APPENDIX E

Air Quality Supporting Documentation

E.1 Quarterly Wind Roses
E.2 Construction and Operation Emissions
E.3 Class II Area Dispersion Modeling Protocol
E.4 Air Quality Modeling Files (CD-ROM)

APPENDIX E.1

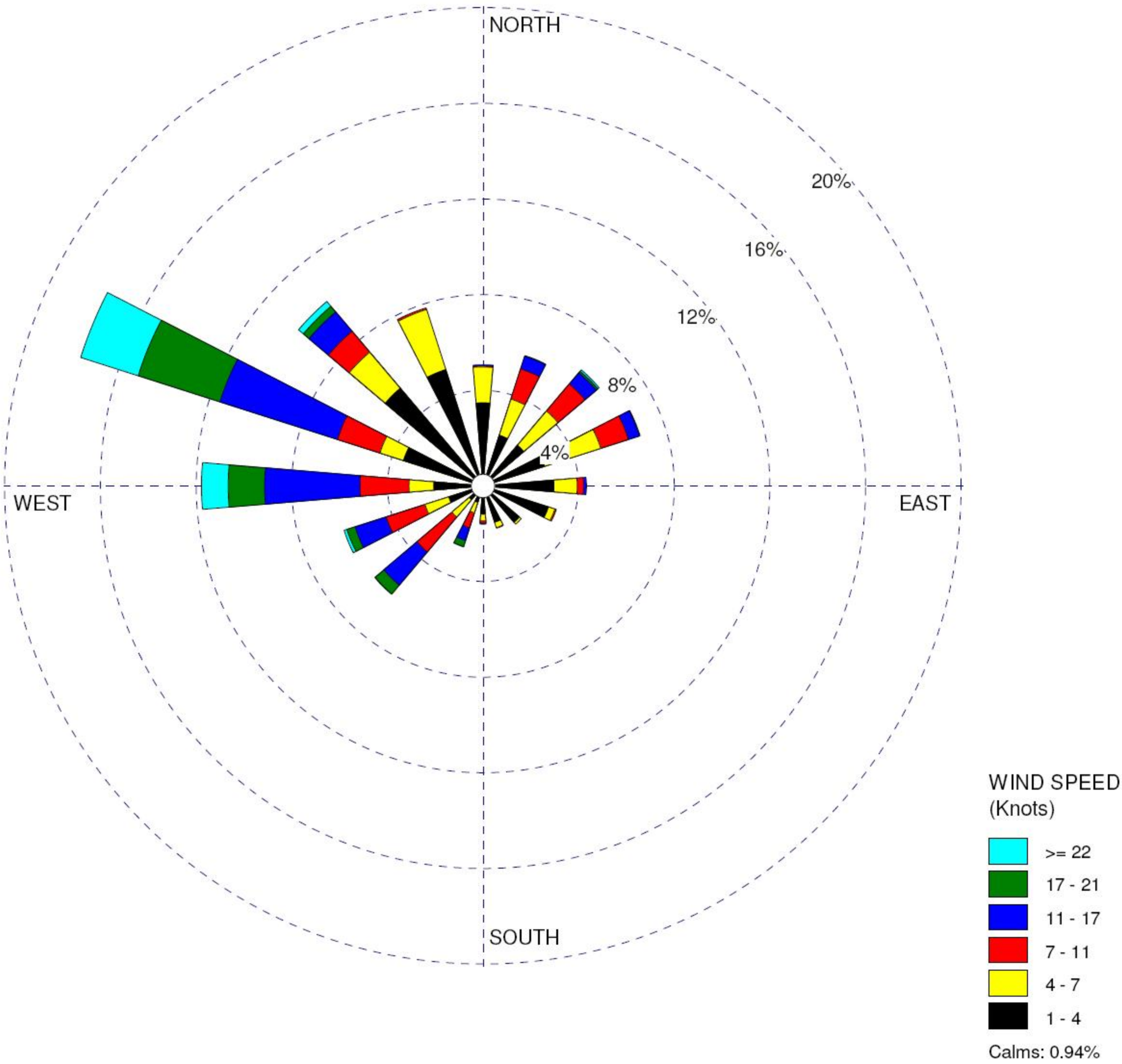
Quarterly Wind Roses

WIND ROSE PLOT:

Mojave ARB Monitoring Station, Mojave, CA
2002-2004 Wind Rose - 1st Quarter (Jan-Mar)

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	2002 2003 2004 **Jan 1 - Mar 31** **00:00 - 23:00**	MODELER:	Beacon Solar
	CALM WINDS: **0.94%**	TOTAL COUNT: **6504 hrs.**	
	AVG. WIND SPEED: **8.11 Knots**	DATE: **3/5/2008**	PROJECT NO.: **10056-014-030**

WRPLOT View - Lakes Environmental Software

Station ID: 72381
Year: 2002 2003 2004
Date Range: Jan 1 - Mar 31
Time Range: 00:00 - 23:00

Run ID:

Frequency Distribution
(Count)

Wind Direction (Blowing From) / Wind Speed (Knots)

	1 - 4	4 - 7	7 - 11	11 - 17	17 - 21	>= 22	Total
348.75-11.25	226	97	3	3	0	0	329
11.25-33.75	145	103	86	36	2	0	372
33.75-56.25	145	122	96	40	5	5	413
56.25-78.75	176	160	79	31	2	0	448
78.75-101.25	193	63	17	8	0	0	281
101.25-123.75	187	18	4	0	0	0	209
123.75-146.25	130	7	0	0	0	0	137
146.25-168.75	104	15	2	0	0	0	121
168.75-191.25	77	18	6	3	0	0	104
191.25-213.75	47	30	43	36	17	1	174
213.75-236.25	49	62	124	118	31	1	385
236.25-258.75	98	68	110	89	23	8	396
258.75-281.25	134	67	133	259	98	73	764
281.25-303.75	227	67	121	335	232	164	1146
303.75-326.25	348	128	74	69	20	17	656
326.25-348.75	332	171	5	0	0	0	508
Total	2618	1196	903	1027	430	269	6504

Frequency of Calm Winds: 61
Average Wind Speed: 8.11 Knots

Station ID: 72381
Year: 2002 2003 2004
Date Range: Jan 1 - Mar 31
Time Range: 00:00 - 23:00

Run ID:

Frequency Distribution
(Normalized)

Wind Direction (Blowing From) / Wind Speed (Knots)

	1 - 4	4 - 7	7 - 11	11 - 17	17 - 21	>= 22	Total
348.75-11.25	0.034748	0.014914	0.000461	0.000461	0.000000	0.000000	0.050584
11.25-33.75	0.022294	0.015836	0.013223	0.005535	0.000308	0.000000	0.057196
33.75-56.25	0.022294	0.018758	0.014760	0.006150	0.000769	0.000769	0.063499
56.25-78.75	0.027060	0.024600	0.012146	0.004766	0.000308	0.000000	0.068881
78.75-101.25	0.029674	0.009686	0.002614	0.001230	0.000000	0.000000	0.043204
101.25-123.75	0.028752	0.002768	0.000615	0.000000	0.000000	0.000000	0.032134
123.75-146.25	0.019988	0.001076	0.000000	0.000000	0.000000	0.000000	0.021064
146.25-168.75	0.015990	0.002306	0.000308	0.000000	0.000000	0.000000	0.018604
168.75-191.25	0.011839	0.002768	0.000923	0.000461	0.000000	0.000000	0.015990
191.25-213.75	0.007226	0.004613	0.006611	0.005535	0.002614	0.000154	0.026753
213.75-236.25	0.007534	0.009533	0.019065	0.018143	0.004766	0.000154	0.059194
236.25-258.75	0.015068	0.010455	0.016913	0.013684	0.003536	0.001230	0.060886
258.75-281.25	0.020603	0.010301	0.020449	0.039822	0.015068	0.011224	0.117466
281.25-303.75	0.034902	0.010301	0.018604	0.051507	0.035670	0.025215	0.176199
303.75-326.25	0.053506	0.019680	0.011378	0.010609	0.003075	0.002614	0.100861
326.25-348.75	0.051046	0.026292	0.000769	0.000000	0.000000	0.000000	0.078106
Total	0.402522	0.183887	0.138838	0.157903	0.066113	0.041359	0.990621

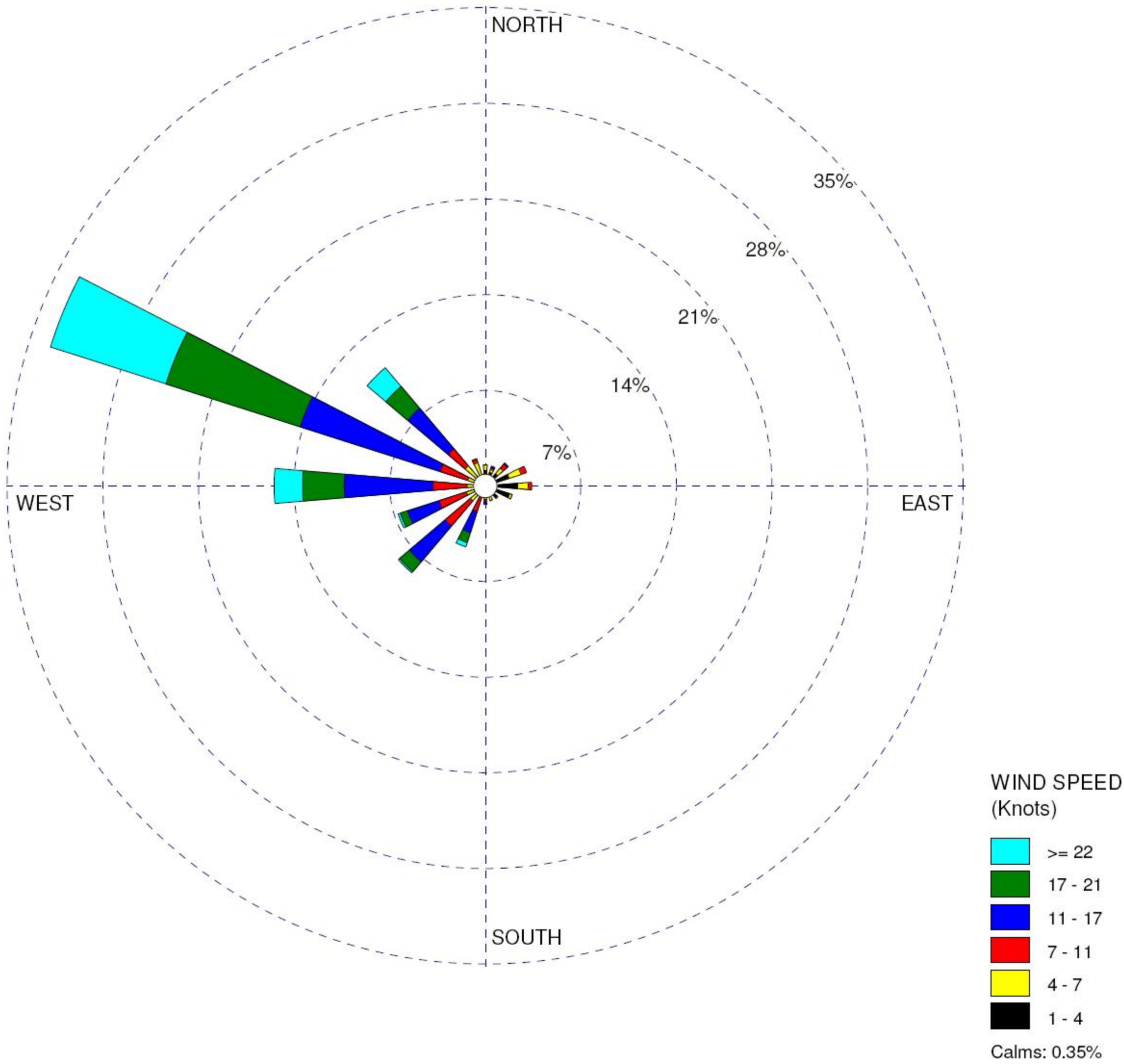
Frequency of Calm Winds: 0.94%
Average Wind Speed: 8.11 Knots

WIND ROSE PLOT:

Mojave ARB Monitoring Station, Mojave, CA
2002-2004 Wind Rose - 2nd Quarter (Apr-Jun)

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	2002 2003 2004 **Apr 1 - Jun 30** **00:00 - 23:00**	MODELER:	Beacon Solar
	CALM WINDS: **0.35%**	TOTAL COUNT: **6552 hrs.**	
	AVG. WIND SPEED: **13.36 Knots**	DATE: **3/5/2008**	PROJECT NO.: **10056-014-030**

