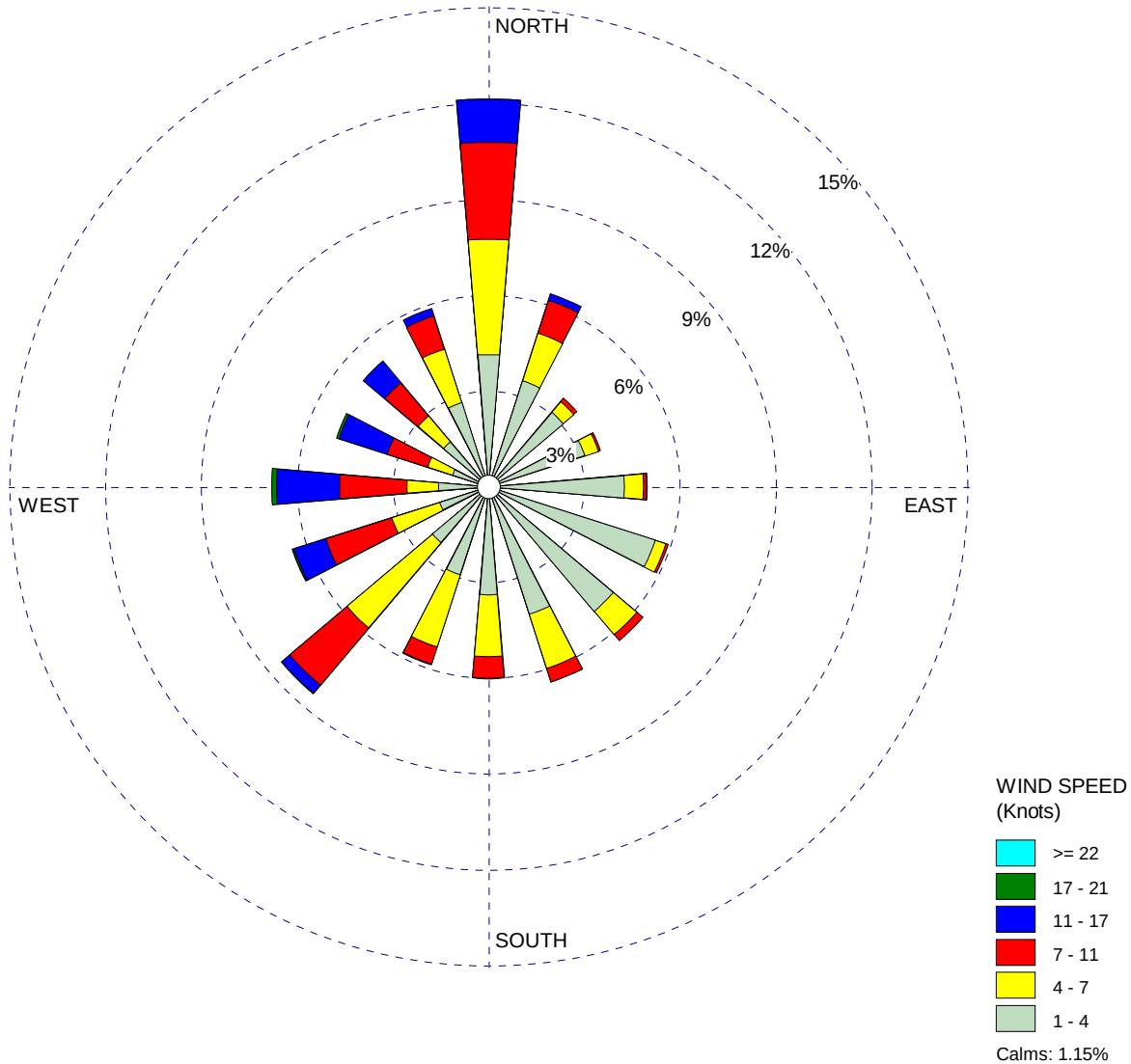
PROJECT NO.:



WIND ROSE PLOT:

Wind Rose for 2007

DISPLAY:

**Wind Speed
Direction (blowing from)**

COMMENTS:

DATA PERIOD:

2007
Jan 1 - Dec 31
00:00 - 23:00

CALM WINDS:

1.15%

AVG. WIND SPEED:

5.02 Knots

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

TOTAL COUNT:

8488 hrs.

DATE:

3/17/2010

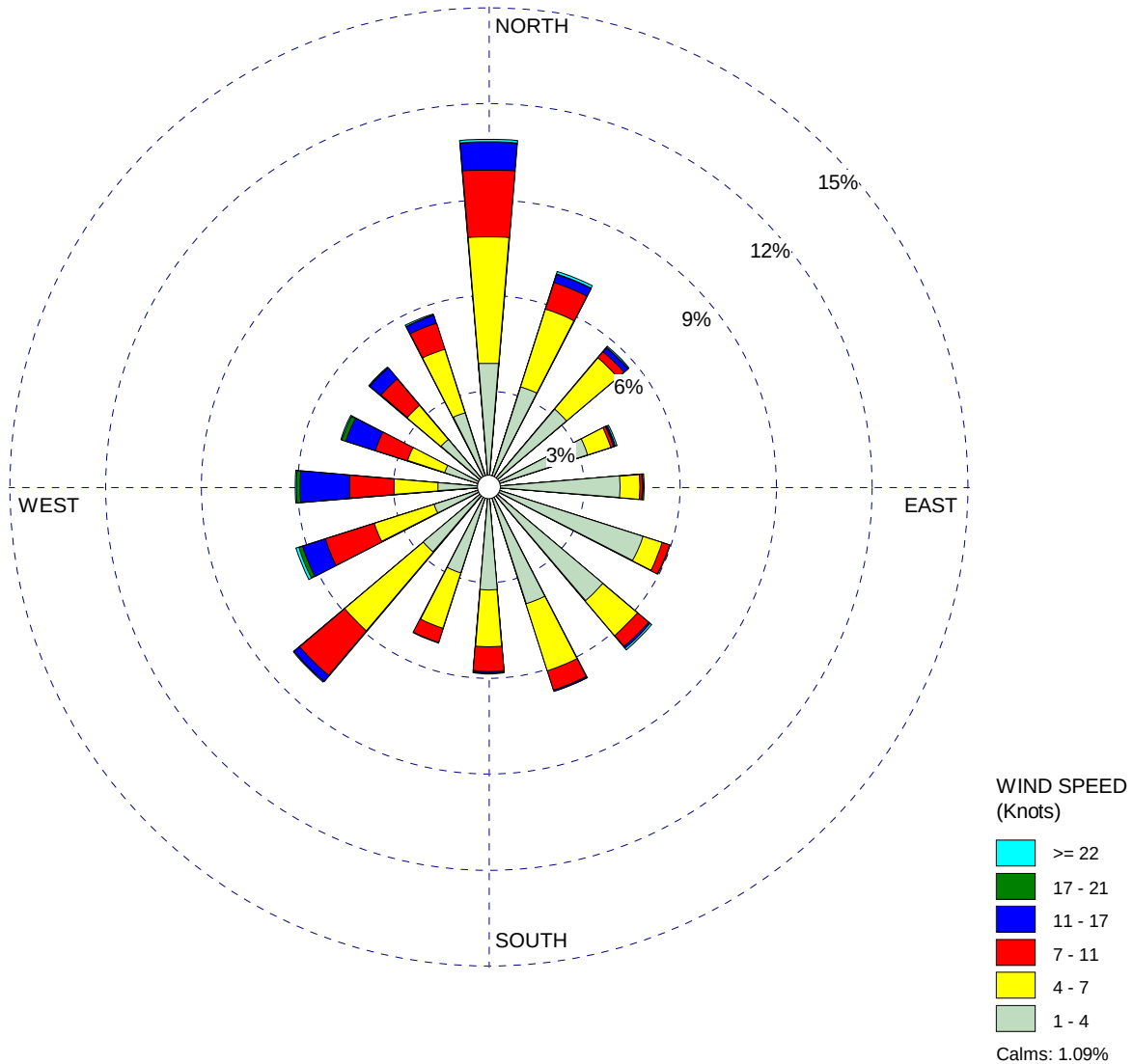
PROJECT NO.:

WIND ROSE PLOT:

Wind Rose for 2008

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

DATA PERIOD:

2008
Jan 1 - Dec 31
00:00 - 23:00

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

CALM WINDS:

1.09%

TOTAL COUNT:

8416 hrs.

AVG. WIND SPEED:

4.95 Knots

DATE:

3/17/2010

PROJECT NO.:

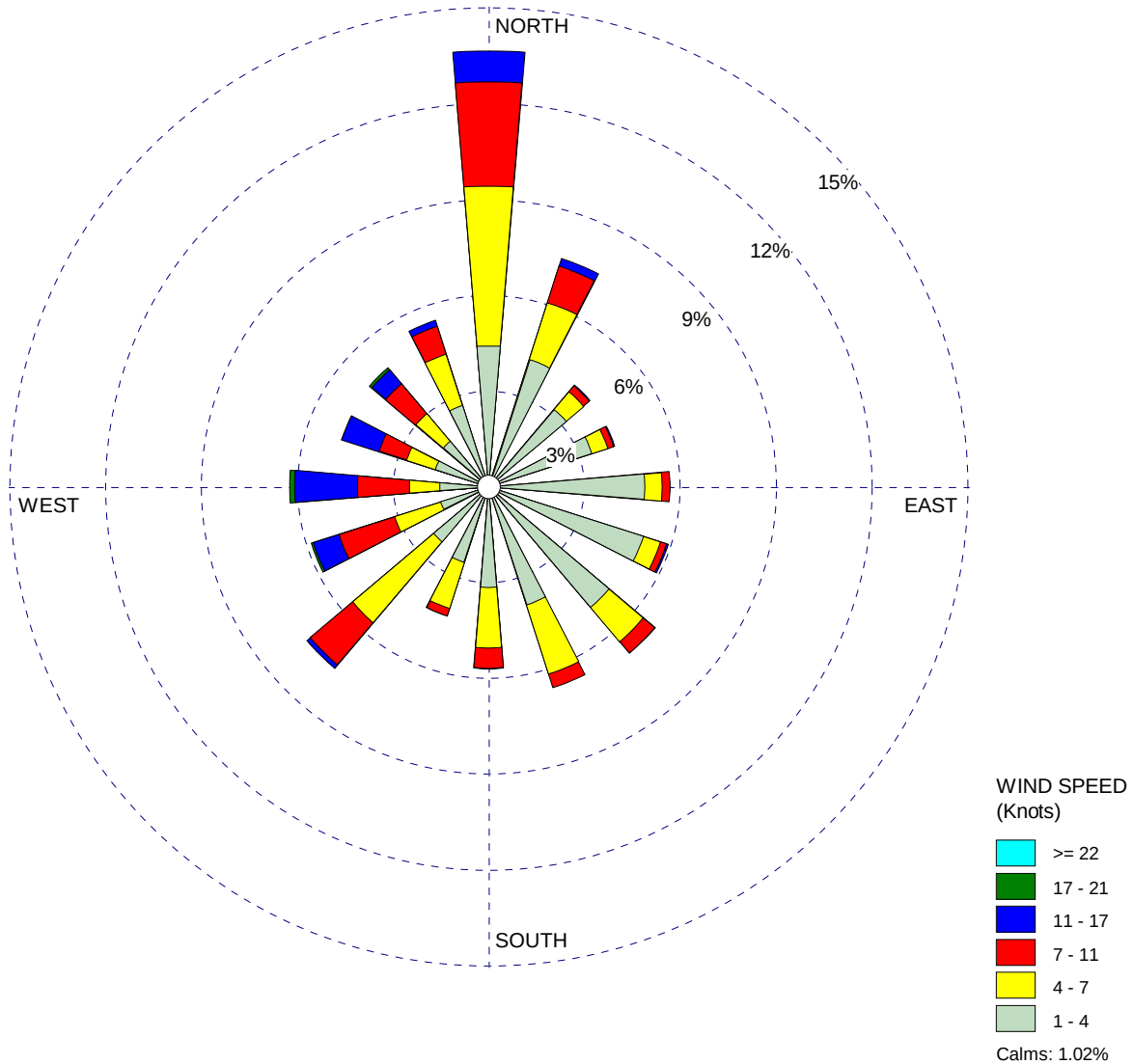


WIND ROSE PLOT:

Wind Rose for 2009

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

DATA PERIOD:

2009
Jan 1 - Dec 31
00:00 - 23:00

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

CALM WINDS:

1.02%

TOTAL COUNT:

8436 hrs.

AVG. WIND SPEED:

4.86 Knots

DATE:

3/17/2010

PROJECT NO.:



CTG Modeling Results Using Local Surface Characteristics

		Design Cases												
	Units	Case 1A	Case 3	Case 6	Case 7	Case 9	Case 12	Case 19	Case 21	Case 24	Case 36/36A	Case 37	Case 39	
CTG Fuel Type	--	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	
Ambient Temperature	°F	105	59	-8	105	59	-8	105	59	-8	-8	105	59	
CTG Percent Load Rate	%	100%	100%	100%	100%	100%	100%	75%	75%	75%	50%	50%	50%	
Duct Burner Operation	--	Y	Y	Y	N	N	N	N	N	N	N	N	N	
NO _x	g/s	2.21	2.29	2.47	1.63	1.82	2.04	1.31	1.45	1.61	1.25	1.01	1.12	
CO	g/s	1.34	1.39	1.50	0.99	1.11	1.24	0.80	0.88	0.98	0.76	0.62	0.68	
VOC	g/s	0.78	0.69	0.69	0.28	0.32	0.35	0.23	0.25	0.28	0.22	0.18	0.19	
SO ₂	g/s	0.46	0.47	0.50	0.34	0.38	0.42	0.28	0.31	0.33	0.26	0.20	0.22	
Total PM-10	g/s	2.012	1.866	1.945	1.26	1.26	1.39	1.26	1.26	1.26	1.01	1.01	1.01	
THREE TURBINES														
Maximum Predicted	2005													
Concentration	1-hr	9.08639	9.09222	8.08584	9.48278	9.08165	8.15536	10.90401	10.70403	10.00088	11.03896	11.42354	11.24165	
at 1.0 g/s	3-hr	4.57092	4.53426	4.03776	4.75712	4.53204	4.07272	5.49753	5.36868	4.99919	5.56513	5.77581	5.67486	
per turbine	8-hr	2.39225	2.38187	2.1672	2.46991	2.3806	2.1825	2.80104	2.56582	2.56582	2.8644	3.08605	2.97379	
	24-hr	0.84166	0.83819	0.76662	0.86721	0.83777	0.77176	1.00455	0.97641	0.89866	1.01956	1.09641	1.04959	
	annual	0.05448	0.05393	0.04752	0.05703	0.0539	0.04796	0.06946	0.06693	0.06057	0.07083	0.07671	0.07328	
2006														
	1-hr	9.04813	8.89341	8.04662	9.42871	8.89445	8.06945	11.11533	10.76659	9.92499	11.27172	11.80958	11.54681	
	3-hr	4.58665	4.47262	3.8816	4.82076	4.47466	3.92255	5.94757	5.69005	5.13332	6.06013	6.48669	6.27143	
	8-hr	2.53793	2.5253	2.38228	2.69293	2.52201	2.39333	3.41489	3.2867	2.9169	3.49763	3.78159	3.63717	
	24-hr	0.87635	0.86511	0.74762	0.92324	0.86472	0.75562	1.13654	1.09355	0.98723	1.15943	1.24117	1.19981	
	annual	0.05486	0.05412	0.04681	0.05786	0.0541	0.0473	0.07219	0.06921	0.06203	0.07378	0.07968	0.07666	
2007														
	1-hr	9.20419	9.16842	8.17349	9.58296	9.16119	8.24329	11.01621	10.80365	10.10616	11.13805	11.57583	11.32671	
	3-hr	4.33602	4.21371	3.60905	4.56769	4.2164	3.64989	5.73885	5.45758	4.88013	5.86297	6.34955	6.10164	
	8-hr	2.03466	1.98526	1.69797	2.15162	1.98582	1.71743	2.74248	2.60418	2.31197	2.80698	3.05678	2.92886	
	24-hr	1.00197	0.99233	0.8454	1.06616	0.99143	0.85505	1.37657	1.31514	1.15761	1.4129	1.54567	1.47721	
	annual	0.08613	0.08463	0.07289	0.09093	0.08462	0.07368	0.11479	0.10956	0.09764	0.11746	0.12761	0.12239	
2008														
	1-hr	9.88322	9.86205	8.89781	10.24606	9.85414	8.96563	11.50593	11.32857	10.70897	11.60991	11.89967	11.76571	
	3-hr	4.79464	4.77047	4.20258	5.02388	4.7664	4.24115	5.98811	5.81789	5.33521	6.08901	6.43886	6.26069	
	8-hr	3.76307	3.73309	3.26153	3.95421	3.73041	3.29348	4.79316	4.6363	4.21599	4.88245	5.19787	5.03723	
	24-hr	1.53585	1.51889	1.31785	1.61769	1.51804	1.33141	1.99364	1.91806b	1.73038	2.03475	2.18459	2.1079	
	annual	0.09145	0.08979	0.07739	0.09649	0.08978	0.07823	0.12149	0.11595	0.10348	0.12426	0.13485	0.1294	
2009														
	1-hr	9.44201	9.3302	8.30794	9.81426	9.3284	8.38073	11.28272	11.01708	10.29253	11.41615	11.837	11.63697	
	3-hr	5.01552	4.90899	4.29074	5.25166	4.91052	4.33392	6.36879	6.12081	5.56864	6.47915	6.89533	6.68647	
	8-hr	2.30257	2.24679	1.94518	2.41869	2.24773	1.96619	2.97535	2.84887	2.57374	3.0309	3.3045	3.13481	
	24-hr	1.07728	1.04609	0.89851	1.13479	1.04681	0.9087	1.43329	1.35987	1.21308	1.4644	1.58864	1.52506	
	annual	0.10995	0.10728	0.09218	0.11601	0.10731	0.0932	0.14754	0.14	0.12439	0.15103	0.16492	0.15775	
Max over all years at unit emission rate	1-hr	9.88322	9.86205	8.89781	10.24606	9.85414	8.96563	11.50593	11.32857	10.70897	11.60991	11.89967	11.76571	
	3-hr	5.01552	4.90899	4.29074	5.25166	4.91052	4.33392	6.36879	6.12081	5.56864	6.47915	6.89533	6.68647	
	8-hr	3.76307	3.73309	3.26153	3.95421	3.73041	3.29348	4.79316	4.6363	4.21599	4.88245	5.19787	5.03723	
	24-hr	1.53585	1.51889	1.31785	1.61769	1.51804	1.33141	1.99364	1.35987	1.73038	2.03475	2.18459	2.1079	
	annual	0.10995	0.10728	0.09388	0.11601	0.10731	0.0932	0.14754	0.14	0.12439	0.15103	0.16492	0.15775	
Max Impact														
NOx	annual	0.24	0.25	0.23	0.19	0.20	0.19	0.19	0.20	0.20	0.19	0.17	0.18	0.25
	1-hr	21.80	22.56	21.97	16.73	17.97	18.28	15.12	16.42	17.26	14.51	12.03	13.19	22.56
CO	1-hr	13.26	13.73	13.37	10.18	10.94	11.13	9.21	10.00	10.50	8.83	7.32	8.03	13.73
	8-hr	5.05	5.20	4.90	3.93	4.14	4.09	3.84	4.09	4.14	3.71	3.20	3.44	5.20
SO2	3-hr	2.28	2.33	2.16	1.81	1.89	1.83	1.76	1.87	1.85	1.66	1.38	1.50	2.33
	24-hr	0.70	0.72	0.66	0.56	0.58	0.56	0.55	0.41	0.57	0.52	0.44	0.47	0.72
	annual	0.050	0.051	0.047	0.040	0.041	0.039	0.041	0.043	0.041	0.039	0.033	0.035	0.051
PM-10	24-hr	3.09	2.83	2.56	2.04	1.91	1.85	2.51	1.71	2.18	2.05	2.20	2.12	3.09
	annual	0.22	0.20	0.18	0.15	0.14	0.13	0.19	0.18	0.16	0.15	0.17	0.16	0.22
ONE TURBINE														
Maximum Predicted	2005													
Concentration	1-hr	5.96178	5.97357	5.48917										
at 1.0 g/s	3-hr	2.90004	2.89167	2.76828										
	8-hr	1.45024	1.44606	1.37328										
	24-hr	0.63271	0.629	0.59496										
	annual	0.05057	0.0502	0.0461										
2006														
	1-hr	5.92222	5.91137	5.40774										
	3-hr	3.50544	3.50392	3.24462										
	8-hr	1.83868	1.83435	1.74547										
	24-hr	0.6921	0.6865	0.62872										
	annual	0.05209	0.05157	0.04682										
2007														
	1-hr	5.94807	5.94442	5.43659										
	3-hr	4.5332	4.48156	4.09056										
	8-hr	2.1912	2.14008	1.90705										
	24-hr	0.92428	0.90822	0.85691										
	annual	0.07932	0.07842	0.07164										
2008														
	1-hr	5.85867	5.84117	5.33872										
	3-hr	3.59016	3.50842	3.08928										
	8-hr	2.5492	2.53601	2.35331										
	24-hr	1.12758b	1.11778	1.03398										
	annual	0.0785	0.0776	0.07102										
2009														
	1-hr	5.91839	5.83509	5.32707										
	3-hr	3.62844	3.57962	3.31076										
	8-hr	2.3658	2.32862	2.13559										
	24-hr	0.92444	0.92111	0.85306										
	annual	0.10339	0.10188	0.09388										

Calculations for Auxiliary Boiler Impacts

Normalized for 1 g/s emission rate

		Aux				
		1-Hour Max	3-Hour Max	8-hr MAX	MAX 24	Annual
2005D		48.34066	17.46468	9.76803c	3.25771c	0.22022
2005P		84.02501	45.2501	25.43337c	8.48233c	0.78566
2006D		61.00609	38.64033	27.60436c	9.77010b	0.30016
2006P		85.87153	60.22041	40.15401c	14.93545b	0.85287
2007D		64.23102	46.44248	29.608	11.59626	0.91751
2007P		88.04297	69.37486	45.57003	18.2001	1.93474
2008D		63.88283	49.69494	27.57398m	11.21068	0.96717
2008P		90.04661	68.14482	39.28721	18.37369	1.88414
2009D		64.35974	37.72824	28.09466c	11.10070b	1.09319
2009P		88.86816	63.51377	41.38118c	18.25267m	1.88481

Emission Rates

		Q (g/s)	Max	90.04661	69.37486	45.57003	18.37369	1.93474
NOx		0.22						
	NOx		1-hr	19.81				
CO		0.23	annual	0.22				
	CO		1-hr	20.71				
PM		0.03	8-hr	10.48				
	PM		24-hr	0.55				
SO2		0.01	annual	0.03				
	SO2		3-hr	0.69				
			24-hr	0.18				
			annual	0.01				

**CTG Modeling Results with Poughkeepsie
Site Surface Characteristics**

	Units	Design Cases											
		Case 1A	Case 3	Case 6	Case 7	Case 9	Case 12	Case 19	Case 21	Case 24	Case 36/36A	Case 37	Case 39
CTG Fuel Type	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas	Gas
Ambient Temperature	°F	105	59	-8	105	59	-8	105	59	-8	-8	105	59
CTG Percent Load Rate	%	100%	100%	100%	100%	100%	100%	75%	75%	75%	50%	50%	50%
Duct Burner Operation	--	Y	Y	Y	N	N	N	N	N	N	N	N	N
NO _x	g/s	2.21	2.29	2.47	1.63	1.82	2.04	1.31	1.45	1.61	1.25	1.01	1.12
CO	g/s	1.34	1.39	1.50	0.99	1.11	1.24	0.80	0.88	0.98	0.76	0.62	0.68
VOC	g/s	0.78	0.69	0.69	0.28	0.32	0.35	0.23	0.25	0.28	0.22	0.18	0.19
SO ₂	g/s	0.46	0.47	0.50	0.34	0.38	0.42	0.28	0.31	0.33	0.26	0.20	0.22
Total PM-10	g/s	2.012	1.866	1.945	1.26	1.26	1.39	1.26	1.26	1.26	1.01	1.01	1.01

THREE TURBINES	2005												
Maximum Predicted	1-hr	13.13535	13.15475	12.44234	13.36621	13.14764	12.50023	15.2406	14.84625	13.78043	15.5821	16.64678	16.10955
Concentration	3-hr	7.44605	7.46545	6.70313	7.73971	7.45651	6.75664	8.97876	8.81027	8.18521	9.09795	9.44584	9.27798
at 1.0 g/s	8-hr	4.16337	4.1764	3.71562	4.34559	4.17081	3.74749	4.97301	4.89266	4.58255	5.02875	5.21066	5.11086
per turbine	24-hr	1.75397	1.76041	1.55592	1.83778	1.75783	1.56986	2.14043	2.10005	1.94905	2.16937	2.25585	2.21314
	annual	0.11314	0.11245	0.09841	0.11903	0.11235	0.09935	0.14491	0.14018	0.12177	0.14772	0.1575	0.15255
	2006												
	1-hr	12.62695	12.52404	11.63117	12.89935	12.52361	11.69975	14.68573	14.1684	13.21141	15.03964	16.23313	15.6266
	3-hr	7.62936	7.53897	6.73466	7.92654	7.53767	6.79169	9.84074	9.34826	8.31425	10.07348	10.9604	10.50789
	8-hr	4.21086	4.17654	3.87874	4.30173	4.17639	3.90161	4.93395	4.73868	4.40009	5.07582	5.5587	5.3112
	24-hr	1.27359	1.2585	1.12426	1.3232	1.25828	1.13378	1.65619	1.57999	1.40442	1.69829	1.85448	1.77421
	annual	0.10238	0.10135	0.08762	0.10807	0.10128	0.08853	0.13465	0.1294	0.11603	0.13763	0.14844	0.14291
	2007												
	1-hr	12.71848	12.83926	11.98572	13.28735	12.81621	12.03296	15.0904	14.9064	14.02204	15.26882	15.80812	15.80812
	3-hr	5.85367	5.7766	5.14471	6.08746	5.776	5.18943	7.8623	7.53537	6.60245	8.0812	8.84754	8.84754
	8-hr	2.99649	2.93234	2.48562	3.18357	2.93225	2.51544	4.14193	3.92504	3.44701	4.2502	4.67485	4.67485
	24-hr	1.47406	1.4667	1.25787	1.56948	1.46488	1.27042	2.0534	1.96243	1.71503	2.1126	2.32526	2.32526
	annual	0.1557	0.15367	0.13205	0.16482	0.15359	0.13348	0.20963	0.20027	0.1777	0.21482	0.23425	0.23425
	2008												
	1-hr	12.72917	12.77496	11.76791	13.12823	12.76147	8.96563	14.45019	14.08861	13.60924	14.72977	15.58863	15.16224
	3-hr	6.10536	6.10554	5.52807	6.32486	6.09983	4.24115	7.61867	7.34497	6.60401	7.80148	8.42955	8.10889
	8-hr	4.68479	4.66598	3.97331	4.98271	4.65993	3.29348	6.34784	6.09984	5.4061	6.50643	7.06189	6.7776
	24-hr	1.93476	1.92052	1.62872	2.06018	1.91842	1.33141	2.65248	2.53858	2.23855	2.72208	2.97328	2.84417
	annual	0.16478	0.16252	0.14003	0.1742	0.16244	0.07823	0.22071	0.21085	0.18748	0.22607	0.24622	0.23583
	2009												
	1-hr	12.98038	12.94372	12.15013	13.20146	12.93987	12.2113	15.01243	14.65358	13.56963	15.21636	16.52828	15.85848
	3-hr	6.79273	6.65632	5.74069	7.15222	6.65684	5.80327	8.90386	8.51912	7.64574	9.08762	9.77821	9.42634
	8-hr	3.00317	2.90877	2.67021	3.20078	2.91048	2.68726	4.29522	4.02086	3.4792	4.42024	4.93496	4.66692
	24-hr	1.26859	1.27581	1.06731	1.36407	1.27295	1.08044	1.81607	1.74238	1.50815	1.87346	2.07257	1.96934
	annual	0.17166	0.16857	0.14532	0.18127	0.16855	0.14687	0.23003	0.21911	0.19475	0.23558	0.25697	0.24592
Max over all years at unit emission rate	1-hr	13.13535	13.15475	12.44234	13.36621	13.14764	12.50023	15.2406	14.9064	14.02204	15.5821	16.64678	16.10955
	3-hr	7.62936	7.53897	6.73466	7.92654	7.53767	6.79169	9.84074	9.34826	8.31425	10.07348	10.9604	10.50789
	8-hr	4.68479	4.66598	3.97331	4.98271	4.65993	3.90161	6.34784	6.09984	5.4061	6.50643	7.06189	6.7776
	24-hr	1.93476	1.92052	1.6463	2.06018	1.91842	1.56986	2.65248	2.53858	2.23855	2.72208	2.97328	2.84417
	annual	0.17166	0.16857	0.1472	0.18127	0.16855	0.14815	0.23003	0.21911	0.19475	0.23558	0.25697	0.24592
Max Impact													
NO _x	annual	0.38	0.39	0.36	0.30	0.31	0.30	0.30	0.32	0.31	0.29	0.26	0.28
	1-hr	28.98	30.09	30.73	21.82	23.98	25.49	20.02	21.61	22.60	19.47	16.83	18.06
CO	1-hr	17.63	18.31	18.70	13.28	14.60	15.51	12.21	13.15	13.75	11.85	10.24	10.99
	8-hr	6.29	6.49	5.97	4.95	5.17	4.84	5.08	5.38	5.30	4.95	4.35	4.62
SO ₂	3-hr	3.47	3.57	3.40	2.73	2.90	2.86	2.72	2.85	2.76	2.58	2.19	2.36
	24-hr	0.88	0.91	0.83	0.71	0.74	0.66	0.73	0.77	0.74	0.70	0.59	0.64
	annual	0.078	0.080	0.074	0.062	0.065	0.062	0.064	0.067	0.065	0.060	0.051	0.055
PM-2.5	24-hr	3.89	3.58	3.20	2.60	2.42	2.18	3.34	3.20	2.82	2.74	3.00	2.87
	annual	0.35	0.31	0.29	0.23	0.21	0.21	0.29	0.28	0.25	0.24	0.26	0.25
for soils & veg													
NO ₂	1-hr	5.98	6.24	6.28	4.60	5.06	5.27	4.21	4.55	4.65	4.00	3.33	3.62
	3-hr	16.82947	17.246157	16.63177	12.942648	13.74907	13.847507	12.929301	13.549865	13.398945	12.586732	11.08053	11.779235
	8-hr	10.334095	10.673901	9.8123998	8.1358904	8.4999351	7.9549526	8.3401385	8.8414326	8.7122752	8.129732	7.1392909	7.5976191
	24-hr	4.2678528	4.3933838	4.0656666	3.3639121	3.4992898	3.2007714	3.4849729	3.6795529	3.6075662	3.4012171	3.0058682	3.188285
ONE TURBINE	2005												
Maximum Predicted	1-hr	8.56064	8.59318	8.06252	8.75369	8.58571	8.09831	9.75371	9.51347	8.95655	9.89272	10.34708	10.12261
Concentration	3-hr	5.02811	5.05632	4.64407	5.19611	5.03439	4.66783	5.69899	5.64387	5.40248	5.73349	5.80976	5.7785
at 1.0 g/s	8-hr	2.78247	2.79015	2.51389	2.88767	2.78689	2.53314	3.22807	3.18729	3.02104	3.25544	3.32605	3.29406
	24-hr	1.1831	1.18701	1.06423	1.2328	1.18546	1.06914	1.40454	1.3828	1.29833	1.41982	1.46255	1.44232
	annual	0.09339	0.0929	0.08538	0.09611	0.09287	0.08593	0.10775	0.10485	0.09951	0.10938	0.11493	0.11215
	2006												
	1-hr	8.28124	8.2109	7.5847	8.50534	8.20979	7.61135	9.32598	9.14709	8.77052	9.43994	9.77322	9.61414
	3-hr	5.75605	5.72523	5.51566	5.81663	5.72548	5.53076	6.44944	6.13577	5.86317	6.58675	7.10412	6.84131
	8-hr	3.22961	3.23064	3.04427	3.2858	3.22901	3.05897	3.71018	3.61577	3.33655	3.77624	3.98924	3.88069
	24-hr	1.15776c	1.15057	1.06054	1.20284	1.15025	1.06717	1.39569	1.36137	1.26567	1.41347	1.47144	1.44317
	annual	0.09313	0.09243	0.08328	0.0966	0.09239	0.08392	0.11067	0.10811	0.10115	0.11201	0.11657	0.11431
	2007												
	1-hr	8.38266	8.31028	7.63352	8.59875	8.3095	7.68468	9.2522	9.16668	8.85164	9.28418	9.81063	9.81063
	3-hr	6.13838	6.05924	5.3696	6.38979	6.05831	5.41878	7.40131	7.21845	6.71844	7.48784	7.83843	7.83843
	8-hr	3.11964	3.04516	2.66612	3.25736	3.04683	2.693	3.91192	3.76198	3.43928	3.97552	4.21577	4.21577
	24-hr	1.52477	1.51992	1.3995	1.5673	1.51914	1.40824	1.79146	1.73726	1.61928	1.82465	1.93722	1.93722
	annual	0.153	0.15158	0.13699	0.1585	0.15154	0.13801	0.18141	0.17706	0.16571	0.18362	0.19269	0.19269
	2008												
	1-hr	8.52093	8.52134	7.83955	8.75701	8.515	5.37312	9.37475	9.31963	9.03147	9.43994	9.77322	9.61414
	3-hr	5.2558	5.14266	4.47688	5.50828	5.14421	3.11918	6.71567	6.43622	5.84968	6.8486	7.34279	7.09441
	8-hr	4.06308	4.04567	3.64493	4.23243	4.04258	2.36678	4.90154	4.78928	4.45639	4.96654	5.17749	5.07346
	24-hr	1.79896	1.78504	1.6463	1.88191	1.78393	1.0374	2.2308	2.16679	1.99297	2.2659	2.38558	2.32584
	annual	0.14944	0.14803	0.13639	0.1551	0.14799	0.0713	0.17884	0.17424	0.16253	0.18117	0.19043	0.18565
	2009												
	1-hr	8.16806	8.19609	7.98313	8.40454	8.18784	7.99019	9.09069					