WRPLOT View - Lakes Environmental Software

Station ID: 72381
Year: 2002 2003 2004
Date Range: Apr 1 - Jun 30
Time Range: 00:00 - 23:00

Run ID:

Frequency Distribution
(Count)

Wind Direction (Blowing From) / Wind Speed (Knots)

	1 - 4	4 - 7	7 - 11	11 - 17	17 - 21	>= 22	Total
348.75-11.25	75	25	1	1	0	0	102
11.25-33.75	69	14	8	8	1	0	100
33.75-56.25	77	34	28	3	3	0	145
56.25-78.75	120	60	28	0	0	0	208
78.75-101.25	156	49	18	0	0	0	223
101.25-123.75	123	12	2	0	0	0	137
123.75-146.25	76	5	0	0	0	0	81
146.25-168.75	57	17	2	0	0	0	76
168.75-191.25	40	26	10	14	0	0	90
191.25-213.75	24	35	71	105	50	22	307
213.75-236.25	39	54	158	224	62	8	545
236.25-258.75	41	54	137	159	36	12	439
258.75-281.25	47	40	163	425	200	136	1011
281.25-303.75	44	45	138	703	674	581	2185
303.75-326.25	49	77	107	253	138	118	742
326.25-348.75	52	65	18	3	0	0	138
Total	1089	612	889	1898	1164	877	6552

Frequency of Calm Winds: 23
Average Wind Speed: 13.36 Knots

Station ID: 72381
Year: 2002 2003 2004
Date Range: Apr 1 - Jun 30
Time Range: 00:00 - 23:00

Run ID:

Frequency Distribution
(Normalized)

Wind Direction (Blowing From) / Wind Speed (Knots)

	1 - 4	4 - 7	7 - 11	11 - 17	17 - 21	>= 22	Total
348.75-11.25	0.011447	0.003816	0.000153	0.000153	0.000000	0.000000	0.015568
11.25-33.75	0.010531	0.002137	0.001221	0.001221	0.000153	0.000000	0.015263
33.75-56.25	0.011752	0.005189	0.004274	0.000458	0.000458	0.000000	0.022131
56.25-78.75	0.018315	0.009158	0.004274	0.000000	0.000000	0.000000	0.031746
78.75-101.25	0.023810	0.007479	0.002747	0.000000	0.000000	0.000000	0.034035
101.25-123.75	0.018773	0.001832	0.000305	0.000000	0.000000	0.000000	0.020910
123.75-146.25	0.011600	0.000763	0.000000	0.000000	0.000000	0.000000	0.012363
146.25-168.75	0.008700	0.002595	0.000305	0.000000	0.000000	0.000000	0.011600
168.75-191.25	0.006105	0.003968	0.001526	0.002137	0.000000	0.000000	0.013736
191.25-213.75	0.003663	0.005342	0.010836	0.016026	0.007631	0.003358	0.046856
213.75-236.25	0.005952	0.008242	0.024115	0.034188	0.009463	0.001221	0.083181
236.25-258.75	0.006258	0.008242	0.020910	0.024267	0.005495	0.001832	0.067002
258.75-281.25	0.007173	0.006105	0.024878	0.064866	0.030525	0.020757	0.154304
281.25-303.75	0.006716	0.006868	0.021062	0.107295	0.102869	0.088675	0.333486
303.75-326.25	0.007479	0.011752	0.016331	0.038614	0.021062	0.018010	0.113248
326.25-348.75	0.007937	0.009921	0.002747	0.000458	0.000000	0.000000	0.021062
Total	0.166209	0.093407	0.135684	0.289683	0.177656	0.133852	0.996490

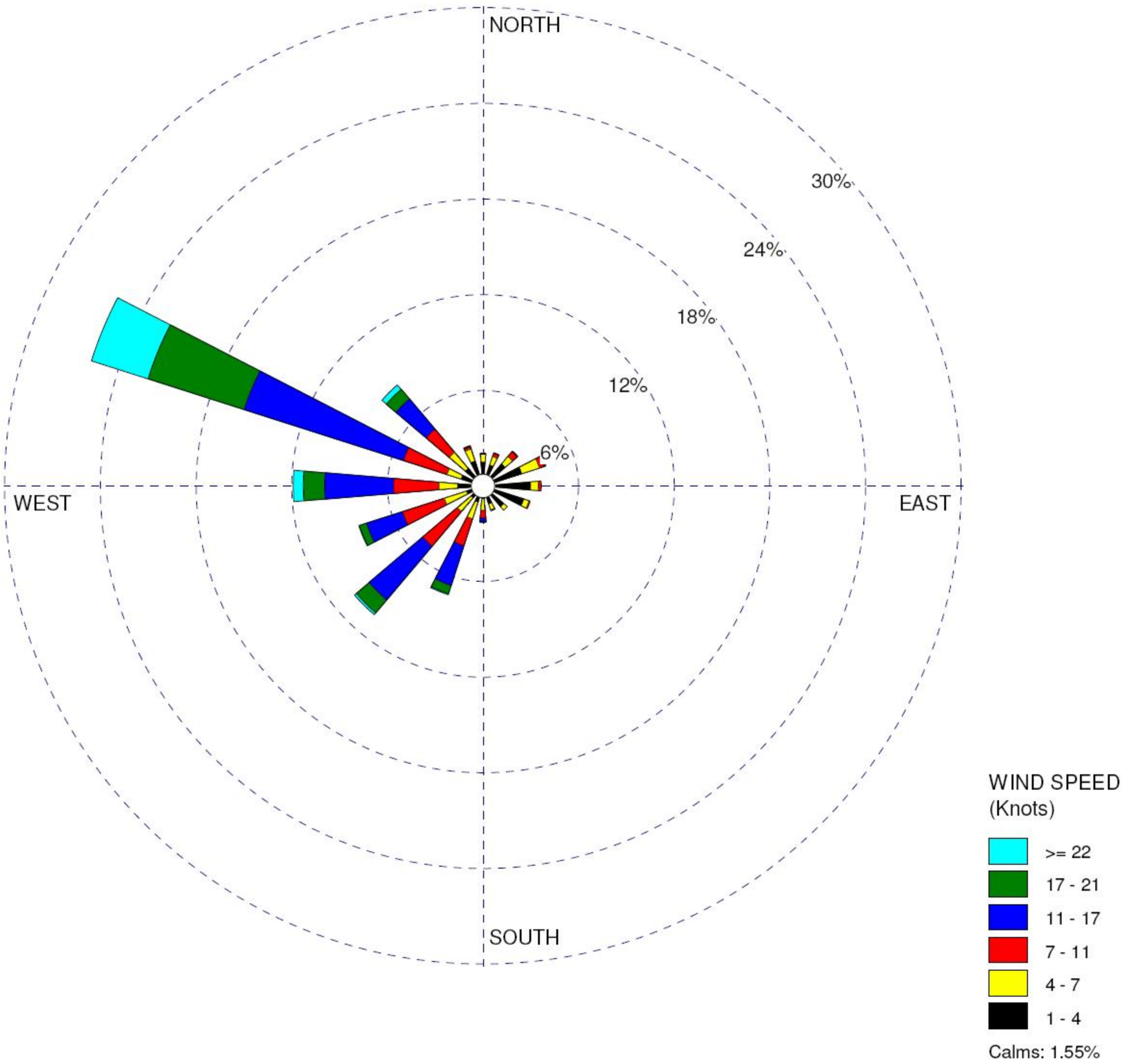
Frequency of Calm Winds: 0.35%
Average Wind Speed: 13.36 Knots

WIND ROSE PLOT:

Mojave ARB Monitoring Station, Mojave, CA
2002-2004 Wind Rose - 3rd Quarter (Jul-Sep)

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	2002 2003 2004 **Jul 1 - Sep 30** **00:00 - 23:00**	MODELER:	Beacon Solar
	CALM WINDS: **1.55%**	TOTAL COUNT: **6624 hrs.**	
	AVG. WIND SPEED: **10.21 Knots**	DATE: **3/5/2008**	PROJECT NO.: **10056-014-030**

WRPLOT View - Lakes Environmental Software

Station ID: 72381
Year: 2002 2003 2004
Date Range: Jul 1 - Sep 30
Time Range: 00:00 - 23:00

Run ID:

Frequency Distribution
(Count)

Wind Direction (Blowing From) / Wind Speed (Knots)

	1 - 4	4 - 7	7 - 11	11 - 17	17 - 21	>= 22	Total
348.75-11.25	99	33	2	3	0	0	137
11.25-33.75	91	38	13	4	0	0	146
33.75-56.25	120	41	25	3	1	0	190
56.25-78.75	169	77	22	3	2	1	274
78.75-101.25	197	33	12	0	0	0	242
101.25-123.75	178	23	5	0	0	0	206
123.75-146.25	113	20	0	0	0	0	133
146.25-168.75	78	27	3	1	0	0	109
168.75-191.25	53	49	32	15	2	1	152
191.25-213.75	70	74	117	172	37	4	474
213.75-236.25	64	76	188	291	70	10	699
236.25-258.75	71	98	182	156	31	3	541
258.75-281.25	106	78	187	286	88	42	787
281.25-303.75	95	62	190	693	418	246	1704
303.75-326.25	96	88	125	163	53	25	550
326.25-348.75	109	53	9	3	3	0	177
Total	1709	870	1112	1793	705	332	6624

Frequency of Calm Winds: 103
Average Wind Speed: 10.21 Knots

Station ID: 72381
Year: 2002 2003 2004
Date Range: Jul 1 - Sep 30
Time Range: 00:00 - 23:00

Run ID:

Frequency Distribution
(Normalized)

Wind Direction (Blowing From) / Wind Speed (Knots)

	1 - 4	4 - 7	7 - 11	11 - 17	17 - 21	>= 22	Total
348.75-11.25	0.014946	0.004982	0.000302	0.000453	0.000000	0.000000	0.020682
11.25-33.75	0.013738	0.005737	0.001963	0.000604	0.000000	0.000000	0.022041
33.75-56.25	0.018116	0.006190	0.003774	0.000453	0.000151	0.000000	0.028684
56.25-78.75	0.025513	0.011624	0.003321	0.000453	0.000302	0.000151	0.041365
78.75-101.25	0.029740	0.004982	0.001812	0.000000	0.000000	0.000000	0.036534
101.25-123.75	0.026872	0.003472	0.000755	0.000000	0.000000	0.000000	0.031099
123.75-146.25	0.017059	0.003019	0.000000	0.000000	0.000000	0.000000	0.020079
146.25-168.75	0.011775	0.004076	0.000453	0.000151	0.000000	0.000000	0.016455
168.75-191.25	0.008001	0.007397	0.004831	0.002264	0.000302	0.000151	0.022947
191.25-213.75	0.010568	0.011171	0.017663	0.025966	0.005586	0.000604	0.071558
213.75-236.25	0.009662	0.011473	0.028382	0.043931	0.010568	0.001510	0.105525
236.25-258.75	0.010719	0.014795	0.027476	0.023551	0.004680	0.000453	0.081673
258.75-281.25	0.016002	0.011775	0.028231	0.043176	0.013285	0.006341	0.118810
281.25-303.75	0.014342	0.009360	0.028684	0.104620	0.063104	0.037138	0.257246
303.75-326.25	0.014493	0.013285	0.018871	0.024607	0.008001	0.003774	0.083031
326.25-348.75	0.016455	0.008001	0.001359	0.000453	0.000453	0.000000	0.026721
Total	0.258001	0.131341	0.167874	0.270682	0.106431	0.050121	0.984450

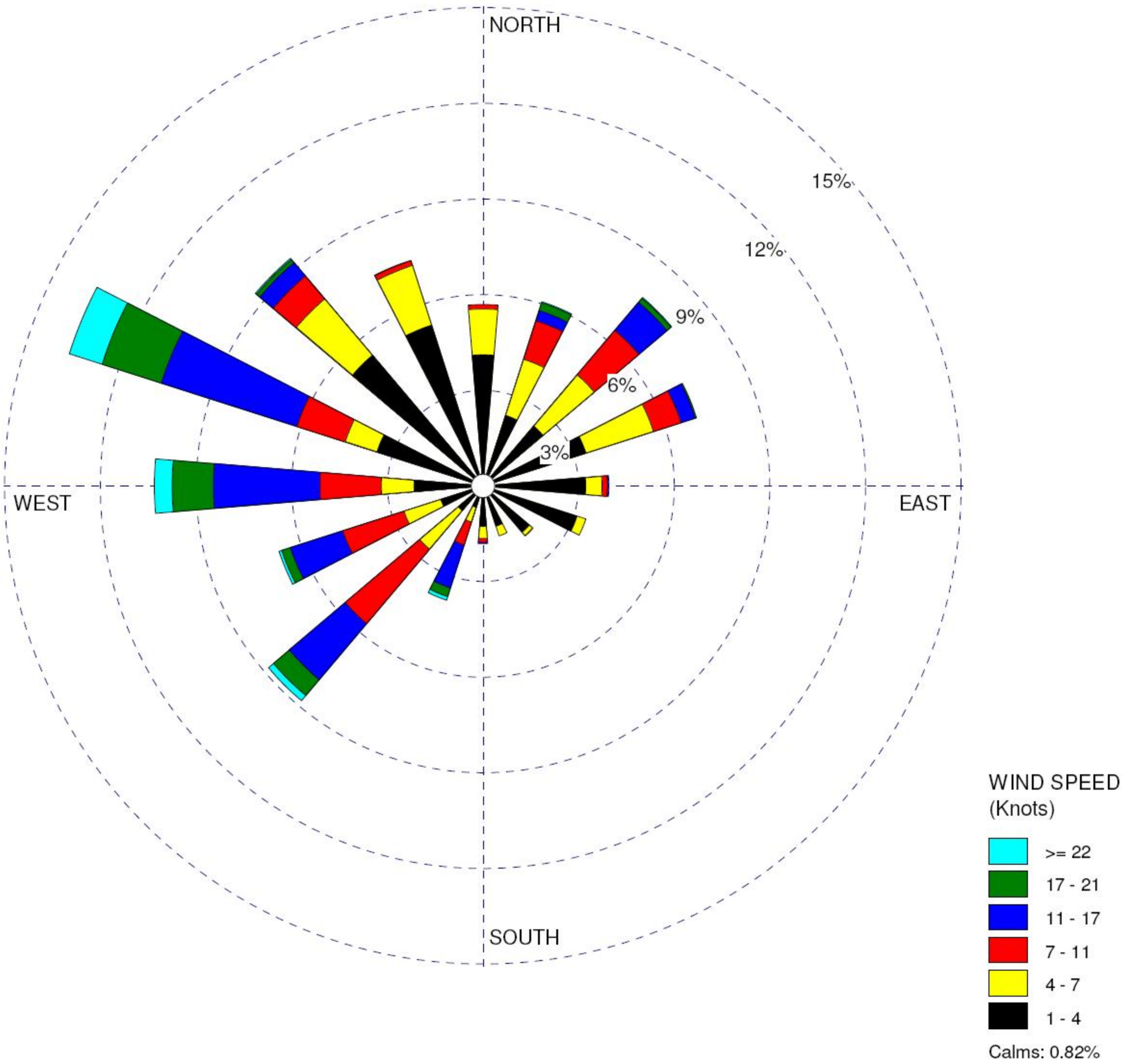
Frequency of Calm Winds: 1.55%
Average Wind Speed: 10.21 Knots

WIND ROSE PLOT:

Mojave ARB Monitoring Station, Mojave, CA
2002-2004 Wind Rose - 4th Quarter (Oct-Dec)

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD:	COMPANY NAME:	
	2002 2003 2004 **Oct 1 - Dec 31** **00:00 - 23:00**	MODELER:	Beacon Solar
	CALM WINDS: **0.82%**	TOTAL COUNT: **6624 hrs.**	
	AVG. WIND SPEED: **7.42 Knots**	DATE: **3/5/2008**	PROJECT NO.: **10056-014-030**

WRPLOT View - Lakes Environmental Software

Station ID: 72381
Year: 2002 2003 2004
Date Range: Oct 1 - Dec 31
Time Range: 00:00 - 23:00

Run ID:

Frequency Distribution
(Count)

Wind Direction (Blowing From) / Wind Speed (Knots)

	1 - 4	4 - 7	7 - 11	11 - 17	17 - 21	>= 22	Total
348.75-11.25	272	95	9	0	0	0	376
11.25-33.75	154	122	84	22	17	2	401
33.75-56.25	163	139	121	76	11	2	512
56.25-78.75	224	147	60	31	3	0	465
78.75-101.25	213	34	11	3	0	0	261
101.25-123.75	205	19	0	0	0	0	224
123.75-146.25	126	9	1	0	0	0	136
146.25-168.75	88	21	0	0	0	0	109
168.75-191.25	84	25	8	3	0	0	120
191.25-213.75	47	32	50	93	19	8	249
213.75-236.25	67	105	202	152	43	14	583
236.25-258.75	92	80	133	114	19	6	444
258.75-281.25	143	68	127	221	85	37	681
281.25-303.75	231	69	105	295	129	71	900
303.75-326.25	355	153	62	36	9	3	618
326.25-348.75	350	130	10	0	1	0	491
Total	2814	1248	983	1046	336	143	6624

Frequency of Calm Winds: 54
Average Wind Speed: 7.42 Knots

Station ID: 72381
Year: 2002 2003 2004
Date Range: Oct 1 - Dec 31
Time Range: 00:00 - 23:00

Run ID:

Frequency Distribution
(Normalized)

Wind Direction (Blowing From) / Wind Speed (Knots)

	1 - 4	4 - 7	7 - 11	11 - 17	17 - 21	>= 22	Total
348.75-11.25	0.041063	0.014342	0.001359	0.000000	0.000000	0.000000	0.056763
11.25-33.75	0.023249	0.018418	0.012681	0.003321	0.002566	0.000302	0.060537
33.75-56.25	0.024607	0.020984	0.018267	0.011473	0.001661	0.000302	0.077295
56.25-78.75	0.033816	0.022192	0.009058	0.004680	0.000453	0.000000	0.070199
78.75-101.25	0.032156	0.005133	0.001661	0.000453	0.000000	0.000000	0.039402
101.25-123.75	0.030948	0.002868	0.000000	0.000000	0.000000	0.000000	0.033816
123.75-146.25	0.019022	0.001359	0.000151	0.000000	0.000000	0.000000	0.020531
146.25-168.75	0.013285	0.003170	0.000000	0.000000	0.000000	0.000000	0.016455
168.75-191.25	0.012681	0.003774	0.001208	0.000453	0.000000	0.000000	0.018116
191.25-213.75	0.007095	0.004831	0.007548	0.014040	0.002868	0.001208	0.037591
213.75-236.25	0.010115	0.015851	0.030495	0.022947	0.006492	0.002114	0.088013
236.25-258.75	0.013889	0.012077	0.020079	0.017210	0.002868	0.000906	0.067029
258.75-281.25	0.021588	0.010266	0.019173	0.033364	0.012832	0.005586	0.102808
281.25-303.75	0.034873	0.010417	0.015851	0.044535	0.019475	0.010719	0.135870
303.75-326.25	0.053593	0.023098	0.009360	0.005435	0.001359	0.000453	0.093297
326.25-348.75	0.052838	0.019626	0.001510	0.000000	0.000151	0.000000	0.074124
Total	0.424819	0.188406	0.148400	0.157911	0.050725	0.021588	0.991848

Frequency of Calm Winds: 0.82%
Average Wind Speed: 7.42 Knots

APPENDIX E.2

Construction and Operation Emissions

Prepared for:
Beacon Solar, LLC

Appendix E.2
Construction and Operations Air Emissions Calculations

ENSR Corporation
March 2008
Document No.: 10065-014-030MPA

ENSR | AECOM

Prepared for:
Beacon Solar, LLC
Beacon Solar Energy Project

Appendix E.2
Construction and Operations Air Emissions Calculations

Prepared By Russ Kingsley

Reviewed By Steven Heisler

ENSR Corporation
March 2008
Document No.: 10056-014-030 App. E.2

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1.0 Introduction

This Appendix contains a description of the emissions calculated for the Beacon Solar Energy Project (BSEP). Section 2 describes the methodology used to calculate emissions related to construction of the BSEP. Emissions during operation of the BSEP of criteria pollutants are addressed in Section 3, air toxic emissions in Section 4, and greenhouse gas emissions in Section 5. References are provided in Section 6. Tables which contain the emissions during construction and operation of the BSEP follow in tables at the end of the document.

2.0 Construction Emissions

During the construction of the BSEP, there will be emissions similar to those associated with any large industrial construction project. Onsite emissions will arise primarily from heavy duty vehicles and equipment. Onsite fugitive dust emissions will also be generated during site preparation and during construction. Offsite emissions will occur from construction worker vehicles and material delivery trucks. The construction related emissions are transient in nature and will cause some unavoidable but minor localized short-term impacts.

The Project will include construction of the solar facility, the natural gas supply pipeline, and the electricity transmission line. Onsite and offsite emissions during each month of construction were calculated separately for the solar facility, the natural gas pipeline, and the transmission line.

2.1 Emission Calculation Methodology

2.1.1 Construction Equipment Exhaust Emissions

The combustion of fuel to provide power for the operation of various construction activities and equipment results in the generation of criteria pollutants (carbon monoxide [CO], volatile organic compounds [VOC], nitrogen oxides [NOx], sulfur oxides [SOx], respirable particulate matter [PM10] and fine particulate matter [PM2.5]) emissions. The following predictive emission equation was used to calculate exhaust emissions from each type of construction equipment:

$$\text{Exhaust Emissions}_{i,j}\,(\text{lb}) = E_{FC,i,j} \times T_{H,j} \qquad \text{(Eq. 1-1)}$$

Where: $EF_{C,i,j}$ = Emission factor for specific air contaminant i from construction equipment type j (lb/hr)

$T_{H,j}$ = Operating time for equipment of type j (hr)

The exhaust emission factors used for the calculations of CO, VOC, NOx, SOx and PM10 are composite horsepower-based off-road emission factors for 2009 derived from the California Air Resources Board's (ARB) OFFROAD2007 Model (version 2.0.1.2, December 15, 2007) (ARB, 2007a). The OFFROAD2007 Model calculates total daily emissions by equipment category (crane, dozer, grader, etc.) and type of fuel (diesel, gasoline, etc.) within engine horsepower ranges in a geographic area, such as the Kern County Air Pollution Control District (KCAPCD) jurisdiction. The model also calculates total daily operating hours within the geographic area by equipment category, fuel and horsepower range. The total daily emissions were divided by the total daily operating hours to calculate emission factors, in pounds per hour, by equipment category, fuel and horsepower range. The diesel off-road equipment emission factors for 2009 are in Table 1 at the end of this appendix, and the gasoline off-road equipment emission factors are in Table 2.

PM2.5 emission factors were calculated from PM10 emission factors using the following equation:

$$EF_{C,PM2.5,j}\,(\text{lb/hr}) = EF_{C,PM10,j} \times F_{PM2.5,j} \qquad \text{(Eq. 1-2)}$$

Where: $EF_{C,PM2.5,,j}$ = PM2.5 emission factor for construction equipment type j (lb/hr)

$EF_{C,PM10,,j}$ = PM10 emission factor for construction equipment type j (lb/hr)

$F_{PM2.5,,j}$ = Mass fraction of PM2.5 emissions in PM10 emissions from equipment of type j (unitless)

The mass fractions of PM2.5 in PM10 emissions from construction equipment exhaust depend on the type of fuel (diesel or gasoline). South Coast Air Quality Management District (SCAQMD) has compiled PM2.5

fractions in PM10 emissions from several emission source categories in "Final –Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds" (SCAQMD, 2006). These PM2.5 mass fractions are from PM profiles in the California Emission Inventory Data and Reporting System (CEIDARS) developed by ARB.

The construction equipment emission factors for the construction equipment to be used for construction of the BSEP are listed in Table 3.

2.1.2 Motor Vehicle Exhaust, Break Wear and Tire Wear Emissions

The combustion of fuel in motor vehicle engines results in the generation of CO, VOC NO_X, SO_X, PM10 and PM2.5 emissions. Motor vehicle brake and tire wear results in the generation of PM10 and PM2.5 emissions. The following predictive emission equation was used to calculate emissions from both on-site and off-site motor vehicles:

$$\text{Exhaust Emissions}_{i,j}\,(\text{lb}) = EF_{V,i,j} \times VMT_j \qquad \text{(Eq. 1-3)}$$

Where: $EF_{V,i,j}$ = Emission factor for specific air contaminant i from motor vehicle type j (lb/mi)

VMT_j = Distance traveled each day by motor vehicle of type j (mi)

CO, VOC, NO_X, SO_X and PM10 emission factors were compiled by running the ARB's EMFAC2007 (version 2.3) Burden Model (ARB, 2007b) for the KCAPCD jurisdiction during calendar year 2009. Daily emissions by vehicle class (light-duty truck, heavy, heavy-heavy duty diesel vehicle, etc.) from the Burden model were divided by the daily mileage traveled by vehicles within the class from the Burden Model to calculate the emission factors. The emission factors account for the emissions from start, running and idling exhaust. In addition, the VOC emission factors take into account diurnal, hot soak, running and resting emissions, and the PM10 emission factors account for exhaust, brake wear and tire wear emissions separately.