Combustion Turbines Plus Black Start Generators

- 1) FIRST THREE CASES ARE CONTROLLING (omit cases with partial load or no DB)
 2) Three-turbine scenarios are controlling (omit single-turbine)
 3) Uses meteorological data with Poughkeepsie site surface characteristics.

		Design Cases			BS Gen	Design Cases			1-hr RATIO (1 BSG/3 turbine)	scale for averaging time (BSG runs for 2 hours)	Annual 3 BSG @ 500 hr			
	Units	Case 1A	Case 3	Case 6		Case 1A	Case 3	Case 6						
CTG Fuel Type	--	Gas	Gas	Gas		Gas	Gas	Gas						
Ambient Temperature	°F	105	59	-8		59	-8	105						
CTG Percent Load Rate	%	100%	100%	100%		100%	100%	75%						
Duct Burner Operation	--	Y	Y	Y	Y	Y	Y							
	NO _x	g/s	2.21	2.29	2.47	2.59	0.39	0.38	0.35	1	0.667	0.25	0.083	0.1712
	CO	g/s	1.34	1.39	1.50	3.16	0.79	0.76	0.70	1	0.667	0.25	0.083	0.1712
	VOC	g/s	0.78	0.69	0.69									
	SO ₂	g/s	0.46	0.47	0.50	0.006	0.004	0.004	0.004	1	0.667	0.25	0.083	0.1712
	Total PM-10	g/s	2.012	1.866	1.945	0.18	0.03	0.03	0.03	1	0.667	0.25	0.083	0.1712
THREE TURBINES	2005													
Maximum Predicted	1-hr		13.13535	13.15475	12.44234									
Concentration	3-hr		7.44605	7.46545	6.70313									
at 1.0 g/s	8-hr		4.16337	4.1764	3.71562									
per turbine	24-hr		1.75397	1.76041	1.55592									
	annual		0.11314	0.11245	0.09841									
	2006													
	1-hr		12.62695	12.52404	11.63117									
	3-hr		7.62936	7.53897	6.73466									
	8-hr		4.21086	4.17654	3.87874									
	24-hr		1.27359	1.2585	1.12426									
	annual		0.10238	0.10135	0.08762									
	2007													
	1-hr		12.71848	12.83926	11.98572									
	3-hr		5.85367	5.7766	5.14471									
	8-hr		2.99649	2.93234	2.48562									
	24-hr		1.47406	1.4667	1.25787									
	annual		0.1557	0.15367	0.13205									
	2008													
	1-hr		12.72917	12.77496	11.76791									
	3-hr		6.10536	6.10554	5.52807									
	8-hr		4.68479	4.66598	3.97331									
	24-hr		1.93476	1.92052	1.62872									
	annual		0.16478	0.16252	0.14003									
	2009													
	1-hr		12.98038	12.94372	12.15013									
	3-hr		6.79273	6.65632	5.74069									
	8-hr		3.00317	2.90877	2.67021									
	24-hr		1.26859	1.27581	1.06731									
	annual		0.17166	0.16857	0.14532									
Max over all years	1-hr		13.13535	13.15475	12.44234									
at unit emission rate	3-hr		7.62936	7.53897	6.73466									
	8-hr		4.68479	4.66598	3.97331									
	24-hr		1.93476	1.92052	1.62872									
	annual		0.17166	0.16857	0.14532									
Max Impact			Turbines alone				3 Turbines and 1 BSG				max			
NO _x	annual		0.38	0.39	0.36	0.40	0.41	0.38		0.41	annual	NO2		
	1-hr		28.98	30.09	30.73	40.31	41.45	41.47		41.47	1-hr	NO2		
CO	1-hr		17.63	18.31	18.70	31.46	32.17	31.80		32.17	1-hr	CO		
	8-hr		6.29	6.49	5.97	7.52	7.72	7.02		7.72	8-hr	CO		
SO2	3-hr		3.47	3.57	3.40	3.48	3.58	3.41		3.58	3-hr	SO2		
	24-hr		0.88	0.91	0.82	0.88	0.91	0.82		0.91	24-hr	SO2		
	annual		0.078	0.080	0.073	0.078	0.080	0.073		0.08	annual	SO2		
PM-2.5	24-hr		3.89	3.58	3.17	3.90	3.59	3.18		3.90	24-hr	PM2.5		
	annual		0.35	0.31	0.28	0.35	0.32	0.28		0.35	annual	PM2.5		
for soils & veg														
SO2	1-hr		5.98	6.24	6.28	6.01	6.26	6.30		6.30				
NO2	3-hr		16.83	17.25	16.63	21.22	21.58	20.51		21.58				
	8-hr		10.33	10.67	9.81	11.34	11.68	10.67		11.68				
	24-hr		4.27	4.39	4.02	4.41	4.53	4.14		4.53				

Calculations for Start Up and Shut Down Events

Maximum Predicted Incremental Impacts									
		Impact ug/m3		SIL ug/m3	SMC ug/m3	Emissions (g/s)			
		COLD	WARM				COLD	WARM	AUX
		START	START						
NOx	annual	n/a		1	14	NOx	6.3	5.8	0.22
	1-hr (4)	74.25	93.8	n/a	n/a	CO	78.8	58.1	0.23
CO	1-hr	1035.2	1025.1	2000	n/a	SO2	0.087	0.082	0.01
	8-hr	355.6	282.6	500	575	PM	1.5	1.5	0.03
SO2	3-hr	0.97	1.19	25	n/a	Combine Start plus Aux Boiler Emissions			
	24-hr	0.15	0.15	5	13				
	annual	n/a		1	n/a		COLD	WARM	
PM-2.5	24-hr	2.29	2.47	(1)	(2)		START	START	
	annual	n/a		(3)	n/a	NOx	6.52	6.02	
						CO	79.03	58.33	
	(1) pending (1.2 to 5 ug/m3)					SO2	0.097	0.092	
	(2) pending (2.3 to 10 ug/m3)					PM	1.53	1.53	
	(3) pending (0.3 to 1 ug/m3)								
	(4) 98th percentile daily max								
Cold Start plus Auxiliary Boiler - Normalized for 1 g/s emission rate:									
	2005	2006	2007	2008	2009	max			
COLD P									
max 1-hr	13.09917	11.62455	12.85186	12.08266	12.43599	13.09917			
H8H 1-hr	10.83225	11.05597	11.38876	11.37739	11.36318	11.38876			
max 3-hr	6.70654	8.75488	10.03501	9.56697	8.90544	10.03501			
max 4-hr	6.70654	8.65827	7.53382	8.54124	8.99786	8.99786			
Warm Start Plus Auxiliary Boiler - Normalized for 1 g/s emission rate									
	2005	2006	2007	2008	2009	max			
WARM P									
max 1-hr	16.64728	17.51402	17.57355	16.80444	17.34304	17.57355			
H8H 1-hr	14.25712	14.26177	15.58817	15.05485	15.53686	15.58817			
max 2-hr	14.7114	14.59115	14.12968	14.8093	15.82272	15.82272			
max 3-hr	9.72849	12.20597	11.69838	12.40936	12.91859	12.91859			

*Worst Case Scenario Aux Boiler vents into Stack 1 while Turbine Start vents into a different stack
Assumed that P meteorology was worse than D*

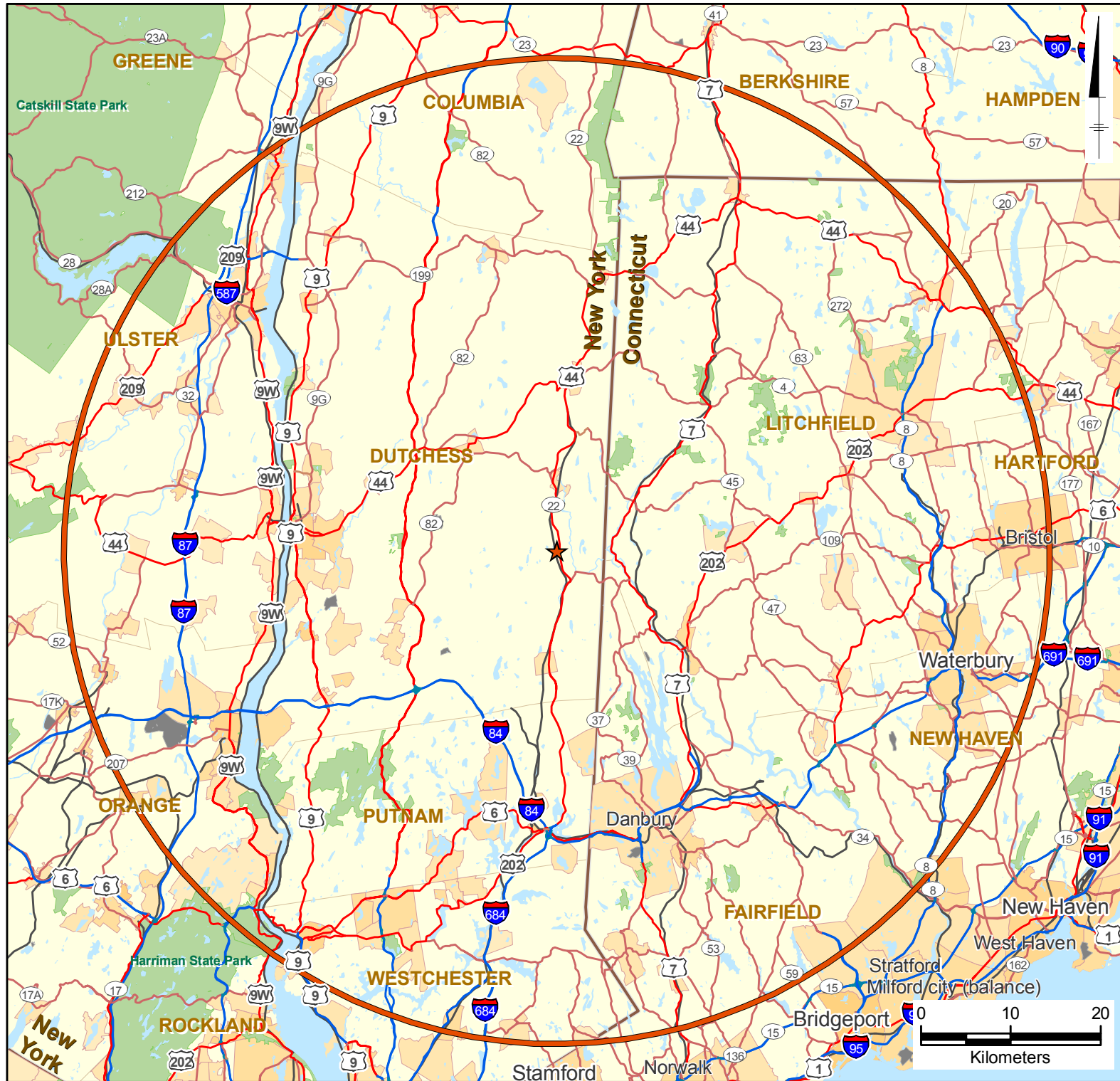
Calculations for Fire Pump

Emissions Fire Pump				Average Hourly Emission Rate*		Normalized for a 1 g/s emission rate		
(460 BHP)	g/hp-hr	g/s	(g/s)	Year	Fire Pump	50-ft stack		
NOx	2.6	0.33	0.19		1-Hour Max	3-Hour Max		annual
CO	0.53	0.068	0.04	2005D	189.36	107.67		4.38
PM	0.087	0.011	0.01	2005P	200.88	100.27		4.59
SO2		0.0006	0.00	2006D	214.50	129.26		4.45
fuel usage	20.3 gal/hr		11.84	2006P	397.47	178.17		4.83
				2007D	273.54	143.20		5.07
				2007P	449.79	257.65		6.39
				2008D	281.46	188.71		6.06
				2008P	454.98	292.61		7.51
				2009D	277.06	123.73		6.69
				2009P	453.42	208.15		6.83

*Based on 35 minutes of operation per hour.