PM2.5 emission factors were calculated by multiplying the PM10 emission factors by the mass fraction of PM2.5 emissions in motor vehicle exhaust, brake wear and tire wear PM10 emissions. The PM2.5 mass fractions in PM10 emissions from gasoline and diesel-fueled engine exhaust were from "Final –Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds" (SCAQMD, 2006).

The motor vehicle emission factors from the Burden Model and the calculated PM2.5 emission factors are listed in Table 4-A. The motor vehicle emission factors for the vehicles to be used for construction of BSEP are listed in Table 5-A.

2.1.3 Motor Vehicle Entrained Paved Road Dust Emissions

Vehicle travel on paved roads generates fugitive PM10 and PM2.5 emissions by entrainment of dust on the roads. The following predictive emission equation was used to calculate entrained paved road dust emissions:

$$\text{Entrained Dust PM10 Emissions}_j\,(\text{lb}) = EF_{D,j} \times VMT_j \qquad \text{(Eq. 1-4)}$$

Where: $EF_{D,j}$ = Emission factor for entrained road dust PM10 from motor vehicle type j (lb/mi)

VMT_j = Distance traveled each day by motor vehicles of type j (mi)

The emission factor was calculated from the following equation from ARB Emission Inventory Methodology 7.9, "Entrained Paved Road Dust" (ARB, 1997):

$$EF_{D,j}\,(\text{lb/mi}) = 7.26 / 453.6 \times (sL_j/2)^{0.65} \times (W_j/3)^{1.5} \qquad \text{(Eq. 1-5)}$$

Where: 7.26 = A constant for PM10 emissions (g/mi)

453.6 = Factor to convert from grams to pounds (g/lb)

sL_j = Silt loading on roads traveled by motor vehicle of type j (g/m^2)

W_j = Average weight of vehicles on roads traveled by vehicles of type j (tons)

The silt loadings were taken from Table 3 of CARB Emission Inventory Methodology 7.9 (ARB, 1997). As indicated in Table 5-B, offsite motor vehicles were assumed to travel on paved collector roads.

The average weight of vehicles on roads traveled by offsite motor vehicles was assumed to be 2.4 tons, as listed in Table 3 of ARB Emission Inventory Methodology 7.9 (ARB, 1997) for the Kern County portion of the Southeast Desert Air Basin.

PM2.5 emission factors were calculated by multiplying the PM10 emission factors by the mass fraction of PM2.5 emissions in PM10 emissions from entrained paved road dust. The PM2.5 mass fractions were from "Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds" (SCAQMD, 2006). The calculated PM10 and PM2.5 entrained paved road dust emission factors are in Table 5-B.

2.1.4 Fugitive PM10 and PM2.5 Emissions

Excavation and grading during construction will generate fugitive PM10 and PM2.5 emissions from soil handling (i.e., dropping), wind erosion of temporary storage piles, bulldozing and grading, and on-site vehicles traveling on unpaved roads and surfaces. Although fugitive dust emissions from construction activities are temporary, they may have an impact on local air quality. Fugitive dust emissions often vary substantially from day to day, depending on the level of activity, the specific operations, and the prevailing meteorological conditions. The following methodologies provide the predictive emission equations, emission factors, and default values used to calculate fugitive dust emissions for the project.

<u>Emissions from Soil Handling</u>

Fugitive PM10 and PM2.5 emissions are generated during excavation when excavated material is dropped onto the ground at the side of the excavation location or dropped into trucks for removal from the site. The following equation was used to estimate these emissions:

$$\text{Emissions (lb/day)} = EF_S \times V_s \qquad \text{(Eq. 1-6)}$$

Where: EF_S = Controlled PM10 emission factor for soil dropping (lb/yd^3)

V_S = Volume of soil handled (yd^3)

The controlled emission factor was calculated from:

$$EF_S\ (lb/yd^3) = 0.0011 \times (U/5)^{1.3} / (M/2)^{1.4} \times D \times N_D \qquad \text{(Eq. 1.7)}$$

Where: U = Mean wind speed (mph)

M = Soil moisture content (percent)

D = Soil density ($tons/yd^3$)

N_D = Number of times soil is dropped

Source: (EPA, 1995a)

The mean wind speed was assumed to be the default value of 12 mph, from Table 9-9-G of the SCAQMD CEQA Handbook (SCAQMD, 1993a). The moisture content was assumed to be 15 percent, from "Open Fugitive Dust PM10 Control Strategies Study" (MRI, 1990) for moist conditions. Soil density was assumed to be 1.215 tons per cubic yard, from Table 2.46, Handbook of Solid Waste Management (F. Kreith, 2001). Watering will be used to maintain moist conditions. It was conservatively assumed that soil would be dropped four times: 1) onto the ground at the side of the excavation; 2) onto a temporary storage pile; 3) into a truck; and 4) out of the truck.

The PM2.5 emission factor was calculated by multiplying the PM10 emission factor by the mass fraction of PM2.5 emissions in PM10 emissions from construction dust. The PM2.5 mass fraction was from “Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds,” (SCAQMD, 2006). The emission factors are listed in Table 6.

Wind Erosion from Temporary Storage Piles

Wind erosion of temporary soil storage piles during excavation generates fugitive PM10 and PM2.5 emissions. The following equation was used to estimate these emissions:

$$\text{Emissions (lb)} = EF_W \times A \qquad \text{(Eq. 1-8)}$$

Where: EF_W = Controlled PM10 emission factor for storage pile wind erosion (lb/acre-day)

A = Temporary storage pile surface area (acres)

The controlled emission factor was calculated from:

$$EF_W \text{ (lb/acre-day)} = 0.85 \times (s/1.5) \times (365-p/235) \times (U_{12}/15) \times (1-CE/100) \qquad \text{(Eq. 1-9)}$$

Where: s = Soil silt content (percent)

p = Number of days per year with precipitation of 0.01 inches or more

U_{12} = Percentage of time unobstructed wind speed exceeds 12 mph

CE = Control efficiency from watering twice per day (percent)

Source: (EPA, 1992)

The storage pile silt contents were assumed to be 7.5 percent, as listed in Table A9-9-F-1 of the SCAQMD CEQA Air Quality Handbook (SCAQMD, 1993b) for overburden. The number of days with precipitation was conservatively assumed to be zero, and the percentage of the time that the wind speeds exceeds 12 mph was conservatively assumed to be 100 percent. The control efficiency from watering twice per day was assumed to be 50 percent.

The PM2.5 emission factor was calculated by multiplying the PM10 emission factor by the mass fraction of PM2.5 emissions in PM10 emissions from construction dust. The PM2.5 mass fraction was from “Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds” (SCAQMD, 2006). The emission factors are listed in Table 6.

Bulldozing, Scraping and Grading

Bulldozing, scraping and grading generate fugitive PM10 and PM2.5 emissions. The following equation was used to estimate these emissions:

$$\text{Emissions (lb)} = EF_B \times T_B \qquad \text{(Eq. 1-10)}$$

Where: EF_B = Controlled PM10 emission factor for bulldozing and grading (lb/hr)

T_B = Bulldozing and grading duration (hr)

The controlled emission factor was calculated from:

$$EF_B \text{ (lb/hr)} = 0.75 \times s^{1.5} / M^{1.4} \qquad \text{(Eq. 1-11)}$$

Where: s = Soil silt content (percent)

M = Soil moisture (percent)

Source: (EPA, 1998)

The silt content was assumed to be 7.5 percent, as listed in Table A9-9-F-1 of the SCAQMD CEQA Air Quality Handbook (SCAQMD, 1993b) for overburden and the moisture content was assumed to be 15 percent, from "Open Fugitive Dust PM10 Control Strategies Study" (MRI, 1990), for moist conditions. Watering will be used to maintain moist conditions.

The PM2.5 emission factor was calculated by multiplying the PM10 emission factor by the mass fraction of PM2.5 emissions in PM10 emissions from construction dust. The PM2.5 mass fraction was from “Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds” (SCAQMD, 2006). The emission factors are listed in Table 6.

<u>Vehicle Travel on Unpaved Surfaces</u>

Vehicles traveling on unpaved surfaces generate fugitive PM10 and PM2.5 emissions. The following equation was used to estimate these emissions:

$$\text{Emissions (lb)} = EF_U \times VMT_U \qquad \text{(Eq. 1-12)}$$

Where: EF_U = Controlled PM10 emission factor for vehicle travel on unpaved surfaces (lb/mi)

VMT_U = Distance traveled on unpaved surfaces (mi)

The controlled emission factor was calculated from:

$$\text{EFU (lb/mi)} = 1.5\ (s/12)^{0.9} \times (W/3)^{0.45} \times (1\text{-}CE/100) \qquad \text{(Eq. 1-13)}$$

Where: s = Surface silt content (percent)

W = Average vehicle weight (tons)

CE = Control efficiency from watering twice per day (percent)

Source: (EPA, 2003)

The silt content was assumed to be 7.5 percent, as listed in Table A9-9-F-1 of the SCAQMD CEQA Air Quality Handbook (SCAQMD, 1993b) for overburden. The average weight of vehicles on unpaved surfaces was assumed to be 20 tons, which is the average of a 10 ton empty and a 30 ton full dump truck. The control efficiency from watering twice per day was assumed to be 50 percent.

The PM2.5 emission factor was calculated by multiplying the PM10 emission factor by the mass fraction of PM2.5 emissions in PM10 emissions from construction dust. The PM2.5 mass fraction was from "Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds" (SCAQMD, 2006). The emission factors are listed in Table 6.

2.1.5 Asphaltic Paving Emissions

Paving with asphalt generates VOC emissions as the asphalt cures. The following equation was used to estimate these emissions:

$$\text{Emissions (lb)} = EF_P \times A_P \qquad \text{(EQ. 1-14)}$$

Where: EF_P = VOC emission factor for asphaltic paving (lb/acre)

A_P = Surface area paved (acres)

Source: (ARB, 2005)

The emission factor of 2.62 lb/acre from the URBEMIS2002 Users' Guide was used (ARB, 2005).

2.2 Emission Calculations

Emissions were calculated from estimates of (1) the types, number, horsepower rating and daily operating hours for construction equipment; (2) the types, number and daily miles traveled by onsite and offsite motor vehicles; and (3) the activity levels (eg., hours of bulldozing, scraping and grading) for fugitive particulate matter producing activities. These estimates were made by construction month for construction of the solar facility, the natural gas pipeline and the transmission line.

Hourly, daily, monthly and annual emissions were calculated for construction of the solar facility. Onsite emission rates used to model impacts of solar facility construction emissions on ambient air quality were derived from the hourly, daily and annual emissions.

Daily emissions were calculated for construction of the natural gas pipeline and the transmission line.

2.2.1 Solar Facility Construction Emission Calculations

Calculations of monthly solar facility construction emissions are in Tables 7-A through 7-N. Table 7-A lists the daily operating hours, vehicle miles traveled and number of pieces of construction equipment and motor vehicles by month for each type of equipment or motor vehicle; Table 7-B lists the monthly operating hours and vehicle miles traveled for each type of construction equipment or motor vehicles, based on 22 working days per month; Tables 7-C through 7-H list the monthly CO, VOC, NO_X, SO_X, PM10 and PM2.5 exhaust emissions; Tables 7-I and 7-J list the monthly motor vehicle fugitive PM10 and PM2.5 emissions; Table 7-K lists the monthly fugitive particulate matter generating activity levels; Tables 7-L and 7-M list the fugitive PM10 and PM2.5 emissions, and Table 7-N lists the monthly asphaltic paving surface areas and VOC emissions.

Peak hourly emissions were also estimated for each month of construction for the solar facility. These estimates were made by assuming that all pieces of construction equipment used during each month will operate simultaneously during one hour and that all onsite motor vehicles will travel one-third of their daily mileage simultaneously during the same hour. These calculations are in Tables 8-A through 8-N.

Construction emission summaries are in Tables 9A through 9L for construction of the solar facility. Tables A, C, E, G, I, and K summarize CO, VOC, NO_X, SO_X, PM10, and PM2.5 emissions, respectively. Each table lists

running 12-month, monthly, daily and hourly emissions by month as well as peak emissions. Tables B, D, F, H, J, L and N list maximum hourly, daily and annual on-site emissions for each of these pollutants.

Emission rates, in pounds per hour, used to model air quality impacts of onsite emissions during construction of the solar facility are listed in Table 10. The table lists the emission rate used for each pollutant and each averaging period and indicates how the emission rate was calculated.

2.2.2 Natural Gas Pipeline and Transmission Line Construction Emissions

Calculations of daily construction emissions are in Tables 11A through 11M for the natural gas pipeline and Tables 12A through 12M for the transmission line. Within each set of tables, Table A lists the daily operating hours, vehicle miles traveled and number of pieces of construction equipment and motor vehicles by month; Table B lists the daily operating hours and vehicle miles traveled for each type of construction equipment or motor vehicles; Tables C through H list the daily CO, VOC, NO_X, SO_X, PM10 and PM2.5 exhaust emissions; Tables I and J list the daily motor vehicle fugitive PM10 and PM2.5 emissions; Table K lists the daily fugitive particulate matter generating activity levels; and Tables L and M list the daily fugitive PM10 and PM2.5 emissions.

Construction emission summaries are in Tables 13A through 13F for construction of the natural gas pipeline and Tables 14A through 14F for the transmission line.

3.0 Operating Criteria Pollutant Emissions

Criteria pollutant (NO_X, SO_X, CO, VOC, PM10 and PM2.5) emissions are estimated for normal operations for the boilers, emergency fire pump engine, cooling tower, HTF expansion tank vent and onsite vehicle emissions.

3.1 Boiler Criteria Pollutant Emissions

The assumptions made regarding boiler operation used as the basis for emission calculations include:

- Two 30 MMBtu per hour boilers;
- Natural gas will be the only fuel used by the boilers;
- Boilers to be equipped with ultra-low-NO_X burners;
- Operation of the boilers is limited to 14 hours per day and 1,000 hours per year each; and
- 100 percent of the PM10 emissions are PM2.5.

The emission factors used for the NOx and SOx emission estimates are based on the BACT analysis (see Section 5.2, Air Quality of the AFC). The emission factors are shown in Table 15-B.

3.1.1 NOx and CO Emission Calculations

Emissions of NOx and CO are estimated based on pollutant concentration in the stack discharge. The volumetric stack flow rate is determined using the "F-factor" (i.e., the volume of exhaust gas from the combustion of 1.0 MMBtu of natural gas) of 8,710 standard cubic feet per MMBtu (scf/MMBtu) taken from 40 Code of Federal Regulations (CFR) Part 60, Appendix A-7, Method 20, with the appropriate correction for oxygen (O_2) content. The volumetric flow is used to convert the proposed BACT limit from units of parts per million by volume (ppmv) to an EF in units of pounds per MMBtu (lbs/MMBtu). The emission factor is calculated using Equation 2-1:

$$EF\ (lbs/MMBtu) = (ppmv/10^6) \times (F\text{-factor}) \times (O_2\ Corr) \times (MW/MV) \qquad \text{(Eq. 2-1)}$$

Where: EF = emission factor

ppmv = concentration of the pollutant in the stack

F-factor = volume of exhaust gas from the combustion of 1.0 MMBtu of natural gas
= 8,710 scf/MMBtu

O_2 Corr = Correction for excess O_2 content: $(20.9/[20.9 - \%O_2])$

MW = molecular weight of the species (NOx = 46 lbs/mole, CO = 28 lbs/mole)

MV = molar volume of gas at standard conditions (379 dscf/mole)

Emissions are calculated based on Equation 2-2:

$$Emissions\ (lbs/hr) = (EF) \times (heat\ rate\ of\ boiler\ [MMBtu/hr]) \qquad \text{(Eq. 2-2)}$$

Daily emissions are based on 14 hours of operation per day at full load, and annual emissions are based on 1,000 hours per year operation at full load. Calculations are presented in Table 15-B.

3.1.2 SOx and VOC Emission Calculations

BACT proposed for SOx and VOC emissions is the use of natural gas fuel and good combustion practice. Emission estimates are based on AP-42 emissions factors for natural gas combustion (EPA, 1998a). Hourly emissions are calculated according to Equation 2-3. Daily emissions are based on 14 hours per day of operation at full load, and annual emissions are based on 1,000 hours per year at full load.

Emissions (lbs/hr) = (EF/HHV) x (heat rate of boiler [MMBtu/hr]) (Eq. 2-3)

Where: EF = emission factor (lbs/MMscf gas combusted)

HHV = Higher heating value of the fuel (1,050 Btu/scf)

Calculations are presented in Table 15-B.

3.1.3 PM10 Calculations

BACT proposed for PM10 emissions is the use of natural gas and good combustion practice. Emission estimates are based on information provided by the equipment vendor for similar equipment. Hourly emissions are calculated according to Equation 2-2. Daily emissions are based on 14 hours per day of operation at full load, and annual emissions on 1,000 hours per year at full load. Calculations are presented in Table 15-B.

3.2 Emergency Diesel-Fired Engine Emissions

The assumptions made regarding emergency engine operation used as the basis for emission calculations include:

- One 300-Hp diesel-fired John Deere Co. engine, Model 6081HF;
- The engine is assumed to be a 2009 model year Tier 3 engine;
- The calculations assume the use of ultra-low sulfur (15 ppm) diesel fuel;
- The diesel fire pump will be operated for one one-hour test per week, not to exceed 50 hours per year;
- Emissions do not reflect emergency use; and
- 100 percent of the PM10 emissions are PM2.5.

Emission estimates for NOx, CO, VOC and PM10 are based on New Source Performance Standard (NSPS) Subpart IIII compliance for an emergency fire water pump engine of 300 horsepower constructed after 2009. Under this standard, the emission limit for NOx is combined with non-methane hydrocarbons (NMHC). For these emission estimates, the NOx fraction is assumed to be 95 percent of the combined emissions, and the balance NMHC (Carl Moyer, 2003). NMHC is assumed to be equivalent to VOC. The emission factors used for these emission estimates are presented in Table 16-A.

Emission estimates for SOx are based on estimated fuel use and fuel sulfur content. Fuel consumption is estimated based on the EPA default fuel consumption rate of 7,000 Btu/Hp-hr (EPA, 1996), and the fuel sulfur content is assumed to be 15 ppm based on the use of ultra-low sulfur diesel.

The calculation procedure for NOx, CO, PM10, and VOC are similar to one another; only the emission factors differ between the calculations. The emission calculation procedure is presented in Section 2.2.1 below for NOx emissions to demonstrate the methodology. Emission estimates for CO, VOC and PM10 are prepared using a spreadsheet which is included as Table 16-D at the end of this appendix. The procedure used to estimate SOx emissions differs from the other criteria pollutants. The SOx calculations are shown in Section 2.2.2 below and Table 16-D.

3.2.1 NOx, CO, VOC and PM10 Emission Calculations

The daily emissions are based on operating the engine one hour per day at full load for readiness testing. The engine will be operated no more than once per day for testing; therefore, the daily emissions are equal to the hourly emissions. Annual emissions are based on readiness testing up to 50 hours per year. Hourly emissions are calculated using Equation 2-4.

Emissions (lbs/hr) = EF x Hp x operating time ÷ conv. factor (gr / lbs) (Eq. 2-4)

3.2.2 SOx Emission Calculations

SOx emissions are based on fuel use and fuel sulfur content of 15 parts per million. Fuel use is estimated based on the engine horsepower and the default fuel usage rate, according to Equation 2-5.

Fuel = Hp x default fuel use rate / heating value of fuel (Eq. 2-5)

All of the fuel sulfur is assumed to form SOx (calculated as sulfur dioxide [SO_2]). Hourly emissions are calculated according to Equation 2-6.

Emissions (lbs/hr) = fuel use x density x duration x sulfur content x weight ratio (SO_2 to sulfur) (Eq. 2-6)

3.3 Cooling Tower PM10 Emissions

The assumptions made regarding cooling tower operation used as the basis for emission calculations include:

- Circulation rate of 149,000 gallons per minute;
- Cooling tower blowdown will contain a maximum of 1,600 mg/L Total Dissolved Solids (TDS) assuming fifteen cycles of concentration;
- The cooling tower will be equipped with a drift eliminator with drift losses of less than or equal to 0.0005 percent by weight based on circulation flow rate;
- The cooling tower maximum run time will be 16 hours per day;
- 100 percent of the TDS emissions are PM10; and
- 100 percent of the PM10 emissions are PM2.5.

Because wet cooling towers provide direct contact between the cooling water and the air passing through the tower, some of the liquid water may be entrained in the air stream and be carried out of the tower as "drift" droplets. PM10 is generated when the drift droplets evaporate and leave fine particulate matter formed by crystallization of dissolved solids. Dissolved solids found in cooling tower drift can consist of mineral matter, chemicals for corrosion inhibition, etc. As described in EPA AP-42, Section 13.4, Wet Cooling Towers (EPA, 1995b), particulate matter emissions are calculated by multiplying the total liquid drift

factor by the TDS fraction in the circulating water. PM10 emissions are estimated assuming that once the water evaporates, all of the solid particles are within the PM10 size range. TDS data for the cooling tower is estimated by multiplying the TDS data for the make-up water by the cooling tower cycles of concentration. Hourly PM10 emissions are calculated according to Equation 2-7:

Emissions (lb/hr) = WCR x 60 min/hr x (Drift % / 100) x density x TDS x PM10 fraction (Eq. 2-7)

Where: WCR = Water Circulation Rate, gallons per minute

TDS = Total Dissolved Solids, ppm (lb/10^6 lb water)

Daily emissions are calculated based on the maximum daily operating schedule of 16 hours per day. Annual emissions are calculated assuming operation 5,840 hours per year (= 16 hrs/day x 365 days/yr). Cooling tower PM10 and PM2.5 emissions are presented in Table 17-B at the end of this appendix.

3.4 HTF Expansion Tank VOC Emissions

The total uncontrolled VOC emissions from the HTF expansion/ullage tank vent were estimated based on data provided by an existing solar plant (Kramer Junction Solar Energy Generating System [SEGS]), extrapolated to account for HTF system size. Controlled emissions were calculated based on the use of two carbon adsorption canisters in series, each with an assumed control efficiency of 95 percent, for an overall control efficiency of 99.5 percent. The emissions from waste load out were calculated using the EPA software *Tanks 4.09* (EPA, 2007) for an assumed twelve waste hauls per year. HTF vent and waste load out emissions are found in Table 18-B at the end of this appendix.

3.5 Vehicle Emissions

The facility will require periodic vehicle travel over the unpaved portions of the solar field to perform routine maintenance including mirror washing, maintenance inspections and repairs of the piping network, herbicide application and dust suppressant application. Criteria pollutant emissions are expected from the combustion of fuels in the vehicles and fugitive PM10 emissions are expected from vehicle traffic in the solar fields.

Vehicle criteria pollutant emissions are calculated as the anticipated miles traveled multiplied by an emission factor. The emission factors, except fugitive emissions from entrained road dust, were compiled by running the ARB's EMFAC2007 (version 2.3) Burden Model (ARB, 2007b) and dividing calculated daily emissions by daily vehicle-miles-traveled. All vehicles are assumed to be heavy-duty diesel vehicles. All the emission factors account for the emissions from start, running and idling exhaust. The VOC emission factors take into account diurnal, hot soak, running and resting emissions, and fugitive PM10 and PM2.5 emission factors take into account tire and brake wear and entrained unpaved road dust. Vehicle emissions are shown in Table 19-A.

Emissions were calculated using Equation 1-3 for vehicle exhaust and 1-12 for unpaved road PM10 and PM2.5 emissions. Vehicle distance (daily and annual) and average speed are assumed based on operational knowledge of SEGS.

3.6 Summary of Operational Emissions

Operational criteria pollutant emissions for the Project are shown in Tables 20-A through 20-D at the end of this appendix.

4.0 Toxic Air Contaminant Emissions

Toxic air contaminant (TAC) emissions are estimated for normal operations for the boilers, emergency fire pump engine, cooling tower, and HTF expansion tank vent.

4.1 Boiler TAC Emission Calculations

Emissions of hazardous air pollutants (HAP) from the boilers are estimated based on EPA AP-42 emission factors for natural gas combustion (EPA, 1998b). Emission factors are listed in Table 21.