Fire Pump		ug/m3					
IMPACT							
NOx	1-hr	88.2		Max	454.98	292.61	7.51
	annual	0.08	(500 hours)				
CO	1-hr	18.0					
	8-hr	4.33	(3 hrs)				
PM	24-hr	0.237	(3 hrs)				
	annual	0.003					
SO2	3-hr	0.10					
	24-hr	0.01	(3 hrs)				
	annual	0.0001					

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Legend

- ★ Cricket Valley Energy Center
N41.676168/W73.580618
- 55km Radius from CVEC
- Primary Limited Access or Interstate
- Primary US or State Highway
- Secondary State and County Highway
- Local or rural road
- Ramp, other
- Traffic Circle or Cul-de-sac
- Freeway ramp
- Ferry
- Railroads
- Airports
- National / State Parks

City Areas - Population Sq/Mi

- 0.00 - 500.00
- 500.01 - 2000.00
- 2000.01 - 4000.00
- 4000.01 - 8000.00
- 8000.01 - 7707406.44

State - Province Boundaries
County Boundaries
State - Province Areas

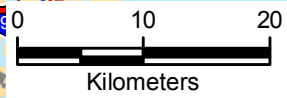
Base data courtesy of
ESRI Street Map Pro

ARCADIS

**CRICKET VALLEY
ENERGY CENTER**

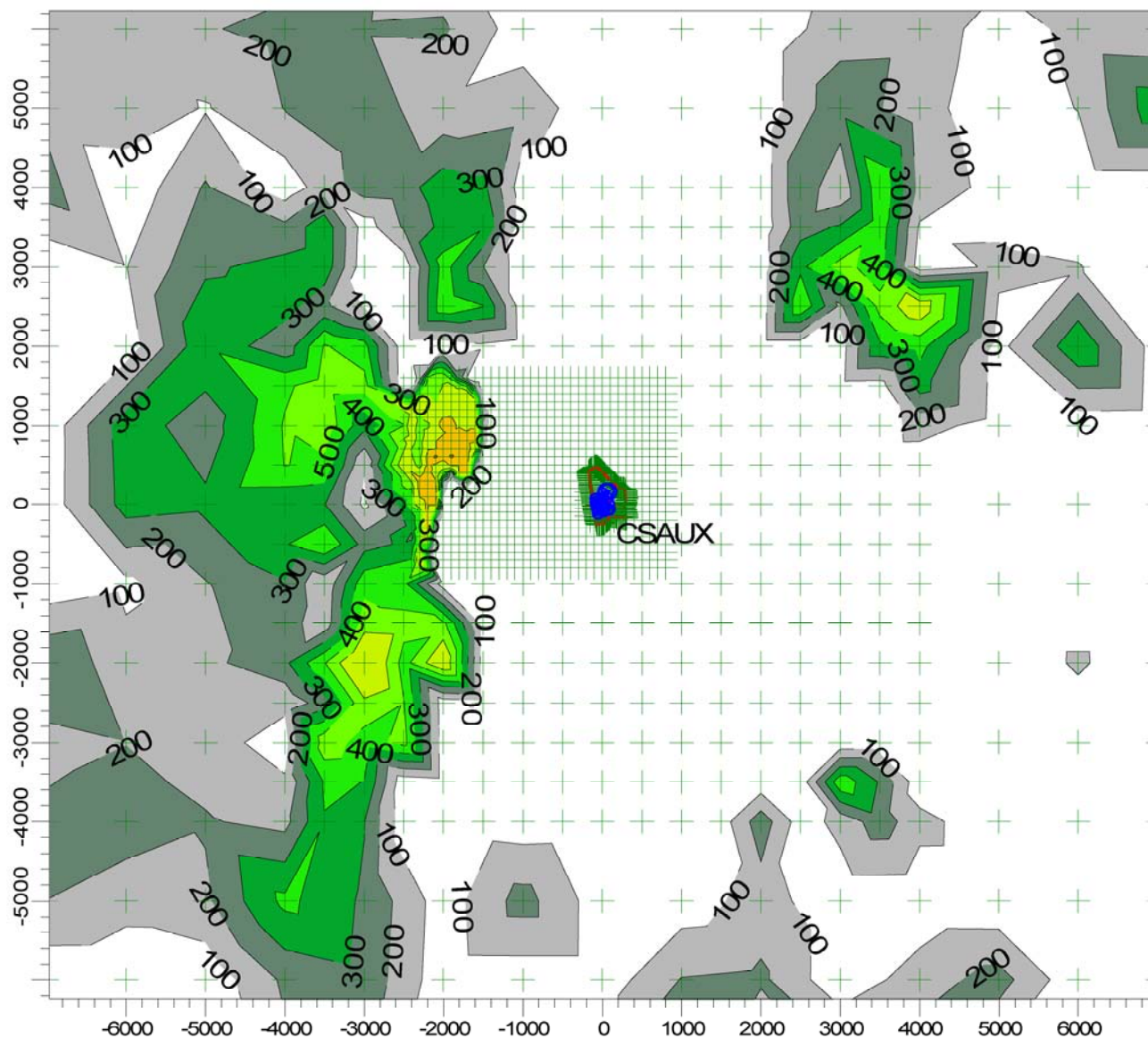
PROJECT LOCATION

Dutchess County, New York



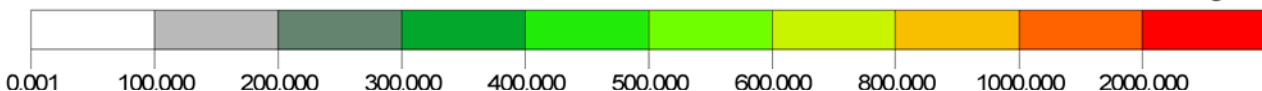
PROJECT TITLE:

Maximum CO 1-Hour Average Impact
Year: 2005



PLOT FILE OF HIGH 1ST HIGH 1-HR VALUES FOR SOURCE GROUP: CSAUX

ug/m³



COMMENTS:

Cold start scenario with auxiliary
boiler.
SIL = 2000 ug/m³

SOURCES:

1

RECEPTORS:

1507

OUTPUT TYPE:

Concentration

MAX:

1035.22756 ug/m³

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

SCALE:

1:85,000

0

3 km

DATE:

3/26/2010

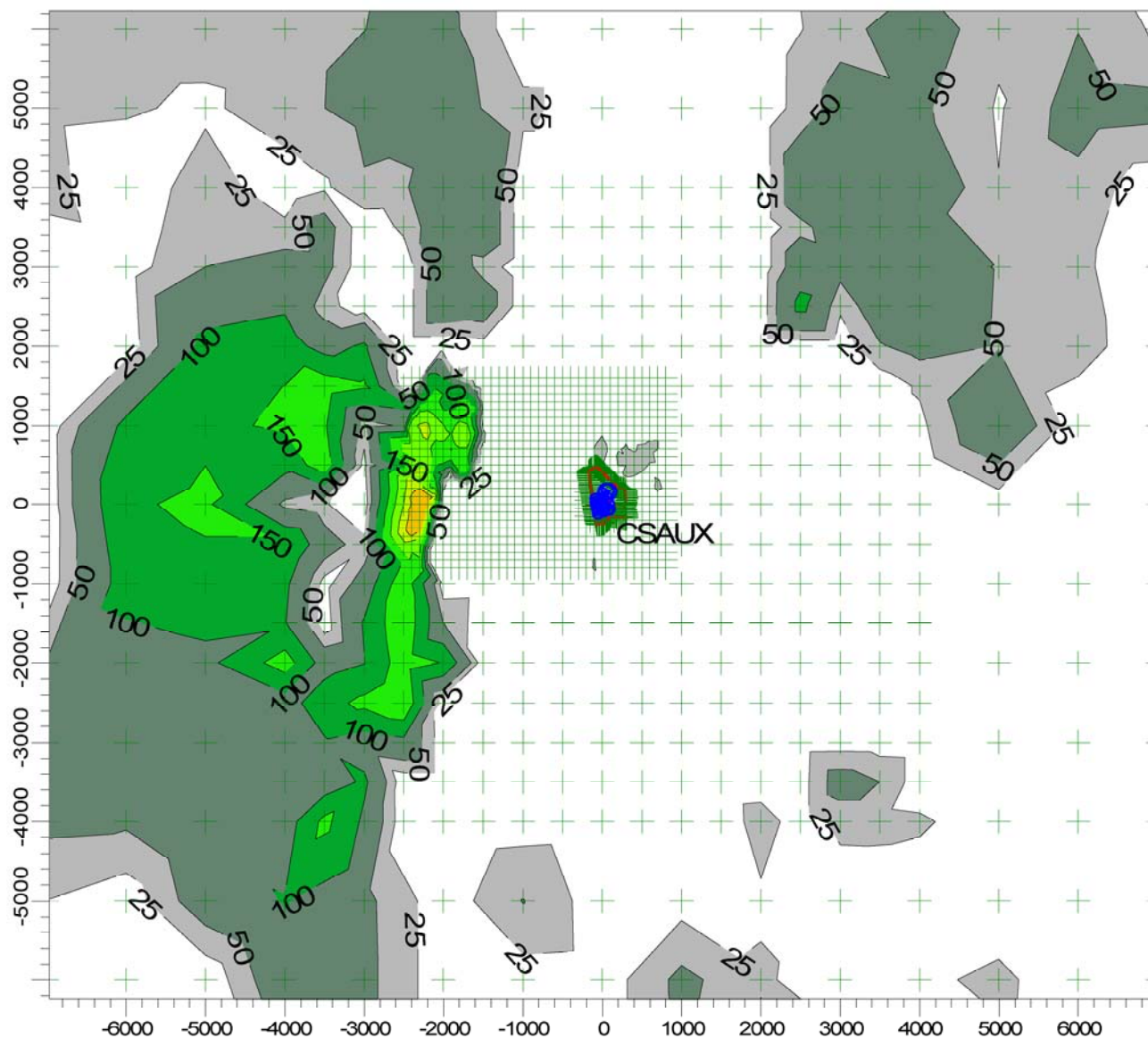
PROJECT NO.:



PROJECT TITLE:

Maximum CO 8-Hour Average Impact

Year: 2009



PLOT FILE OF HIGH 1ST HIGH 4HR VALUES FOR SOURCE GROUP: CSAUX

ug/m³



COMMENTS:

Cold start scenario with auxiliary boiler. A cold start up lasts for 4 hours. Therefore, the maximum 8-hour result is based on a 4-hour averaging modeled at 1/2 of the emission rate.

SIL = 500 ug/m³

SOURCES:

1

RECEPTORS:

1507

OUTPUT TYPE:

Concentration

MAX:

355.55052 ug/m³

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

SCALE:

1:85,000

0

3 km

DATE:

3/26/2010

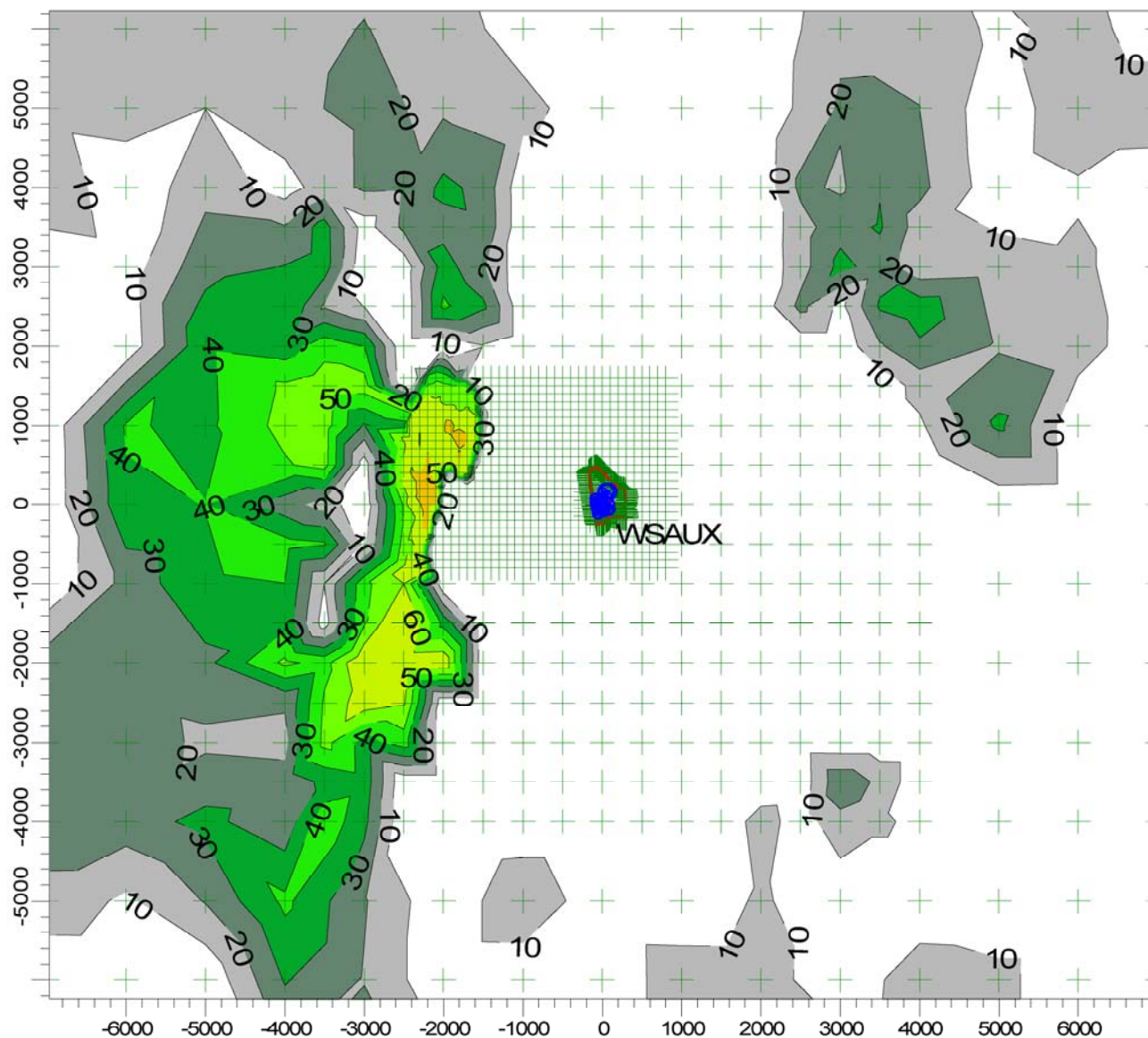
PROJECT NO.:



PROJECT TITLE:

NO2 1-Hour Average Impact (8th Highest)

Year: 2007



PLOT FILE OF HIGH 8TH HIGH 1-HR VALUES FOR SOURCE GROUP: WSAUX

ug/m³



COMMENTS:

Warm start scenario.
NAAQS = 189 ug/m³
(98th percentile)

SOURCES:

1

RECEPTORS:

1507

OUTPUT TYPE:

Concentration

MAX:

93.8408 ug/m³

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

SCALE:

1:85,000

0  3 km

DATE:

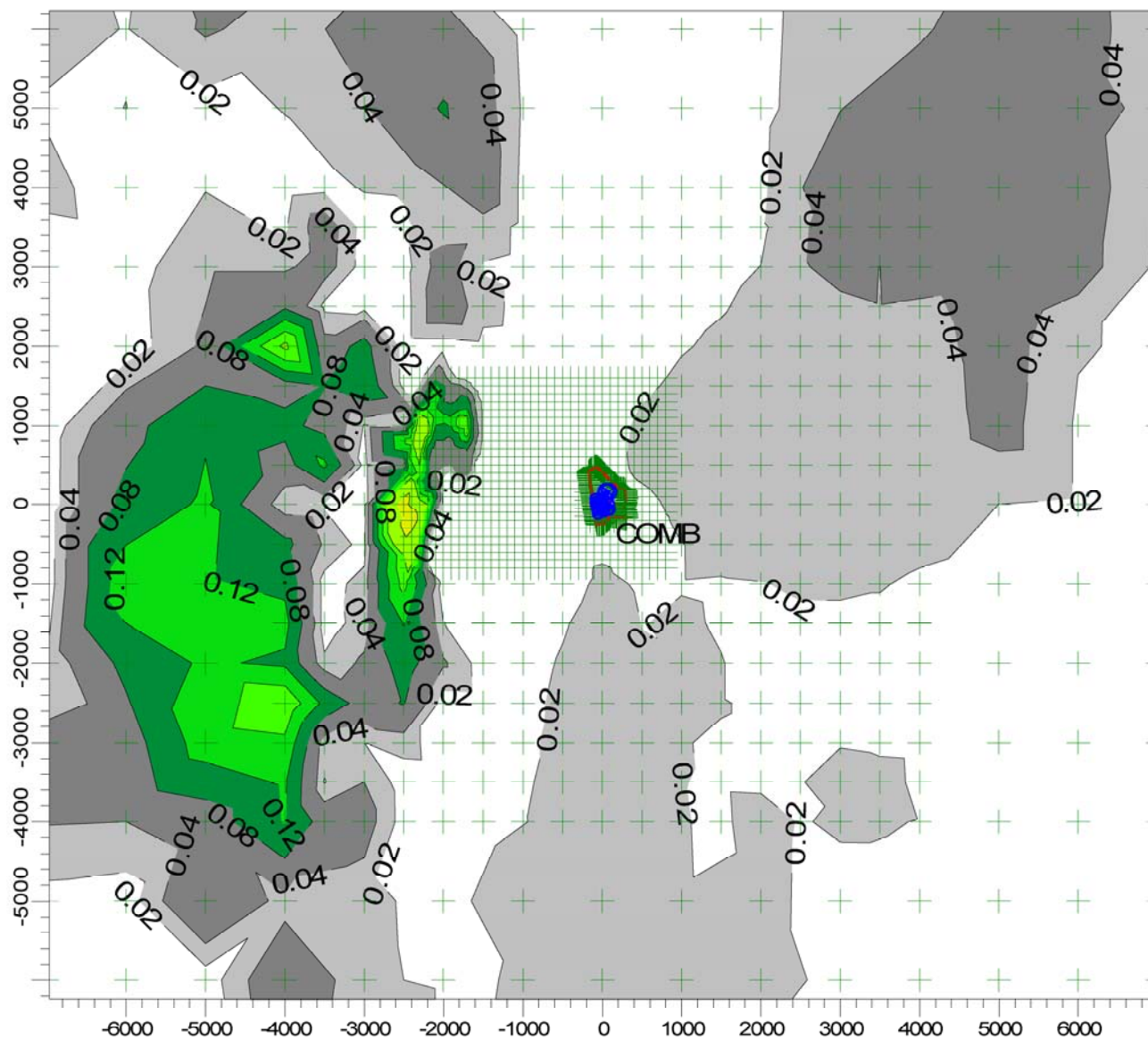
3/26/2010

PROJECT NO.:



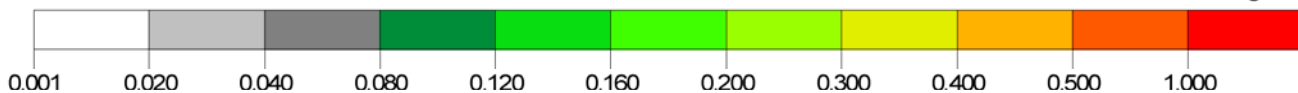
PROJECT TITLE:

**Maximum NO2 Annual Average Impact
Year: 2009**



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: COMB

ug/m³



COMMENTS:

100 percent load,
59 degrees F,
with Duct Burning.
SIL = 1.0 ug/m³

SOURCES:

1

RECEPTORS:

1507

OUTPUT TYPE:

Concentration

MAX:

0.38604 ug/m³

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

SCALE:

1:85,000

0

3 km

DATE:

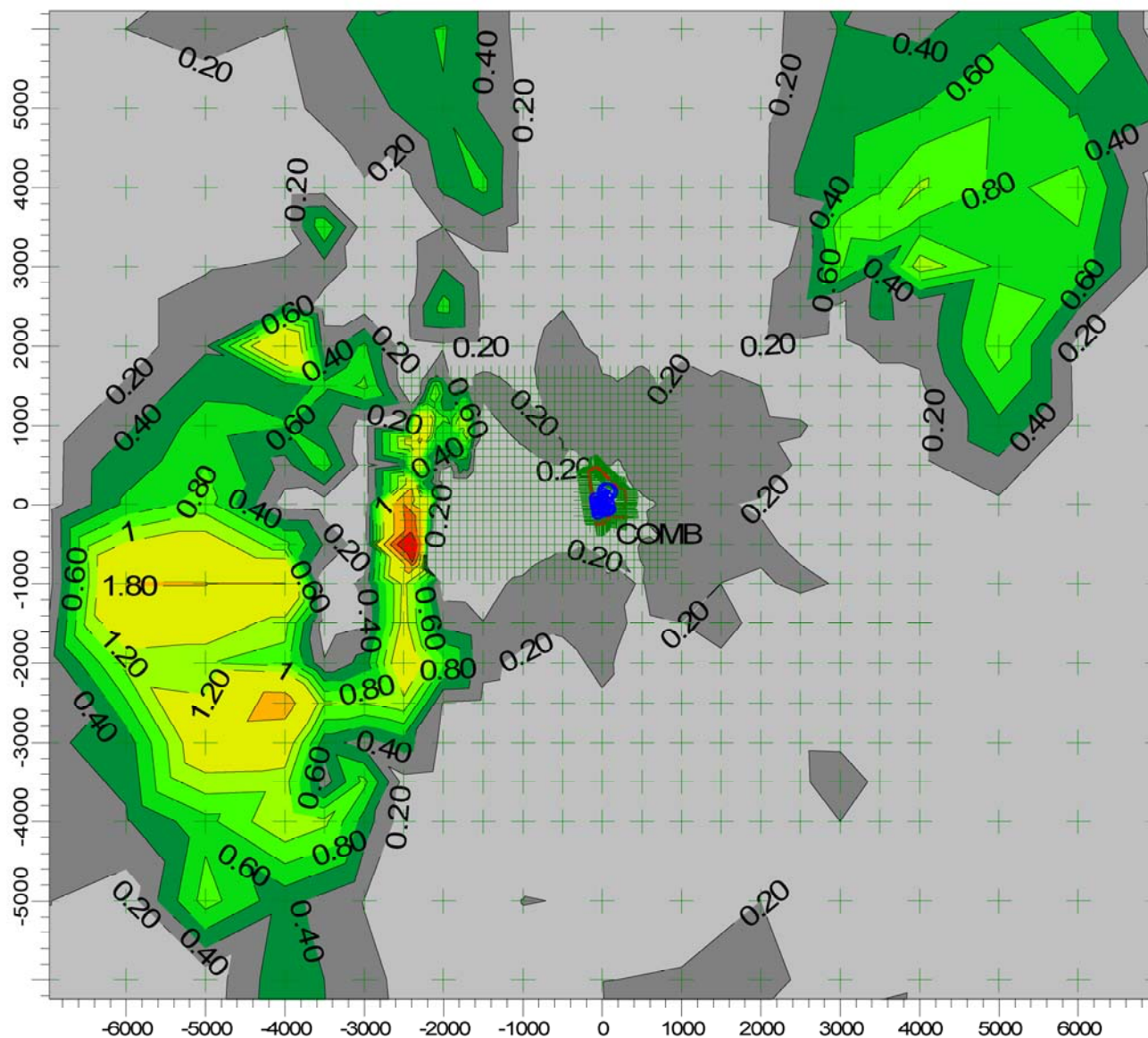
3/17/2010

PROJECT NO.:



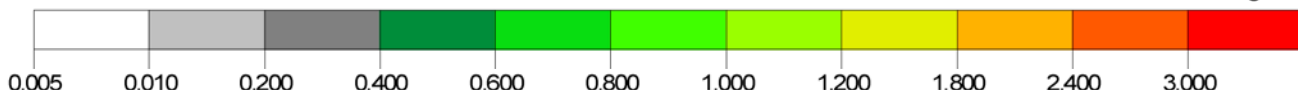
PROJECT TITLE:

**Maximum PM2.5 24-Hour Average Impact
Year: 2008**



PLOT FILE OF HIGH 1ST HIGH 24-HR VALUES FOR SOURCE GROUP: COMB

ug/m³



COMMENTS:

100 percent load,
105 degrees F,
with Duct Burning.
Proposed SIL = 1.2 ug/m³

SOURCES:

1

COMPANY NAME:

Cricket Valley Energy Center, LLC

RECEPTORS:

1507

MODELER:

ARCADIS

OUTPUT TYPE:

Concentration

SCALE:

1:85,000

0

3 km

MAX:

3.89274 ug/m³

DATE:

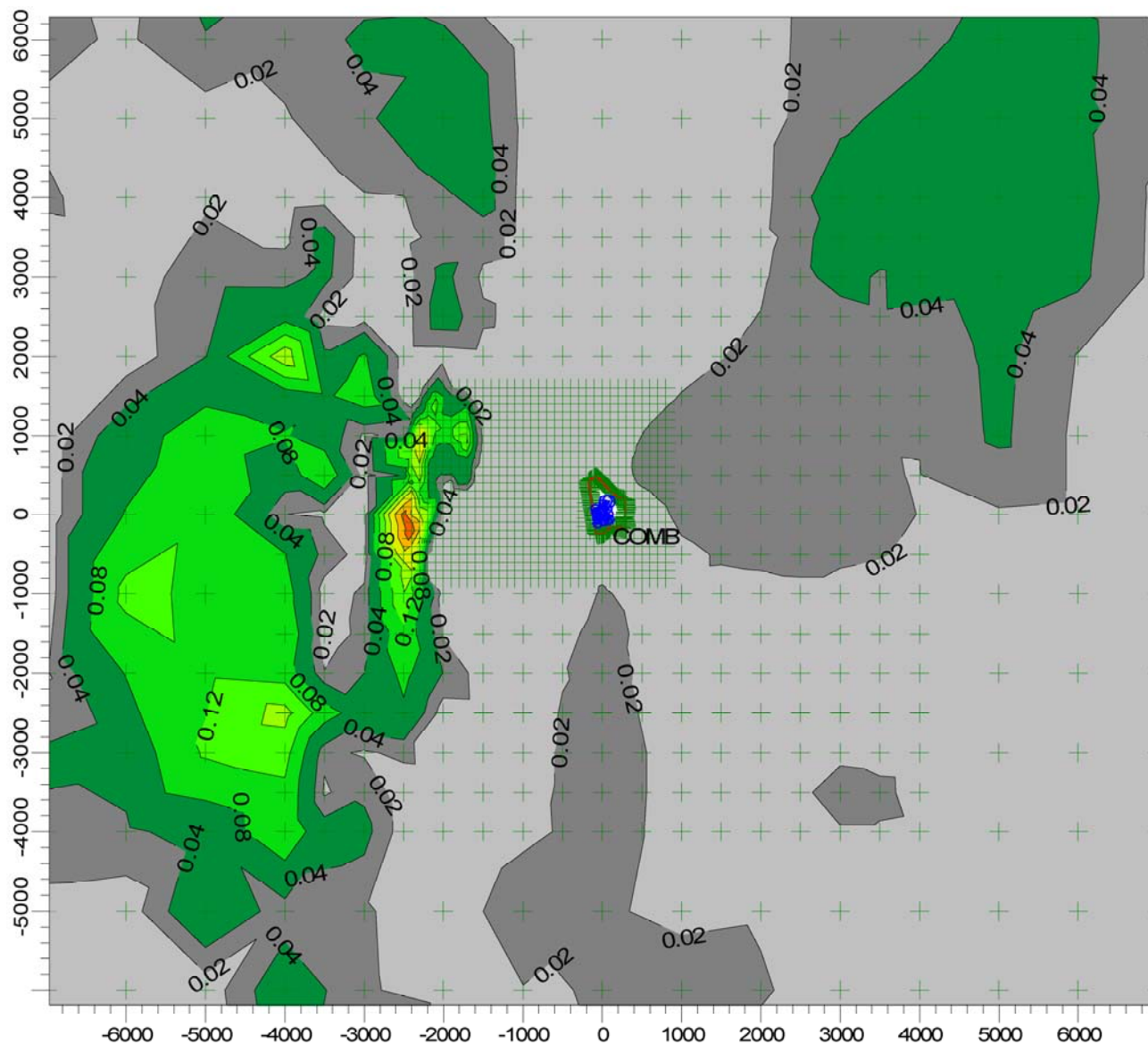
3/17/2010

PROJECT NO.:



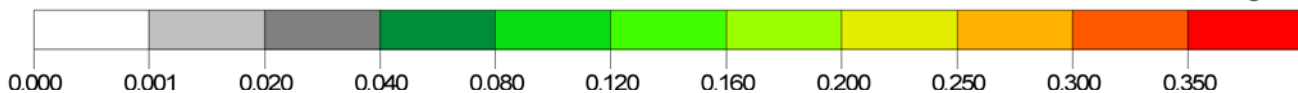
PROJECT TITLE:

**Maximum PM2.5 Annual Average Impact
Year: 2009**



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: COMB

ug/m³



COMMENTS:

100 percent load,
100 percent load,
105 degrees F,
with Duct Burning.
Proposed SIL = 0.3 ug/m³

SOURCES:

1

RECEPTORS:

1507

OUTPUT TYPE:

Concentration

MAX:

0.34538 ug/m³

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

SCALE:

1:85,000

0

3 km

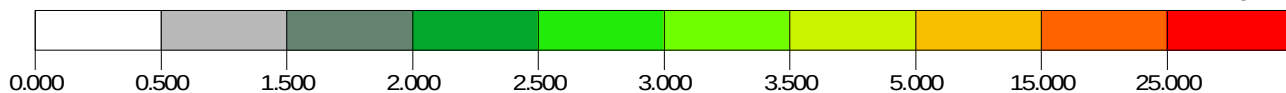
DATE:

3/17/2010

PROJECT NO.:



Maximum SO2 3-Hour Average Impact
Year: 2006



100 percent load,
59 degrees F,
with Duct Burning.
SIL = 25 ug/m3

1

1507

OUTPUT TYPE:
Concentration

MAX:
3.54332 ug/m^3

Cricket Valley Energy Center, LLC**ARCADIS**

SCALE: 1:85,000

0 3 km

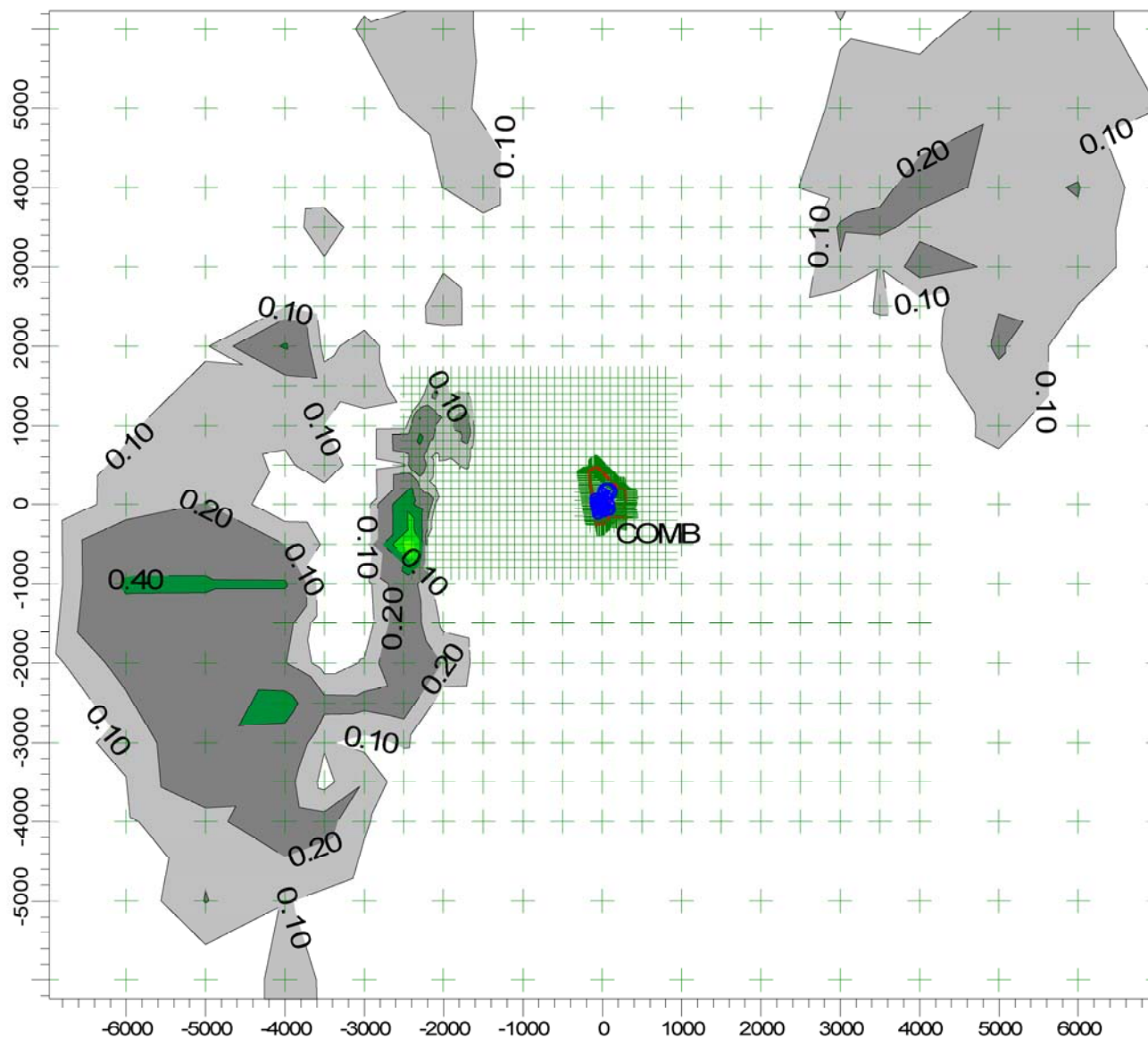
DATE:
3/17/2010



PROJECT NO.:

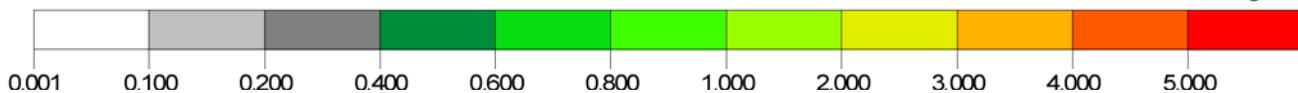
PROJECT TITLE:

**Maximum SO₂ 24-Hour Average Impact
Year: 2008**



PLOT FILE OF HIGH 1ST HIGH 24-HR VALUES FOR SOURCE GROUP: COMB

ug/m³



COMMENTS:

100 percent load,
59 degrees F,
with Duct Burning.
SIL = 5.0 ug/m³

SOURCES:

1

RECEPTORS:

1507

OUTPUT TYPE:

Concentration

MAX:

0.90265 ug/m³

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

SCALE:

1:85,000

0

3 km

DATE:

3/18/2010

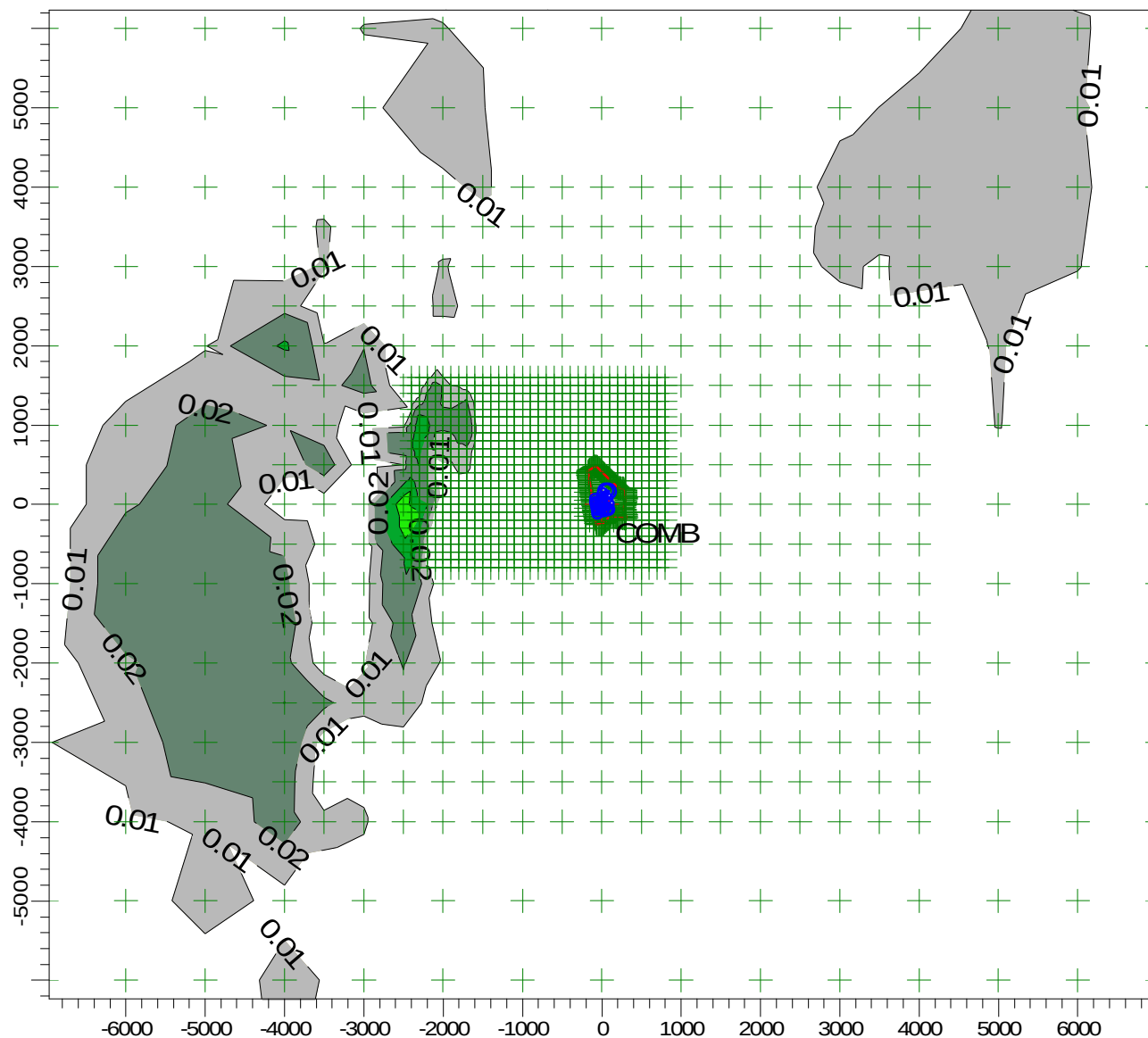
PROJECT NO.:



PROJECT TITLE:

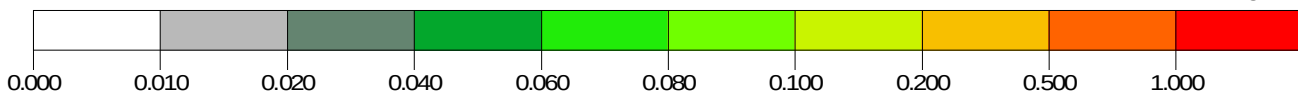
Maximum SO2 Annual Average Impact

Year: 2009



PLOT FILE OF ANNUAL VALUES FOR SOURCE GROUP: COMB

ug/m³



COMMENTS:

100 percent load,
59 degrees F,
with Duct Burnin.
SIL = 1.0 ug/m³

SOURCES:

1

RECEPTORS:

1507

OUTPUT TYPE:

Concentration

MAX:

0.07923 ug/m³

COMPANY NAME:

Cricket Valley Energy Center, LLC

MODELER:

ARCADIS

SCALE:

1:85,000

0  3 km

DATE:

3/17/2010

PROJECT NO.:



Table 1. Cricket Valley Energy - Proposed Interactive Source Modeling Inventory

																Emissions Estimates based on Particulate			Emissions Estimates based on Combustion		
DEC ID	Facility Name	PTE Range (tpy)	Distance from Site (km)	Emission Unit ID	Emission Point ID	UTM N (km)	UTM E (km)	Base Elevation (ft)	PTE (lbs/hr) by EU	PTE (lb/hr) by EP	Stack Height (ft)	Stack Diameter (in)	Exhaust Velocity (ft/s)	Exhaust Temp. (F)	Comments	Volumetric Flow Rate (cfm)	particulate loading (gr/scf)	lb/hr	heat input (MMBTU/hr) or power output (kW)	Emission Factor (AP-42 in lb/MMBTU or Tier1 (g/kW hr)	lb/hr
3132600025	HUNT COUNTRY FURNITURE	10-25	1.35	A00002	10	4614.1	619.3	100		4.8	50	20	35	450	8 mmBTU/hr waste wood fired steam boiler for seasonal heating. Permit limit on particulate emissions is 0.60 lbs/ million BTU. A00001 includes wood staining and drying.				8	0.6	4.8
				A00001	1	4614.1	619.3	100		0.485	25	24	6	65	1131.0	0.05	0.485				
				A00001	2	4614.1	619.3	100		0.485	25	24	6	65	1131.0	0.05	0.485				
				A00001	3	4614.1	619.3	100		0.162	25	24	2	65	377.0	0.05	0.162				
				A00001	4	4614.1	619.3	100		0.485	25	24	6	65	1131.0	0.05	0.485				
				A00001	5	4614.1	619.3	100		0.485	25	24	6	65	1131.0	0.05	0.485				
				A00001	6	4614.1	619.3	100		0.485	25	24	6	65	1131.0	0.05	0.485				
				A00001	7	4614.1	619.3	100		0.485	25	24	6	65	1131.0	0.05	0.485				
				A00001	8	4614.1	619.3	100		0.485	25	24	6	65	1131.0	0.05	0.485				
				A00001	9	4614.1	619.3	100		1.454	50	24	18	65	3392.9	0.05	1.454				
3132600220	J & J LUMBER CORP	1.58	U-00001	EP001	4614.95	619.72	450		0.70	25	25	32.7	829	910 kilowatt diesel fired electric generator.							
			U-00001	EP002	4614.95	619.72	450		11.2863	35	26	51.2	400	22.13 mmBTU/hr wood fired boiler. Heating value of wood 5,500 BTU per lb. Particulate emission limit 0.51 lbs per mmBTU. Actual exhaust flowrate based on F-factor for wood combustion of 9240 dscf/MMBTU and T= 450 F.				22.13	0.51	11.2863	
b) major sources within 50 km of SIA																					
3334600011	DANSKAMMER GENERATING STATION	>250	33.96	UD0001	1	4602.946	586.327	8		90	220	144	42	330	65 MW; heat input rating for boiler is 900 MMBTU/HR for No. 6 oil and natural gas. PM is controlled by a cold side electrostatic precipitator when firing oil. Limit of 0.10 lbs/MMBTU when firing oil.				900	0.1	90
				UD0002	2	4602.926	586.318	8		90	220	144	42	330	65 MW; heat input rating for boiler is 900 MMBTU/HR for No. 6 oil and natural gas. PM is controlled by a cold side electrostatic precipitator when firing oil. Limit of 0.10 lbs/MMBTU when firing oil.				900	0.1	90
				UD0003	3	4602.907	586.308	8		134.8	240	113	90	302	135 MW; heat input ratings of 1034 MMBTU/HR for No 6 oil; 1348 MMBTU/HR for coal firing; and 1167 MMBTU/HR for natural gas. PM is controlled by a cold side electrostatic precipitator when firing oil or coal. Limit of 0.10 lbs/MMBTU when firing oil (or coal).				1348	0.1	134.8
				UD0004	4	4602.885	586.295	8		251.2	240	151	90	304	235 MW; 0.10 pounds per million Btus; heat input ratings of 2004 MMBTU/HR for No 6 oil; 2512 MMBTU/HR for coal firing; and 2397 MMBTU/HR for natural gas				2512	0.1	251.2
				UD0007	1007A	4602.785	586.219	7		6.646	25	27	65	80	Coal unloading and handling facilities; 0.05 grains per scf	15506.7	0.05	6.646			
				UD0007	1007B	4602.798	586.206	6		4.412	20	22	65	80	Coal unloading and handling facilities; 0.05 grains per scf	10295.3	0.05	4.412			
3334600075	ROSETON GENERATING STATION	>250	34.82	UR0001	1	4602.75	585.473	25		792.7	260	276	60	265	7927 MMBTU/HR for oil; 5985 MMBTU/HR for natural gas; permit limit of 0.1 pounds per mmBTU				7927	0.1	792.7
				UR0002	2	4602.734	585.42	25		796.1	260	276	60	265	7691 MMBTU/HR for oil; 6597 MMBTU/HR for natural gas; permit limit of 0.1 pounds per mmBTU				7961	0.1	796.1
				UR000A	0000A	4602.683	585.388	25		0.910	21	32	46	580	40.2 million Btu per hour NG and 38.6 MMBTU/hr No. 2 oil	15414.7			38.6	0.024	0.910
				UR000A	0001A	4602.668	585.357	40		0.743	40	45	52	514	99.78 million Btu per hour				99.78	0.0075	0.7435
3551200041	BASF CORP	52.17	EU0002	EP020	4571.2	589.5	30	1.730		0.259	36	9	51	68		1352					
			EU0002	EP052	4571.2	589.5	30			0.953	59	20	38	110		4974					
			EU0002	EP100	4571.2	589.5	30			0.230	36	9	45	450	equiv. diameter of 8 x8 rectangular stack	1200					
			EU0002	EP101	4571.2	589.5	30			0.288	36	10	46	135		1505					
			EU0003	EP034	4571.2	589.5	30	1.440		1.440	36	8	57	70							
			EU0006	EP038	4571.2	589.5	30	1.490		1.490	52	20	37	140							
			EU0007	EP047	4571.2	589.5	30	1.750		1.290	59	18	32	110		3393					
			EU0007	EP048	4571.2	589.5	30			0.460	55	10	37	70		1211					
			EU0008	EP053	4571.2	589.5	30	1.110		0.666	35	12	38	110		1791					
			EU0008	EP054	4571.2	589.5	30			0.444	33	8	57	135		1194					
			EU0009	EP064	4571.2	589.5	30	1.110		0.442	32	8	57	135		1194					
			EU0009	EP065	4571.2	589.5	30			0.668	33	8	86	110		1801					
			EU0010	EP067	4571.2	589.5	30	1.110		0.377	12	12	38	110		1791					
			EU0010	EP068	4571.2	589.5	30			0.251	32	8	57	135		1194					
			EU0010	EP119	4571.2	589.5	30	1.070		0.482	54	10	70	265		2291					
			EU0011	EP021	4571.2	589.5	30			0.538	36	14	40	150		2566					
			EU0011	EP022	4571.2	589.5	30			0.250	33	8	57	70		1194					
			EU0011	EP023	4571.2	589.5	30			0.281	33	8	64	65		1340					
			EU0011	EP109	4571.2	589.5	30	1.000		0.000	32	27	53	375	equiv. diameter of 24 x 24 rectangular stack						
			EU0012	EP040	4571.2	589.5	30			0.508	36	12	53	150		2498					
			EU0012	EP041	4571.2	589.5	30			0.246	36	10	37	70		1211					
			EU0012	EP042	4571.2	589.5	30			0.246	36	10	37	70		1211					
			EU0013	EP044	4571.2	589.5	30	1.000		0.113	38	12	53	150		2498					
			EU0013	EP045	4571.2	589.5	30			0.053	36	12	25	70		1178					
			EU0013	EP046	4571.2	589.5	30			0.053	36	12	25	70		1178					
			EU0013	EP110	4571.2	589.5	30			0.781	42	32	53	375	equiv. diameter of 28 x 28 rectangular stack	17313					
			EU0014	EP055	4571.2	589.5	30	1.000		0.061	41	10	37	70		1211					
			EU0014	EP056	4571.2	589.5	30			0.061	41	10	37	70		1211					
			EU0014	EP057	4571.2	589.5	30			0.125	40	12	53	150		2498					
			EU0014	EP104	4571.2	589.5	30			0.753	45	42	25.6	325	equiv. diameter of 44 x 32 rectangular stack	15000					
			EU0015	EP062	4571.2	589.5	30	0.500		0.337	40	12	53	150		2498					
			EU0015	EP063	4571.2	589.5	30			0.163	40	10	37	70		1211					
			EU0016	EP069	4571.2	589.5	30			0.071	40	10	37	70		1211					
			EU0016	EP070	4571.2	589.5	30		1.000		0.055	38	12	20	550		942				
			EU0016	EP105	4571.2	589.5	30			0.874	41	33	41.7	325	equiv. diameter of 36 x 24 rectangular stack	15000					
			EU0017	EP072	4571.2	589.5	30			0.741	42	10	37	70		1211					
			EU0017	EP073	4571.2	589.5	30	1.000			0.259	38	12	9	560		424				