For each pollutant, maximum hourly emissions are calculated according to Equation 2-3. Annual emissions are calculated by multiplying the hourly emission rate by the maximum annual hours of operation. The emission factors and calculated emissions are shown in Table 21 at the end of this appendix.

4.2 Emergency Engine TAC Emission Calculations

One diesel-fueled fire water pump, with a capacity of 3,000 gallons per minute, delivers water to the fire protection water piping network. TAC emissions from this unit were quantified for routine testing and maintenance operation only which will be limited to no more than 50 hours per year. TAC emissions were characterized as aggregate particulate emissions (diesel particulate matter [DPM]) from diesel-fired engines (OEHHA, 2003). DPM emissions are calculated according to Equation 2-4, and the DPM is assumed to be equal to the PM10 emissions.

4.3 Cooling Tower TAC Emissions

The BSEP proposes to use a wet cooling tower for power plant cooling. Water for cooling tower makeup will be supplied from onsite groundwater wells. Very low levels of toxic metals and organics were identified in the onsite groundwater; emissions from water-born TAC are assumed to be negligible and are not estimated. However, the cooling tower will be a source for chloroform emissions from the application of sodium hypochlorite as a biocide for cooling tower maintenance. Biocide usage is estimated by the engineering contractor based on experience with similar applications. Chloroform emissions are estimated based on equation 3-1. TAC emissions are provided in Table 22 at the end of this appendix.

Emissions = EF x biocide usage x density x hypochlorite concentration x ME (Eq. 3-1)

Where: EF = emission factor of chloroform per pound of chlorine

ME = molar equivalent (moles of chlorine per mole of sodium hypochlorite)

The emission factor is taken from study contracted by ARB for sources of chloroform in the South Coast Air Basin (M.B. Rogozen, 1998).

4.4 HTF Expansion Tank TAC Emissions

The total uncontrolled VOC emissions from the HTF expansion tank (also known as an ullage tank) vent were estimated based on data provided by an existing solar plant (Kramer Junction SEGS), extrapolated to account for HTF system size. Controlled VOC emissions were calculated based on the use of two carbon adsorption canisters in series, each with a control efficiency of 95 percent, for an overall control efficiency of 99.5 percent. The emissions from waste load out were calculated for an assumed twelve waste hauls per year using EPA *Tanks 4.09* (EPA, 2007). The total TAC emissions from the waste load out were calculated by *Tanks 4.09* to be 99.99 percent of the total VOC emissions as benzene, and 0.01 percent of the total VOC emissions as

biphenyl. Phenol emissions were considered negligible. The same ratios of TAC are assumed for the HTF expansion tank vent. HTF vent and waste load out TAC emissions are provided in Table 23 at the end of this appendix.

4.5 Summary of TAC Emissions

Operational criteria pollutant emissions for the Project are shown in Table 24 at the end of this appendix.

5.0 Operating Greenhouse Gas Emissions

The boiler and emergency fire water pump engine may emit greenhouse gases (GHG), including carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). The methodology used to calculate GHG emissions from these sources is explained below.

5.1 Boiler GHG Emissions

GHG emissions from operation of the 30 MMBtu per hour boilers are based upon the estimated usage of the units by the Project (1,000 hrs/yr) and the emission factors listed in Tables C.5 and C.6 of the California Climate Action Registry General Reporting Protocol, Version 2.2 (GRP, 2007a). Annual emissions of GHG are calculated using Equation 4-1. Emission calculations are shown in Table 25-B at the end of this appendix.

$$\text{Emissions}_{GHG} = \text{heating rate} \times EF_{GHG} \times \text{conversion factor of kg to metric tons} \qquad \text{(Eq. 4-1)}$$

Where: EF_{GHG} = emission factor for each GHG from Tables C.5 and C.6 of GRP

5.2 Emergency Internal Combustion Engine GHG Emissions

GHG emissions from operation of an emergency diesel-fueled fire water pump are based upon the estimated usage by the Project (50 hrs/yr), the estimated fuel consumption (15 gal/hr) and the emission factors listed in Tables C.5 and C.6 of the GRP (GRP, 2007), according to Equation 4-2. Emission calculations are shown in Table 26-C at the end of this appendix.

$$\text{Emissions}_{GHG} = \text{fuel use} \times EF_{GHG} \times \text{conversion factor of kg to metric tons} \qquad \text{(Eq. 4-2)}$$

Where: EF_{GHG} = emission factor for each GHG from Tables C.5 and C.6 of GRP

5.3 Summary of GHG Emissions

CO_2 equivalents are calculated using the global warming potential (GWP) provided in Appendix C of the GRP (GRP, 2007b) in the column labeled GWP, as these are the values used by the California Climate Registry. The GWP of methane is 21 times that of CO_2 and the GWP of nitrous oxide is 310 times that of CO_2. Total GHG emissions are shown in Table 27 at the end of this appendix.

6.0 References

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TABLES

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
A/C Tug Narrow Body	0	250	0.7523	2.4266	0.1032	0.0020	0.2577
A/C Tug Wide Body	0	500	2.2871	4.1595	0.1722	0.0033	0.4346
Aerial Lifts	0	15	0.0530	0.0697	0.0042	0.0001	0.0108
Aerial Lifts	16	25	0.0617	0.1052	0.0073	0.0001	0.0233
Aerial Lifts	26	50	0.2022	0.2030	0.0202	0.0003	0.0831
Aerial Lifts	51	120	0.2540	0.4815	0.0386	0.0004	0.0772
Aerial Lifts	121	500	0.6441	2.0756	0.0648	0.0021	0.1667
Aerial Lifts	501	750	1.1642	3.8473	0.1187	0.0039	0.3102
Agricultural Mowers	0	120	0.2317	0.4381	0.0339	0.0004	0.0677
Agricultural Tractors	0	15	0.0643	0.0770	0.0039	0.0002	0.0123
Agricultural Tractors	16	25	0.0839	0.1645	0.0091	0.0003	0.0256
Agricultural Tractors	26	50	0.3763	0.3596	0.0367	0.0004	0.1550
Agricultural Tractors	51	120	0.4948	0.9348	0.0754	0.0009	0.1485
Agricultural Tractors	121	175	0.6843	1.4229	0.0720	0.0014	0.1679
Agricultural Tractors	176	250	0.4790	1.8992	0.0619	0.0020	0.1615
Agricultural Tractors	251	500	0.9402	2.8342	0.0934	0.0029	0.2373
Air Compressors	0	15	0.0526	0.0888	0.0066	0.0001	0.0154
Air Compressors	16	25	0.0893	0.1439	0.0106	0.0002	0.0352
Air Compressors	26	50	0.2948	0.2443	0.0284	0.0003	0.1278
Air Compressors	51	120	0.3409	0.6410	0.0583	0.0006	0.1110
Air Compressors	121	175	0.5160	1.0887	0.0606	0.0010	0.1384
Air Compressors	176	250	0.3710	1.5102	0.0510	0.0015	0.1352
Air Compressors	251	500	0.7626	2.3945	0.0822	0.0023	0.2133
Air Compressors	501	750	1.1786	3.7946	0.1288	0.0036	0.3355
Air Compressors	751	1000	2.0763	6.3334	0.1946	0.0049	0.5679
Air Conditioner	0	175	0.7700	1.2286	0.0632	0.0016	0.1317
Air Conditioner	176	250	0.3866	1.6635	0.0460	0.0023	0.1176
Air Conditioner	251	500	0.7521	2.7988	0.0856	0.0047	0.2052
Air Start Unit	0	175	0.7862	1.5461	0.0731	0.0015	0.1696
Air Start Unit	176	250	0.5213	2.0852	0.0629	0.0021	0.1632
Air Start Unit	251	500	1.1261	3.7726	0.1173	0.0042	0.2901
Air Start Unit	501	750	1.6892	5.8088	0.1785	0.0064	0.4500

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Baggage Tug	0	120	0.3842	0.7453	0.0674	0.0006	0.1306
Balers	0	50	0.2875	0.3588	0.0296	0.0005	0.1065
Balers	51	120	0.3362	0.6373	0.0435	0.0006	0.0912
Belt Loader	0	120	0.2553	0.4875	0.0435	0.0004	0.0835
Bobtail	0	120	0.5648	1.0860	0.0924	0.0009	0.1806
Bore/Drill Rigs	0	15	0.0631	0.0756	0.0038	0.0002	0.0121
Bore/Drill Rigs	16	25	0.0664	0.1295	0.0072	0.0002	0.0201
Bore/Drill Rigs	26	50	0.2607	0.2852	0.0221	0.0004	0.0668
Bore/Drill Rigs	51	120	0.4862	0.6800	0.0520	0.0009	0.0857
Bore/Drill Rigs	121	175	0.7534	1.0190	0.0527	0.0016	0.1049
Bore/Drill Rigs	176	250	0.3475	1.3088	0.0395	0.0021	0.0997
Bore/Drill Rigs	251	500	0.5589	1.8438	0.0624	0.0031	0.1518
Bore/Drill Rigs	501	750	1.1044	3.7874	0.1256	0.0062	0.3075
Bore/Drill Rigs	751	1000	1.7278	8.7507	0.2160	0.0093	0.5743
Cargo Loader	0	120	0.4550	0.8371	0.0748	0.0007	0.1408
Cargo Tractor	0	120	0.4386	0.7893	0.0735	0.0007	0.1358
Catering Truck	0	250	0.3039	1.3308	0.0358	0.0018	0.0907
Cement and Mortar Mixers	0	15	0.0391	0.0531	0.0033	0.0001	0.0082
Cement and Mortar Mixers	16	25	0.0991	0.1677	0.0116	0.0002	0.0375
Chippers/Stump Grinders	0	25	0.0829	0.1582	0.0086	0.0003	0.0246
Chippers/Stump Grinders	26	120	0.5038	0.9191	0.0739	0.0009	0.1432
Chippers/Stump Grinders	121	175	0.7085	1.4209	0.0706	0.0015	0.1629
Chippers/Stump Grinders	176	250	0.5786	2.2668	0.0731	0.0025	0.1892
Chippers/Stump Grinders	251	500	0.7253	2.2714	0.0748	0.0024	0.1876
Chippers/Stump Grinders	501	750	1.7461	5.6232	0.1827	0.0060	0.4650
Chippers/Stump Grinders	751	1000	3.0785	10.0692	0.2975	0.0085	0.8466
Combines	0	120	0.5930	1.1235	0.0789	0.0011	0.1636
Combines	121	175	0.6309	1.3131	0.0578	0.0014	0.1410
Combines	176	250	0.4269	1.7267	0.0492	0.0020	0.1314
Combines	251	500	0.6289	2.2088	0.0644	0.0024	0.1649
Commercial Turf Equipment	0	15	0.0589	0.0719	0.0040	0.0002	0.0102
Commercial Turf Equipment	16	25	0.0596	0.1120	0.0059	0.0002	0.0176

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Compressor (Entertainment)	0	120	0.2501	0.4629	0.0410	0.0004	0.0776
Compressor (GSE)	0	120	0.3988	0.7119	0.0626	0.0007	0.1166
Compressor (GSE)	121	250	0.3095	1.2232	0.0413	0.0013	0.1076
Compressor (GSE)	251	500	0.6945	2.2359	0.0777	0.0024	0.1976
Compressor (GSE)	501	750	1.0261	3.3924	0.1165	0.0036	0.2978
Compressor (Railyard)	0	120	0.2329	0.4310	0.0381	0.0004	0.0722
Concrete/Industrial Saws	0	25	0.0678	0.1294	0.0071	0.0002	0.0201
Concrete/Industrial Saws	26	50	0.3307	0.3120	0.0317	0.0004	0.1322
Concrete/Industrial Saws	51	120	0.5025	0.9097	0.0754	0.0009	0.1439
Concrete/Industrial Saws	121	175	0.8820	1.7461	0.0902	0.0018	0.2052
Crane (Rail-CHE)	0	120	0.3864	0.7150	0.0633	0.0006	0.1199
Crane (Rail-CHE)	121	175	0.3626	0.7432	0.0355	0.0008	0.0837
Cranes	0	50	0.3258	0.2582	0.0304	0.0003	0.1373
Cranes	51	120	0.3759	0.6894	0.0632	0.0006	0.1185
Cranes	121	175	0.4901	0.9835	0.0562	0.0009	0.1274
Cranes	176	250	0.3665	1.3089	0.0501	0.0013	0.1313
Cranes	251	500	0.7164	1.8761	0.0727	0.0018	0.1912
Cranes	501	750	1.2055	3.2282	0.1237	0.0030	0.3239
Cranes	751	9999	4.4728	12.6382	0.3966	0.0098	1.1493
Crawler Tractors	0	50	0.3612	0.2814	0.0336	0.0003	0.1538
Crawler Tractors	51	120	0.5075	0.9510	0.0858	0.0008	0.1641
Crawler Tractors	121	175	0.7655	1.5591	0.0894	0.0014	0.2036
Crawler Tractors	176	250	0.6045	2.0496	0.0831	0.0019	0.2152
Crawler Tractors	251	500	1.2964	2.8731	0.1160	0.0025	0.3039
Crawler Tractors	501	750	2.3239	5.2476	0.2098	0.0047	0.5475
Crawler Tractors	751	1000	3.6776	8.9154	0.2951	0.0066	0.8398
Crushing/Proc. Equipment	0	50	0.5722	0.4760	0.0543	0.0006	0.2403
Crushing/Proc. Equipment	51	120	0.5999	1.0900	0.0996	0.0010	0.1858
Crushing/Proc. Equipment	121	175	0.9757	1.9583	0.1105	0.0019	0.2482
Crushing/Proc. Equipment	176	250	0.6613	2.6825	0.0900	0.0027	0.2385
Crushing/Proc. Equipment	251	500	1.1535	3.6453	0.1263	0.0037	0.3267
Crushing/Proc. Equipment	501	750	1.7704	5.9389	0.2012	0.0059	0.5230