Table 1. Cricket Valley Energy - Proposed Interactive Source Modeling Inventory

DEC ID	Facility Name	PTE Range (tpy)	Distance from Site (km)	Emission Unit ID	Emission Point ID	UTM N (km)	UTM E (km)	Base Elevation (ft)	PTE (lbs/hr) by EU	PTE (lb/hr) by EP	Stack Height (ft)	Stack Diameter (in)	Exhaust Velocity (ft/s)	Exhaust Temp. (F)	Comments	Volumetric Flow Rate (cfm)	particulate loading (gr/scf)	lb/hr	heat input (MMBtu/hr) or power output (kW)	Emission Factor (AP-42 or Tier1 (g/kW hr)	lb/hr
				EU0017	EP106	4571.2	589.5	30		9.175	41	33	41.7	325	equiv. diameter of 36 x 24 rectangular stack	15000					
				EU0019	EP074	4571.2	589.5	30	1.110	0.444	38	8	57	135		1194					
				EU0019	EP075	4571.2	589.5	30		0.666	26	12	38	110		1791					
				EU001A	EP001	4571.2	589.5	30	0.187	0.187	41	30	20.4	400	12.55 and 12.6 mmBtu/hr boilers (two boilers)	6000			25.15	0.007	0.187
				EU001B	EP076	4571.2	589.5	30	0.187	0.187	42	30	20.0	400	25.11 mmBtu/hr gas fired boiler	5900			25.11	0.007	0.187
				EU0028	EP008	4571.2	589.5	30	1.350	1.350	27	20	140	140		18326.0					
				EU0029	EP012	4571.2	589.5	30	1.760	1.591	30	11	88	65	equiv. diameter of 10 x10 rectangular stack	3666.7					
				EU0029	EP013	4571.2	589.5	30		0.169	30	6	33	65		388.8					
				EU0033	EP060	4571.2	589.5	30	0.710	0.710	20	8	81	70		1696.5					
				EU0034	EP107	4571.2	589.5	30		0.000	57	16	81	68	equiv. diameter of 17 x12 rectangular stack						
				EU0034	EP111	4571.2	589.5	30	0.210	0.210	42	6	1	68		11.8					
				EU0035	EP043	4571.2	589.5	30	2.050	2.050	40	20	37	70		4843.3					
				EU0036	EP108	4571.2	589.5	30	0.266	0.266	0	16	26.5	850	300 horsepower (223.8 kW) diesel emergency generator - equiv. diam. Of 17 x 12 rectangular stack	2250			223.8	0.54	0.266
				EU0037	EP113	4571.2	589.5	30	0.949	0.949	32	12	47	400	Gas-fired therma jet product dryer.	2214.8	0.05	0.949			
				EU0038	EP114	4571.2	589.5	30	0.669	0.669	42	8	81	68		1696.5					
				EU0039	EP115	4571.2	589.5	30	0.283	0.283	41	9	72	1000		1908.5					
3514800084	NORTHEAST SOLITE CORPORATION	100-250	52.48	U00001	000K1	4655.536	585.059	200		40	80	66	37	137	36.4 lb/hr when burning oil						
				U00001	000K2	4655.536	585.059	200		40	80	66	37	137	36.4 lb/hr when burning oil						
				U00001	000K3	4655.536	585.059	200		32.5	80	52	37	137	29.0 lbs/hr when burning oil						
				U00001	K3CLR	4655.536	585.059	175		7.900	70	86	19.6	120							
3552200087	LAFARGE NORTH AMERICA INC - BUCHANAN	100-250	53.07	U0000	OPT17	4569.5	590.5	60		0.3	104	24	74	150							
				U0000	OPT30	4569.5	590.5	64		17.53	100	78	25	250							
				U0000	OPT38	4569.5	590.5	64		5.23	78	66	62	0							
				U0000	OPT31	4569.5	590.5	64		16.328	100	70	54	150	Based on NSPS limit.	86590.1	0.022	16.328			
				U0000	OPT32	4569.5	590.5	64		3.254	45	20	58	68		7592.2	0.05	3.254			
				U0000	OPT33	4569.5	590.5	64		11.996	105	36	66	68		27991.6	0.05	11.996			
3551200031	WHEELABRATOR WESTCHESTER LP	100-250	53.58	U0000A	0000A	4570.064	588.562	25		149.4	195	135	97.4	277	0.03 grains per dry standard cubic foot corrected to 12% carbon dioxide; 25 milligrams per dry standard cubic meter (corrected to 7% oxygen).	580905.0	0.03	149.376			
				U0000B	0000B	4570.066	588.568	25		149.4	195	135	97.4	277		580905.0	0.03	149.376			
				U0000C	0000C	4570.069	588.564	25		149.4	195	135	97.4	277		580905.0	0.03	149.376			
3132600211	DOVER COMPRESSOR STATION			5-00001	00001	4615.887	617.544	436		0.85	50	72	122	1005	From Jeff Lawyer (PM Emissions not in SF permit in database, point and facility not in prior NYSDEC data). 18,000 horsepower simple cycle gas turbine. Coordinates taken from USGS National Map server (coordinates converted using NOAA tool).						

Cricket Valley Energy
NYSDEC Air Toxics Evaluation
Comparison with AGCs

worst case annual scenario: 3 CTs w/ DB full load; 4500 hrs/yr aux boiler; 500 hrs/yr fire engine; 500 hrs/yr 3 BS generators

Summary of Normalized concentrations									
max annual average normalized concentration (ug/m3)									
unit emission rate used for modeling									
each									
all 3									
Total									
(ug/m3)									
Column1	Column2	Column3	Column4	CT + DB	Aux Boiler	Fire Engine	BS Gens	All Equip	AGC
1,3-Butadiene				2.09E-05	0.00E+00	1.66E-05	0.00E+00	3.75E-05	3.30E-02
2-Methylnaphthalene				0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.10E+00
Acetaldehyde				1.94E-03	0.00E+00	3.26E-04	1.03E-05	2.28E-03	4.50E-01
Acrolein				3.11E-04	0.00E+00	3.94E-05	3.23E-06	3.53E-04	2.00E-02
Anthracene				3.18E-08	1.51E-08	7.96E-07	5.05E-06	5.89E-06	2.00E-02
Ammonia				3.88E-01	0.00E+00	0.00E+00	0.00E+00	3.88E-01	1.00E+02
Benzene				6.10E-04	1.32E-05	3.97E-04	3.18E-04	1.34E-03	1.30E-01
Benzo(a)anthracene				2.38E-08	1.13E-08	7.15E-07	2.55E-07	1.01E-06	2.00E-02
Benzo(a)pyrene				1.59E-08	7.55E-09	0.00E+00	1.05E-07	1.29E-07	9.10E-04
Butane				2.78E-02	1.32E-02	0.00E+00	0.00E+00	4.10E-02	5.70E+04
Chrysene				2.38E-08	1.13E-08	1.50E-07	6.28E-07	8.13E-07	2.00E-02
Dibenz(a,h)anthracene				1.59E-08	7.55E-09	2.48E-07	1.42E-07	4.13E-07	2.00E-02
Ethane				4.11E-02	1.95E-02	0.00E+00	0.00E+00	6.06E-02	2.90E+03
Ethylbenzene				1.55E-03	0.00E+00	0.00E+00	0.00E+00	1.55E-03	1.00E+03
Formaldehyde				6.33E-03	4.72E-04	5.02E-04	3.24E-05	7.34E-03	6.00E-02
Hexane				6.09E-05	0.00E+00	0.00E+00	0.00E+00	8.99E-05	7.00E+02
Naphthalene				7.12E-05	3.84E-06	3.61E-05	5.33E-05	1.64E-04	3.00E+00
Pentane				3.44E-02	1.64E-02	0.00E+00	0.00E+00	5.08E-02	4.20E+03
Phenanthrene				2.25E-07	1.07E-07	1.25E-05	1.67E-05	2.96E-05	2.00E-02
PAH				1.08E-04	4.93E-07	7.15E-05	8.70E-05	2.67E-04	2.00E-02
Propane				2.12E-02	1.01E-02	0.00E+00	0.00E+00	3.13E-02	4.30E+04
Propylene				0.00E+00	0.00E+00	1.10E-04	1.14E-03	1.25E-03	3.00E+03
Propylene Oxide				1.41E-03	0.00E+00	0.00E+00	0.00E+00	1.41E-03	2.70E-01
Pyrene				6.62E-08	3.15E-08	2.03E-06	1.52E-06	3.65E-06	2.00E-02
Sulfuric Acid				1.84E-02	7.50E-04	1.32E-05	1.27E-05	1.92E-02	1.00E+00
Toluene				6.35E-03	2.14E-05	1.74E-04	1.15E-04	6.66E-03	5.00E+03
Xylene (Total)				3.11E-03	0.00E+00	1.21E-04	7.92E-05	3.31E-03	1.00E+02
Arsenic				2.65E-06	1.26E-06	0.00E+00	0.00E+00	3.91E-06	2.30E-04
Barium				5.83E-05	2.77E-05	0.00E+00	0.00E+00	8.60E-05	1.20E+00
Beryllium				1.59E-07	7.55E-08	0.00E+00	0.00E+00	2.34E-07	4.20E-04
Cadmium				1.46E-05	6.92E-06	0.00E+00	0.00E+00	2.15E-05	2.40E-04
Chromium				1.85E-05	8.81E-06	0.00E+00	0.00E+00	2.74E-05	1.20E+00
Cobalt				1.11E-06	5.29E-07	0.00E+00	0.00E+00	1.64E-06	1.00E-03
Copper				1.13E-05	5.35E-06	0.00E+00	0.00E+00	1.66E-05	2.00E-02
Manganese				5.03E-06	2.39E-06	0.00E+00	0.00E+00	7.43E-06	5.00E-02
Mercury				3.44E-06	1.64E-06	0.00E+00	0.00E+00	5.08E-06	3.00E-01
Molybdenum				1.46E-05	6.92E-06	0.00E+00	0.00E+00	2.15E-05	1.20E+00
Nickel				2.78E-05	1.32E-05	0.00E+00	0.00E+00	4.10E-05	4.20E-03
Selenium				3.18E-07	1.51E-07	0.00E+00	0.00E+00	4.69E-07	2.00E+01
Vanadium				3.05E-05	1.45E-05	0.00E+00	0.00E+00	4.49E-05	2.00E-01
Zinc				3.84E-04	1.83E-04	0.00E+00	0.00E+00	5.67E-04	4.50E+01

Summary of Air Toxic Emissions (tpy)							
		each	each	each			all 3
Column1	Column2	Turbines	Duct Burner	CT + DB	Aux Boiler	Fire Engine	BS Gens
1,3-Butadiene		4.26E-03	0.00E+00	4.26E-03	0.00E+00	2.72E-05	0.00E+00
2-Methylnaphthalene		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetaldehyde		3.97E-01	0.00E+00	3.97E-01	0.00E+00	5.33E-04	5.52E-04
Acrolein		6.35E-02	0.00E+00	6.35E-02	0.00E+00	6.43E-05	1.73E-04
Anthracene		0.00E+00	6.49E-06	6.49E-06	2.72E-07	1.30E-06	2.70E-04
Ammonia		7.93E+01	0.00E+00	7.93E+01	0.00E+00	0.00E+00	0.00E+00
Benzene		1.19E-01	5.68E-03	1.25E-01	2.38E-04	6.49E-04	1.70E-02
Benzo(a)anthracene		0.00E+00	4.87E-06	4.87E-06	2.04E-07	1.17E-06	1.36E-05
Benzo(a)pyrene		0.00E+00	3.25E-06	3.25E-06	1.36E-07	0.00E+00	5.63E-06
Butane		0.00E+00	5.68E+00	5.68E+00	2.38E-01	0.00E+00	0.00E+00
Chrysene		0.00E+00	4.87E-06	4.87E-06	2.04E-07	2.45E-07	3.35E-05
Dibenz(a,h)anthracene		0.00E+00	3.25E-06	3.25E-06	1.36E-07	4.05E-07	7.58E-06
Ethane		0.00E+00	8.39E+00	8.39E+00	3.51E-01	0.00E+00	0.00E+00
Ethylbenzene		3.17E-01	0.00E+00	3.17E-01	0.00E+00	0.00E+00	0.00E+00
Formaldehyde		1.09E+00	2.03E-01	1.29E+00	8.50E-03	8.20E-04	1.73E-03
Hexane		0.00E+00	1.24E-02	1.24E-02	5.21E-04	0.00E+00	0.00E+00
Naphthalene		1.29E-02	1.65E-03	1.45E-02	6.91E-05	5.90E-05	2.85E-03
Pentane		0.00E+00	7.04E+00	7.04E+00	2.95E-01	0.00E+00	0.00E+00
Phenanthrene		0.00E+00	4.60E-05	4.60E-05	1.93E-06	2.04E-05	8.94E-04
PAH		2.18E-02	2.12E-04	2.20E-02	8.87E-06	1.17E-04	4.65E-03
Propane		0.00E+00	4.33E+00	4.33E+00	1.81E-01	0.00E+00	0.00E+00
Propylene		0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-04	6.11E-02
Propylene Oxide		2.88E-01	0.00E+00	2.88E-01	0.00E+00	0.00E+00	0.00E+00
Pyrene		0.00E+00	1.35E-05	1.35E-05	5.66E-07	3.32E-06	8.13E-05
Sulfuric Acid		3.76E+00	0.00E+00	3.76E+00	1.35E-02	2.16E-05	6.79E-04
Toluene		1.29E+00	9.20E-03	1.30E+00	3.85E-04	2.84E-04	6.16E-03
Xylene (Total)		6.35E-01	0.00E+00	6.35E-01	0.00E+00	1.98E-04	4.23E-03
Arsenic		0.00E+00	5.41E-04	5.41E-04	2.27E-05	0.00E+00	0.00E+00
Barium		0.00E+00	1.19E-02	1.19E-02	4.98E-04	0.00E+00	0.00E+00
Beryllium		0.00E+00	3.25E-05	3.25E-05	1.36E-06	0.00E+00	0.00E+00
Cadmium		0.00E+00	2.98E-03	2.98E-03	1.25E-04	0.00E+00	0.00E+00
Chromium		0.00E+00	3.79E-03	3.79E-03	1.59E-04	0.00E+00	0.00E+00
Cobalt		0.00E+00	2.27E-04	2.27E-04	9.52E-06	0.00E+00	0.00E+00
Copper		0.00E+00	2.30E-03	2.30E-03	9.63E-05	0.00E+00	0.00E+00
Manganese		0.00E+00	1.03E-03	1.03E-03	4.30E-05	0.00E+00	0.00E+00
Mercury		0.00E+00	7.04E-04	7.04E-04	2.95E-05	0.00E+00	0.00E+00
Molybdenum		0.00E+00	2.98E-03	2.98E-03	1.25E-04	0.00E+00	0.00E+00
Nickel		0.00E+00	5.68E-03	5.68E-03	2.38E-04	0.00E+00	0.00E+00
Selenium		0.00E+00	6.49E-05	6.49E-05	2.72E-06	0.00E+00	0.00E+00
Vanadium		0.00E+00	6.22E-03	6.22E-03	2.61E-04	0.00E+00	0.00E+00
Zinc		0.00E+00	7.85E-02	7.85E-02	3.28E-03	0.00E+00	0.00E+00

Summary of Air Toxic Emissions (g/s)							
		each	each	each			all 3
Column1		Turbines	Duct Burner	CT + DB	Aux Boiler	Fire Engine	BS Gens
1,3-Butadiene		1.23E-04	0.00E+00	1.23E-04	0.00E+00	7.83E-07	0.00E+00
2-Methylnaphthalene		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetaldehyde		1.14E-02	0.00E+00	1.14E-02	0.00E+00	1.54E-05	1.59E-05
Acrolein		1.83E-03	0.00E+00	1.83E-03	0.00E+00	1.85E-06	4.97E-06
Anthracene		0.00E+00	1.87E-07	1.87E-07	7.83E-09	3.74E-08	7.76E-06
Ammonia		2.28E+00	0.00E+00	2.28E+00	0.00E+00	0.00E+00	0.00E+00
Benzene		3.43E-03	1.64E-04	3.59E-03	6.85E-06	1.87E-05	4.90E-04
Benzo(a)anthracene		0.00E+00	1.40E-07	1.40E-07	5.87E-09	3.36E-08	3.93E-07
Benzo(a)pyrene		0.00E+00	9.35E-08	9.35E-08	3.91E-09	0.00E+00	1.62E-07
Butane		0.00E+00	1.64E-01	1.64E-01	6.85E-03	0.00E+00	0.00E+00
Chrysene		0.00E+00	1.40E-07	1.40E-07	5.87E-09	7.07E-09	9.65E-07
Dibenz(a,h)anthracene		0.00E+00	9.35E-08	9.35E-08	3.91E-09	1.17E-08	2.18E-07
Ethane		0.00E+00	2.42E-01	2.42E-01	1.01E-02	0.00E+00	0.00E+00
Ethylbenzene		9.13E-03	0.00E+00	9.13E-03	0.00E+00	0.00E+00	0.00E+00
Formaldehyde		3.14E-02	5.84E-03	3.72E-02	2.45E-04	2.36E-05	4.98E-05
Hexane		0.00E+00	3.58E-04	3.58E-04	1.50E-05	0.00E+00	0.00E+00
Naphthalene		3.71E-04	4.75E-05	4.19E-04	1.99E-06	1.70E-06	8.20E-05
Pentane		0.00E+00	2.03E-01	2.03E-01	8.48E-03	0.00E+00	0.00E+00
Phenanthrene		0.00E+00	1.32E-06	1.32E-06	5.54E-08	5.89E-07	2.57E-05
PAH		6.28E-04	6.10E-06	6.34E-04	2.55E-07	3.36E-06	1.34E-04
Propane		0.00E+00	1.25E-01	1.25E-01	5.22E-03	0.00E+00	0.00E+00
Propylene		0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.16E-06	1.76E-03
Propylene Oxide		8.28E-03	0.00E+00	8.28E-03	0.00E+00	0.00E+00	0.00E+00
Pyrene		0.00E+00	3.90E-07	3.90E-07	1.63E-08	9.57E-08	2.34E-06
Sulfuric Acid		1.08E-01	0.00E+00	1.08E-01	3.89E-04	6.21E-07	1.96E-05
Toluene		3.71E-02	2.65E-04	3.74E-02	1.11E-05	8.19E-06	1.77E-04
Xylene (Total)		1.83E-02	0.00E+00	1.83E-02	0.00E+00	5.71E-06	1.22E-04
Arsenic		0.00E+00	1.56E-05	1.56E-05	6.52E-07	0.00E+00	0.00E+00
Barium		0.00E+00	3.43E-04	3.43E-04	1.44E-05	0.00E+00	0.00E+00
Beryllium		0.00E+00	9.35E-07	9.35E-07	3.91E-08	0.00E+00	0.00E+00
Cadmium		0.00E+00	8.57E-05	8.57E-05	3.59E-06	0.00E+00	0.00E+00
Chromium		0.00E+00	1.09E-04	1.09E-04	4.57E-06	0.00E+00	0.00E+00
Cobalt		0.00E+00	6.55E-06	6.55E-06	2.74E-07	0.00E+00	0.00E+00
Copper		0.00E+00	6.62E-05	6.62E-05	2.77E-06	0.00E+00	0.00E+00
Manganese		0.00E+00	2.96E-05	2.96E-05	1.24E-06	0.00E+00	0.00E+00
Mercury		0.00E+00	2.03E-05	2.03E-05	8.48E-07	0.00E+00	0.00E+00
Molybdenum		0.00E+00	8.57E-05	8.57E-05	3.59E-06	0.00E+00	0.00E+00
Nickel		0.00E+00	1.64E-04	1.64E-04	6.85E-06	0.00E+00	0.00E+00
Selenium		0.00E+00	1.87E-06	1.87E-06	7.83E-08	0.00E+00	0.00E+00
Vanadium		0.00E+00	1.79E-04	1.79E-04	7.50E-06	0.00E+00	0.00E+00
Zinc		0.00E+00	2.26E-03	2.26E-03	9.46E-05	0.00E+00	0.00E+00

Cricket Valley Energy
NYSDEC Air Toxics Evaluation
Comparison with SGCs

Summary of Normalized concentrations									
max 1-hour average normalized concentration (ug/m3)									
unit emission rate used for modeling									
				3 g/s each	1 g/s	1 g/s	1 g/s all 3	Total	(ug/m3)
Column1	Column2	Column3	Column4	CT + DB	Aux Boiler	Fire Engine	BS Gens	All Equip	SGC
1,3-Butadiene				1.61E-03	0.00E+00	1.25E-02	0.00E+00	1.42E-02	
2-Methylnaphthalene				0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Acetaldehyde				1.50E-01	0.00E+00	2.46E-01	1.01E-02	4.06E-01	4.50E+03
Acrolein				2.40E-02	0.00E+00	2.97E-02	3.16E-03	5.69E-02	1.90E-01
Anthracene				2.46E-06	1.37E-06	6.00E-04	4.94E-03	5.54E-03	
Ammonia				3.00E+01	0.00E+00	0.00E+00	0.00E+00	3.00E+01	2.40E+03
Benzene				4.72E-02	1.20E-03	2.99E-01	3.12E-01	6.59E-01	1.30E+03
Benzo(a)anthracene				1.84E-06	1.03E-06	5.39E-04	2.50E-04	7.92E-04	
Benzo(a)pyrene				1.23E-06	6.86E-07	0.00E+00	1.03E-04	1.05E-04	
Butane				2.15E+00	1.20E+00	0.00E+00	0.00E+00	3.35E+00	
Chrysene				1.84E-06	1.03E-06	1.13E-04	6.14E-04	7.31E-04	
Dibenz(a,h)anthracene				1.23E-06	6.86E-07	1.87E-04	1.39E-04	3.28E-04	
Ethane				3.17E+00	1.77E+00	0.00E+00	0.00E+00	4.95E+00	
Ethylbenzene				1.20E-01	0.00E+00	0.00E+00	0.00E+00	1.20E-01	5.40E+04
Formaldehyde				4.89E-01	4.29E-02	3.79E-01	3.17E-02	9.43E-01	3.00E+01
Hexane				4.71E-03	2.63E-03	0.00E+00	0.00E+00	7.34E-03	
Naphthalene				5.50E-03	3.49E-04	2.72E-02	5.22E-02	8.53E-02	7.90E+03
Pentane				2.66E+00	1.49E+00	0.00E+00	0.00E+00	4.15E+00	
Phenanthrene				1.74E-05	9.72E-06	9.43E-03	1.64E-02	2.58E-02	
PAH				8.33E-03	4.48E-05	5.39E-02	8.51E-02	1.47E-01	
Propane				1.64E+00	9.15E-01	0.00E+00	0.00E+00	2.55E+00	
Propylene				0.00E+00	0.00E+00	8.28E-02	1.12E+00	1.20E+00	
Propylene Oxide				1.09E-01	0.00E+00	0.00E+00	0.00E+00	1.09E-01	3.10E+03
Pyrene				5.12E-06	2.86E-06	1.53E-03	1.49E-03	3.03E-03	
Sulfuric Acid				1.42E+00	6.81E-02	9.95E-03	1.25E-02	1.51E+00	1.20E+02
Toluene				4.91E-01	1.94E-03	1.31E-01	1.13E-01	7.37E-01	3.70E+04
Xylene (Total)				2.40E-01	0.00E+00	9.15E-02	7.75E-02	4.09E-01	4.30E+03
Arsenic				2.05E-04	1.14E-04	0.00E+00	0.00E+00	3.19E-04	
Barium				4.50E-03	2.52E-03	0.00E+00	0.00E+00	7.02E-03	
Beryllium				1.23E-05	6.86E-06	0.00E+00	0.00E+00	1.91E-05	1.00E+00
Cadmium				1.13E-03	6.29E-04	0.00E+00	0.00E+00	1.76E-03	
Chromium				1.43E-03	8.00E-04	0.00E+00	0.00E+00	2.23E-03	
Cobalt				8.60E-05	4.80E-05	0.00E+00	0.00E+00	1.34E-04	
Copper				8.70E-04	4.86E-04	0.00E+00	0.00E+00	1.36E-03	1.00E+02
Manganese				3.89E-04	2.17E-04	0.00E+00	0.00E+00	6.06E-04	
Mercury				2.66E-04	1.49E-04	0.00E+00	0.00E+00	4.15E-04	1.80E+00
Molybdenum				1.13E-03	6.29E-04	0.00E+00	0.00E+00	1.76E-03	
Nickel				2.15E-03	1.20E-03	0.00E+00	0.00E+00	3.35E-03	6.00E+00
Selenium				2.46E-05	1.37E-05	0.00E+00	0.00E+00	3.83E-05	
Vanadium				2.35E-03	1.31E-03	0.00E+00	0.00E+00	3.67E-03	
Zinc				2.97E-02	1.66E-02	0.00E+00	0.00E+00	4.63E-02	

Summary of Air Toxic Emissions (lb/hr)						
		each	each	each		all 3
Column1	Column2	Turbines	Duct Burner	CT + DB	Aux Boiler	Fire Engine
1,3-Butadiene		9.73E-04	0.00E+00	9.73E-04	0.00E+00	1.09E-04
2-Methylnaphthalene		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetaldehyde		9.05E-02	0.00E+00	9.05E-02	0.00E+00	2.13E-03
Acrolein		1.45E-02	0.00E+00	1.45E-02	0.00E+00	2.57E-04
Anthracene		0.00E+00	1.48E-06	1.48E-06	1.21E-07	5.20E-06
Ammonia		1.81E+01	0.00E+00	1.81E+01	0.00E+00	0.00E+00
Benzene		2.72E-02	1.30E-03	2.85E-02	1.06E-04	2.59E-03
Benzo(a)anthracene		0.00E+00	1.11E-06	1.11E-06	9.06E-08	4.67E-06
Benzo(a)pyrene		0.00E+00	7.41E-07	7.41E-07	6.04E-08	0.00E+00
Butane		0.00E+00	1.30E+00	1.30E+00	1.06E-01	0.00E+00
Chrysene		0.00E+00	1.11E-06	1.11E-06	9.06E-08	9.82E-07
Dibenz(a,h)anthracene		0.00E+00	7.41E-07	7.41E-07	6.04E-08	1.62E-06
Ethane		0.00E+00	1.92E+00	1.92E+00	1.56E-01	0.00E+00
Ethylbenzene		7.24E-02	0.00E+00	7.24E-02	0.00E+00	0.00E+00
Formaldehyde		2.49E-01	4.63E-02	2.95E-01	3.78E-03	3.28E-03
Hexane		0.00E+00	2.84E-03	2.84E-03	2.32E-04	0.00E+00
Naphthalene		2.94E-03	3.77E-04	3.32E-03	3.07E-05	2.36E-04
Pentane		0.00E+00	1.61E+00	1.61E+00	1.31E-01	0.00E+00
Phenanthrene		0.00E+00	1.05E-05	1.05E-05	8.56E-07	8.18E-05
PAH		4.98E-03	4.84E-05	5.03E-03	3.94E-06	4.67E-04
Propane		0.00E+00	9.89E-01	9.89E-01	8.06E-02	0.00E+00
Propylene		0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.18E-04
Propylene Oxide		6.56E-02	0.00E+00	6.56E-02	0.00E+00	0.00E+00
Pyrene		0.00E+00	3.09E-06	3.09E-06	2.52E-07	1.33E-05
Sulfuric Acid		8.58E-01	0.00E+00	8.58E-01	6.00E-03	8.62E-05
Toluene		2.94E-01	2.10E-03	2.96E-01	1.71E-04	1.14E-03
Xylene (Total)		1.45E-01	0.00E+00	1.45E-01	0.00E+00	7.93E-04
Arsenic		0.00E+00	1.24E-04	1.24E-04	1.01E-05	0.00E+00
Barium		0.00E+00	2.72E-03	2.72E-03	2.22E-04	0.00E+00
Beryllium		0.00E+00	7.41E-06	7.41E-06	6.04E-07	0.00E+00
Cadmium		0.00E+00	6.80E-04	6.80E-04	5.54E-05	0.00E+00
Chromium		0.00E+00	8.65E-04	8.65E-04	7.05E-05	0.00E+00
Cobalt		0.00E+00	5.19E-05	5.19E-05	4.23E-06	0.00E+00
Copper		0.00E+00	5.25E-04	5.25E-04	4.28E-05	0.00E+00
Manganese		0.00E+00	2.35E-04	2.35E-04	1.91E-05	0.00E+00
Mercury		0.00E+00	1.61E-04	1.61E-04	1.31E-05	0.00E+00
Molybdenum		0.00E+00	6.80E-04	6.80E-04	5.54E-05	0.00E+00
Nickel		0.00E+00	1.30E-03	1.30E-03	1.06E-04	0.00E+00
Selenium		0.00E+00	1.48E-05	1.48E-05	1.21E-06	0.00E+00
Vanadium		0.00E+00	1.42E-03	1.42E-03	1.16E-04	0.00E+00
Zinc		0.00E+00	1.79E-02	1.79E-02	1.46E-03	0.00E+00

Summary of Air Toxic Emissions (g/s)						
		each	each	each		all 3
Column1		Turbines	Duct Burner	CT + DB	Aux Boiler	Fire Engine
1,3-Butadiene		1.23E-04	0.00E+00	1.23E-04	0.00E+00	1.37E-05
2-Methylnaphthalene		0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acetaldehyde		1.14E-02	0.00E+00	1.14E-02	0.00E+00	2.69E-04
Acrolein		1.83E-03	0.00E+00	1.83E-03	0.00E+00	3.24E-05
Anthracene		0.00E+00	1.87E-07	1.87E-07	1.52E-08	6.56E-07
Ammonia		2.28E+00	0.00E+00	2.28E+00	0.00E+00	0.00E+00
Benzene		3.43E-03	1.64E-04	3.59E-03	1.33E-05	3.27E-04
Benzo(a)anthracene		0.00E+00	1.40E-07	1.40E-07	1.14E-08	5.89E-07
Benzo(a)pyrene		0.00E+00	9.35E-08	9.35E-08	7.62E-09	0.00E+00
Butane		0.00E+00	1.64E-01	1.64E-01	1.33E-02	0.00E+00
Chrysene		0.00E+00	1.40E-07	1.40E-07	1.14E-08	1.24E-07
Dibenz(a,h)anthracene		0.00E+00	9.35E-08	9.35E-08	7.62E-09	2.04E-07
Ethane		0.00E+00	2.42E-01	2.42E-01	1.97E-02	0.00E+00
Ethylbenzene		9.13E-03	0.00E+00	9.13E-03	0.00E+00	0.00E+00
Formaldehyde		3.14E-02	5.84E-03	3.72E-02	4.76E-04	4.14E-04
Hexane		0.00E+00	3.58E-04	3.58E-04	2.92E-05	0.00E+00
Naphthalene		3.71E-04	4.75E-05	4.19E-04	3.87E-06	2.97E-05
Pentane		0.00E+00	2.03E-01	2.03E-01	1.65E-02	0.00E+00
Phenanthrene		0.00E+00	1.32E-06	1.32E-06	1.08E-07	1.03E-05
PAH		6.28E-04	6.10E-06	6.34E-04	4.97E-07	5.89E-05
Propane		0.00E+00	1.25E-01	1.25E-01	1.02E-02	0.00E+00
Propylene		0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.05E-05
Propylene Oxide		8.28E-03	0.00E+00	8.28E-03	0.00E+00	0.00E+00
Pyrene		0.00E+00	3.90E-07	3.90E-07	3.17E-08	1.68E-06
Sulfuric Acid		1.08E-01	0.00E+00	1.08E-01	7.57E-04	1.09E-05
Toluene		3.71E-02	2.65E-04	3.74E-02	2.16E-05	1.43E-04
Xylene (Total)		1.83E-02	0.00E+00	1.83E-02	0.00E+00	1.00E-04
Arsenic		0.00E+00	1.56E-05	1.56E-05	1.27E-06	0.00E+00
Barium		0.00E+00	3.43E-04	3.43E-04	2.79E-05	0.00E+00
Beryllium		0.00E+00	9.35E-07	9.35E-07	7.62E-08	0.00E+00
Cadmium		0.00E+00	8.57E-05	8.57E-05	6.98E-06	0.00E+00
Chromium		0.00E+00	1.09E-04	1.09E-04	8.89E-06	0.00E+00
Cobalt		0.00E+00	6.55E-06	6.55E-06	5.33E-07	0.00E+00
Copper		0.00E+00	6.62E-05	6.62E-05	5.40E-06	0.00E+00
Manganese		0.00E+00	2.96E-05	2.96E-05	2.41E-06	0.00E+00
Mercury		0.00E+00	2.03E-05	2.03E-05	1.65E-06	0.00E+00
Molybdenum		0.00E+00	8.57E-05	8.57E-05	6.98E-06	0.00E+00
Nickel		0.00E+00	1.64E-04	1.64E-04	1.33E-05	0.00E+00
Selenium		0.00E+00	1.87E-06	1.87E-06	1.52E-07	0.00E+00
Vanadium		0.00E+00	1.79E-04	1.79E-04	1.46E-05	0.00E+00
Zinc		0.00E+00	2.26E-03	2.26E-03	1.84E-04	0.00E+00