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Crushing/Proc. Equipment	751	9999	5.2003	16.6064	0.5026	0.0131	1.4602
Dumpers/Tenders	0	25	0.0345	0.0661	0.0039	0.0001	0.0114
Excavators	0	25	0.0676	0.1271	0.0066	0.0002	0.0200
Excavators	26	50	0.3260	0.2677	0.0297	0.0003	0.1251
Excavators	51	120	0.5368	0.8983	0.0839	0.0009	0.1515
Excavators	121	175	0.6709	1.1969	0.0702	0.0013	0.1560
Excavators	176	250	0.4137	1.6020	0.0555	0.0018	0.1528
Excavators	251	500	0.6596	2.0634	0.0754	0.0023	0.2070
Excavators	501	750	1.0934	3.5238	0.1269	0.0039	0.3458
Forklift	0	175	0.3276	0.6438	0.0345	0.0007	0.0778
Forklifts	0	50	0.1960	0.1577	0.0182	0.0002	0.0786
Forklifts	51	120	0.2288	0.3828	0.0385	0.0004	0.0684
Forklifts	121	175	0.3327	0.6146	0.0374	0.0006	0.0826
Forklifts	176	250	0.1775	0.7899	0.0244	0.0009	0.0696
Forklifts	251	500	0.2459	0.9851	0.0328	0.0011	0.0918
Fuel Truck	0	250	0.1524	0.6028	0.0198	0.0007	0.0513
Generator	0	120	0.6080	1.0701	0.1016	0.0009	0.1858
Generator	121	175	0.9293	1.7965	0.1052	0.0017	0.2358
Generator	176	250	0.6200	2.4489	0.0852	0.0025	0.2319
Generator	251	500	1.0553	3.4001	0.1231	0.0040	0.3350
Generator	501	750	1.7036	5.6459	0.2020	0.0064	0.5453
Generator (Entertainment)	0	50	0.4225	0.4431	0.0418	0.0006	0.1665
Generator (Entertainment)	51	120	0.5820	1.0832	0.0832	0.0010	0.1657
Generator (Entertainment)	121	175	0.7911	1.6213	0.0775	0.0017	0.1826
Generator (Entertainment)	176	250	0.5299	2.0299	0.0649	0.0022	0.1690
Generator (Entertainment)	251	500	0.8467	2.6012	0.0844	0.0027	0.2133
Generator (Entertainment)	501	750	1.6621	5.2270	0.1676	0.0055	0.4304
Generator (Entertainment)	751	9999	3.6146	11.4568	0.3456	0.0097	0.9794
Generator (Railyard)	0	175	0.7370	1.5105	0.0722	0.0016	0.1701
Generator (Railyard)	176	9999	3.2914	10.4323	0.3147	0.0088	0.8918
Generator Sets	0	15	0.0744	0.1220	0.0075	0.0002	0.0185
Generator Sets	16	25	0.1090	0.1757	0.0115	0.0002	0.0322

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Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Generator Sets	26	50	0.3039	0.3144	0.0305	0.0004	0.1236
Generator Sets	51	120	0.5136	0.9729	0.0766	0.0009	0.1540
Generator Sets	121	175	0.7527	1.5955	0.0770	0.0016	0.1837
Generator Sets	176	250	0.5434	2.2361	0.0676	0.0024	0.1804
Generator Sets	251	500	0.9836	3.2513	0.0998	0.0033	0.2569
Generator Sets	501	750	1.5879	5.3806	0.1632	0.0055	0.4274
Generator Sets	751	9999	3.9872	12.7668	0.3898	0.0105	1.1113
Graders	0	50	0.3692	0.3001	0.0342	0.0004	0.1507
Graders	51	120	0.5512	0.9807	0.0896	0.0009	0.1659
Graders	121	175	0.7435	1.4365	0.0821	0.0014	0.1841
Graders	176	250	0.5194	1.8997	0.0705	0.0019	0.1856
Graders	251	500	0.8122	2.2486	0.0853	0.0023	0.2248
Graders	501	750	1.7191	4.8761	0.1829	0.0049	0.4795
Ground Power Unit	0	175	0.8743	1.6762	0.0936	0.0017	0.2078
Hydrant Truck	0	175	0.8534	1.7148	0.0894	0.0017	0.2042
Hydro Power Units	0	15	0.0367	0.0440	0.0022	0.0001	0.0070
Hydro Power Units	16	25	0.0475	0.0932	0.0052	0.0001	0.0145
Hydro Power Units	26	50	0.2742	0.2303	0.0261	0.0003	0.1171
Hydro Power Units	51	120	0.3032	0.5703	0.0501	0.0005	0.0957
Lav Truck	0	175	0.3102	0.6037	0.0348	0.0006	0.0777
Lawn & Garden Tractors	0	15	0.0574	0.0777	0.0047	0.0001	0.0110
Lawn & Garden Tractors	16	25	0.0606	0.1191	0.0066	0.0002	0.0181
Leaf Blowers/Vacuums	0	15	0.0184	0.0240	0.0014	0.0000	0.0034
Leaf Blowers/Vacuums	16	120	0.2977	0.5445	0.0380	0.0006	0.0773
Leaf Blowers/Vacuums	121	250	0.2363	0.9449	0.0265	0.0011	0.0698
Lift	0	120	0.5017	0.8959	0.0784	0.0008	0.1462
Materials Handling (Rail-CHE)	0	120	0.4241	0.7848	0.0695	0.0007	0.1316
Off-Highway Tractors	0	120	0.7524	1.4824	0.1303	0.0011	0.2575
Off-Highway Tractors	121	175	0.8643	1.8473	0.1052	0.0015	0.2423
Off-Highway Tractors	176	250	0.5600	1.7836	0.0773	0.0015	0.1965
Off-Highway Tractors	251	750	3.8330	7.1549	0.2995	0.0057	0.7713
Off-Highway Tractors	751	1000	5.9483	11.8428	0.4197	0.0082	1.1731

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Off-Highway Trucks	0	175	0.7638	1.3725	0.0815	0.0014	0.1837
Off-Highway Trucks	176	250	0.4534	1.7307	0.0614	0.0019	0.1724
Off-Highway Trucks	251	500	0.8106	2.4795	0.0925	0.0027	0.2601
Off-Highway Trucks	501	750	1.3148	4.1397	0.1523	0.0044	0.4246
Off-Highway Trucks	751	1000	2.2333	7.6483	0.2329	0.0063	0.6759
Other Agricultural Equipment	0	15	0.0468	0.0586	0.0035	0.0001	0.0092
Other Agricultural Equipment	16	25	0.0711	0.1287	0.0083	0.0002	0.0253
Other Agricultural Equipment	26	50	0.2620	0.2647	0.0258	0.0003	0.1059
Other Agricultural Equipment	51	120	0.3397	0.6423	0.0500	0.0006	0.0998
Other Agricultural Equipment	121	175	0.4979	1.0356	0.0506	0.0010	0.1193
Other Agricultural Equipment	176	250	0.3515	1.4003	0.0441	0.0015	0.1158
Other Agricultural Equipment	251	500	0.5928	1.8471	0.0590	0.0019	0.1502
Other Construction Equipment	0	15	0.0617	0.0739	0.0037	0.0002	0.0118
Other Construction Equipment	16	25	0.0549	0.1071	0.0059	0.0002	0.0167
Other Construction Equipment	26	50	0.3030	0.2830	0.0282	0.0004	0.1134
Other Construction Equipment	51	120	0.5469	0.9231	0.0788	0.0009	0.1437
Other Construction Equipment	121	175	0.5909	1.0639	0.0572	0.0012	0.1254
Other Construction Equipment	176	500	0.6529	2.1202	0.0721	0.0025	0.1813
Other General Industrial Equipmen	0	15	0.0390	0.0466	0.0019	0.0001	0.0066
Other General Industrial Equipmen	16	25	0.0631	0.1188	0.0062	0.0002	0.0186
Other General Industrial Equipmen	26	50	0.3231	0.2471	0.0307	0.0003	0.1415
Other General Industrial Equipmen	51	120	0.4734	0.8818	0.0855	0.0007	0.1594
Other General Industrial Equipmen	121	175	0.5876	1.2283	0.0725	0.0011	0.1641
Other General Industrial Equipmen	176	250	0.3979	1.6228	0.0560	0.0015	0.1522
Other General Industrial Equipmen	251	500	0.8990	2.8205	0.1001	0.0026	0.2697
Other General Industrial Equipmen	501	750	1.4818	4.7757	0.1674	0.0044	0.4484
Other General Industrial Equipmen	751	1000	2.4564	7.5251	0.2362	0.0056	0.6885
Other GSE	0	175	0.5338	1.1339	0.0626	0.0011	0.1438
Other Lawn & Garden Equipment	0	15	0.0746	0.0931	0.0054	0.0002	0.0132
Other Lawn & Garden Equipment	16	25	0.0671	0.1281	0.0070	0.0002	0.0199
Other Material Handling Equipment	0	50	0.4462	0.3435	0.0425	0.0004	0.1955
Other Material Handling Equipment	51	120	0.4608	0.8596	0.0829	0.0007	0.1548

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Other Material Handling Equipment	121	175	0.7442	1.5585	0.0915	0.0014	0.2072
Other Material Handling Equipment	176	250	0.4241	1.7307	0.0595	0.0016	0.1613
Other Material Handling Equipment	251	500	0.6477	2.0324	0.0719	0.0019	0.1925
Other Material Handling Equipment	501	9999	3.2486	9.9414	0.3110	0.0073	0.9073
Passenger Stand	0	120	0.4456	0.8012	0.0544	0.0009	0.1104
Pavers	0	25	0.0870	0.1644	0.0100	0.0002	0.0294
Pavers	26	50	0.3948	0.3147	0.0371	0.0004	0.1709
Pavers	51	120	0.5283	1.0159	0.0887	0.0008	0.1726
Pavers	121	175	0.8031	1.6818	0.0938	0.0014	0.2144
Pavers	176	250	0.7383	2.4499	0.1009	0.0022	0.2555
Pavers	251	500	1.2684	2.6606	0.1078	0.0023	0.2747
Paving Equipment	0	25	0.0524	0.1023	0.0057	0.0002	0.0159
Paving Equipment	26	50	0.3350	0.2686	0.0315	0.0003	0.1454
Paving Equipment	51	120	0.4131	0.7963	0.0694	0.0006	0.1350
Paving Equipment	121	175	0.6264	1.3192	0.0731	0.0011	0.1673
Paving Equipment	176	250	0.4603	1.5346	0.0628	0.0014	0.1589
Plate Compactors	0	15	0.0263	0.0321	0.0018	0.0001	0.0051
Pressure Washers	0	15	0.0356	0.0585	0.0036	0.0001	0.0089
Pressure Washers	16	25	0.0442	0.0712	0.0047	0.0001	0.0130
Pressure Washers	26	50	0.1194	0.1421	0.0124	0.0002	0.0461
Pressure Washers	51	120	0.1509	0.2865	0.0207	0.0003	0.0431
Pumps	0	15	0.0541	0.0912	0.0068	0.0001	0.0159
Pumps	16	25	0.1204	0.1941	0.0143	0.0002	0.0475
Pumps	26	50	0.3589	0.3563	0.0358	0.0004	0.1480
Pumps	51	120	0.5221	0.9881	0.0799	0.0009	0.1589
Pumps	121	175	0.7549	1.5994	0.0792	0.0016	0.1874
Pumps	176	250	0.5251	2.1523	0.0667	0.0023	0.1773
Pumps	251	500	1.0497	3.3717	0.1059	0.0034	0.2724
Pumps	501	750	1.7354	5.7142	0.1774	0.0057	0.4631
Pumps	751	9999	5.3331	16.6820	0.5112	0.0136	1.4610
Rollers	0	15	0.0386	0.0462	0.0023	0.0001	0.0074
Rollers	16	25	0.0554	0.1081	0.0060	0.0002	0.0168

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Rollers	26	50	0.3256	0.2793	0.0307	0.0003	0.1352
Rollers	51	120	0.4217	0.7775	0.0671	0.0007	0.1278
Rollers	121	175	0.6298	1.2693	0.0686	0.0012	0.1560
Rollers	176	250	0.4803	1.7149	0.0643	0.0017	0.1642
Rollers	251	500	0.8418	2.2084	0.0830	0.0021	0.2106
Rough Terrain Forklifts	0	50	0.4323	0.3612	0.0401	0.0004	0.1727
Rough Terrain Forklifts	51	120	0.4488	0.7787	0.0715	0.0007	0.1303
Rough Terrain Forklifts	121	175	0.7317	1.3741	0.0786	0.0014	0.1741
Rough Terrain Forklifts	176	250	0.4543	1.7751	0.0611	0.0019	0.1625
Rough Terrain Forklifts	251	500	0.7488	2.3491	0.0843	0.0025	0.2215
Rubber Tired Dozers	0	175	0.8769	1.8692	0.1076	0.0015	0.2494
Rubber Tired Dozers	176	250	0.8113	2.5599	0.1125	0.0021	0.2892
Rubber Tired Dozers	251	500	1.8650	3.3537	0.1433	0.0026	0.3757
Rubber Tired Dozers	501	750	2.8079	5.1223	0.2171	0.0040	0.5675
Rubber Tired Dozers	751	1000	4.4947	8.7626	0.3157	0.0059	0.8829
Rubber Tired Loaders	0	25	0.0696	0.1329	0.0072	0.0002	0.0207
Rubber Tired Loaders	26	50	0.4129	0.3380	0.0383	0.0004	0.1682
Rubber Tired Loaders	51	120	0.4309	0.7650	0.0697	0.0007	0.1290
Rubber Tired Loaders	121	175	0.6345	1.2230	0.0697	0.0012	0.1560
Rubber Tired Loaders	176	250	0.4433	1.6306	0.0600	0.0017	0.1577
Rubber Tired Loaders	251	500	0.8223	2.3019	0.0867	0.0023	0.2276
Rubber Tired Loaders	501	750	1.6846	4.8338	0.1799	0.0049	0.4704
Rubber Tired Loaders	751	1000	2.4128	7.4174	0.2257	0.0060	0.6515
Sailboat Auxiliary Inboard Engine	0	50	0.0979	0.2218	0.0055	0.0002	0.0652
Scrapers	0	120	0.7249	1.3693	0.1230	0.0011	0.2362
Scrapers	121	175	0.9364	1.9246	0.1099	0.0017	0.2505
Scrapers	176	250	0.7756	2.6128	0.1065	0.0024	0.2747
Scrapers	251	500	1.6509	3.6063	0.1460	0.0032	0.3808
Scrapers	501	750	2.8520	6.3458	0.2545	0.0056	0.6613
Service Truck	0	175	0.2340	0.4602	0.0231	0.0005	0.0529
Signal Boards	0	15	0.0376	0.0449	0.0018	0.0001	0.0072
Signal Boards	16	50	0.3912	0.3739	0.0380	0.0005	0.1580

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Signal Boards	51	120	0.5423	0.9919	0.0823	0.0009	0.1586
Signal Boards	121	175	0.8460	1.7052	0.0877	0.0017	0.2011
Signal Boards	176	250	0.6520	2.6433	0.0843	0.0029	0.2197
Skid Steer Loaders	0	25	0.0736	0.1284	0.0086	0.0002	0.0270
Skid Steer Loaders	26	50	0.2607	0.2502	0.0237	0.0003	0.0890
Skid Steer Loaders	51	120	0.2849	0.4466	0.0387	0.0005	0.0676
Snowblowers	0	175	0.6995	1.4175	0.0691	0.0015	0.1614
Snowblowers	176	250	0.5129	2.0334	0.0639	0.0023	0.1672
Snowblowers	251	500	0.8032	2.7506	0.0883	0.0029	0.2240
Sprayers	0	25	0.0742	0.1179	0.0087	0.0002	0.0293
Sprayers	26	50	0.1775	0.2225	0.0183	0.0003	0.0656
Sprayers	51	120	0.3512	0.6657	0.0454	0.0007	0.0951
Sprayers	121	175	0.4717	0.9818	0.0419	0.0011	0.1033
Sprayers	176	250	0.3706	1.5055	0.0416	0.0017	0.1118
Sprayers	251	500	0.4222	1.5365	0.0436	0.0017	0.1119
Surfacing Equipment	0	50	0.1560	0.1471	0.0149	0.0002	0.0628
Surfacing Equipment	51	120	0.4378	0.8093	0.0653	0.0007	0.1272
Surfacing Equipment	121	175	0.4812	0.9678	0.0493	0.0010	0.1134
Surfacing Equipment	176	250	0.4091	1.4549	0.0524	0.0015	0.1336
Surfacing Equipment	251	500	0.8394	2.1673	0.0783	0.0022	0.1969
Surfacing Equipment	501	750	1.3169	3.4717	0.1240	0.0035	0.3145
Swathers	0	120	0.3329	0.6310	0.0434	0.0006	0.0908
Swathers	121	175	0.5182	1.0785	0.0465	0.0012	0.1143
Sweeper	0	120	0.2000	0.3313	0.0248	0.0004	0.0462
Sweepers/Scrubbers	0	15	0.0728	0.0869	0.0036	0.0002	0.0124
Sweepers/Scrubbers	16	25	0.0807	0.1545	0.0085	0.0002	0.0240
Sweepers/Scrubbers	26	50	0.4175	0.3401	0.0394	0.0004	0.1740
Sweepers/Scrubbers	51	120	0.5443	0.9482	0.0930	0.0009	0.1682
Sweepers/Scrubbers	121	175	0.8119	1.5732	0.0937	0.0016	0.2070
Sweepers/Scrubbers	176	250	0.3813	1.7084	0.0526	0.0018	0.1454
Tillers	0	15	0.0419	0.0552	0.0033	0.0001	0.0078
Tillers	16	250	0.5870	2.3704	0.0682	0.0027	0.1819

Table 1
Diesel Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Tillers	251	500	1.1324	3.9279	0.1156	0.0042	0.2959
Tractors/Loaders/Backhoes	0	25	0.0696	0.1354	0.0079	0.0002	0.0224
Tractors/Loaders/Backhoes	26	50	0.3678	0.3162	0.0336	0.0004	0.1390
Tractors/Loaders/Backhoes	51	120	0.3657	0.6061	0.0553	0.0006	0.0990
Tractors/Loaders/Backhoes	121	175	0.5885	1.0375	0.0595	0.0011	0.1302
Tractors/Loaders/Backhoes	176	250	0.4227	1.6630	0.0557	0.0019	0.1498
Tractors/Loaders/Backhoes	251	500	0.9003	2.9174	0.1036	0.0039	0.2748
Tractors/Loaders/Backhoes	501	750	1.3505	4.5134	0.1580	0.0058	0.4167
Transport Refrigeration Units	0	15	0.0497	0.0683	0.0041	0.0001	0.0097
Transport Refrigeration Units	16	25	0.0588	0.1155	0.0064	0.0002	0.0175
Transport Refrigeration Units	26	50	0.2520	0.2473	0.0220	0.0003	0.0747
Trenchers	0	15	0.0516	0.0616	0.0025	0.0001	0.0098
Trenchers	16	25	0.1354	0.2585	0.0141	0.0004	0.0402
Trenchers	26	50	0.4458	0.3663	0.0421	0.0004	0.1927
Trenchers	51	120	0.4896	0.9508	0.0805	0.0008	0.1589
Trenchers	121	175	0.8926	1.8835	0.1027	0.0016	0.2361
Trenchers	176	250	0.8584	2.8103	0.1165	0.0025	0.2920
Trenchers	251	500	1.7724	3.5698	0.1444	0.0031	0.3641
Trenchers	501	750	3.3414	6.8363	0.2742	0.0059	0.6931
Vessels w/Inboard Engines	0	250	0.8849	2.0108	0.0504	0.0012	0.5888
Welders	0	15	0.0452	0.0763	0.0057	0.0001	0.0133
Welders	16	25	0.0698	0.1124	0.0083	0.0001	0.0275
Welders	26	50	0.3168	0.2790	0.0308	0.0003	0.1353
Welders	51	120	0.2785	0.5252	0.0459	0.0005	0.0886
Welders	121	175	0.5563	1.1763	0.0629	0.0011	0.1453
Welders	176	250	0.3281	1.3352	0.0441	0.0013	0.1164
Welders	251	500	0.5425	1.6979	0.0568	0.0016	0.1463

[a] These are composite horsepower-based off-road emission factors for 2009 developed by running CARB's OFFROAD2007 Model (December 15, 2006 version).
Total daily emissions from the model for each type of equipment within each horsepower range were divided by the total daily operating hours for the equipment within each horsepower range to calculate hourly emissions from individual pieces of equipment.

Table 2
Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
2-Wheel Tractors	0	5	0.8901	0.0258	0.0008	0.0001	0.0562
2-Wheel Tractors	6	15	2.7378	0.0544	0.0394	0.0001	0.0720
2-Wheel Tractors	16	25	5.8119	0.1005	0.0787	0.0002	0.1522
A/C Tug Narrow Body	0	175	6.2457	1.9915	0.0138	0.0017	0.2827
A/C Tug Wide Body	0	500	22.2522	3.4505	0.0529	0.0066	0.4741
Aerial Lifts	0	15	3.3030	0.0653	0.0475	0.0002	0.0866
Aerial Lifts	16	25	5.1309	0.0901	0.0694	0.0002	0.1373
Aerial Lifts	26	50	2.8437	0.1406	0.0020	0.0003	0.0822
Aerial Lifts	51	120	2.0902	0.3653	0.0041	0.0005	0.1022
Agricultural Mowers	0	15	2.3028	0.0386	0.0302	0.0001	0.0723
Agricultural Mowers	16	25	5.3406	0.0790	0.0679	0.0002	0.1587
Agricultural Tractors	0	120	5.6945	1.0201	0.0067	0.0008	0.3581
Agricultural Tractors	121	175	4.5818	1.7529	0.0103	0.0013	0.2409
Air Compressors	0	5	0.8302	0.0321	0.0009	0.0001	0.0703
Air Compressors	0	5	0.8282	0.0321	0.0009	0.0001	0.0701
Air Compressors	6	15	2.1712	0.0449	0.0311	0.0001	0.0595
Air Compressors	6	15	2.1705	0.0438	0.0311	0.0001	0.0585
Air Compressors	16	25	5.5968	0.1008	0.0756	0.0002	0.1527
Air Compressors	16	25	5.6384	0.0971	0.0756	0.0002	0.1550
Air Compressors	26	50	4.8176	0.2921	0.0026	0.0004	0.2069
Air Compressors	51	120	4.2956	0.8255	0.0052	0.0006	0.2800
Air Compressors	121	175	4.2492	1.7759	0.0099	0.0012	0.2382
Air Conditioner	0	175	4.7810	1.5927	0.0129	0.0016	0.1898
Air Start Unit	0	175	5.8340	1.9286	0.0155	0.0019	0.2338
All Terrain Vehicles (ATVs) Active	0	15	0.0623	0.0016	0.0001	0.0003	0.0028
All Terrain Vehicles (ATVs) Active	16	25	0.0623	0.0016	0.0001	0.0003	0.0028
All Terrain Vehicles (ATVs) Active	26	50	0.0623	0.0016	0.0001	0.0005	0.0028
All Terrain Vehicles (ATVs) Inactive	0	15	0.0000	0.0000	0.0000	0.0000	0.0000
All Terrain Vehicles (ATVs) Inactive	16	25	0.0000	0.0000	0.0000	0.0000	0.0000
All Terrain Vehicles (ATVs) Inactive	26	50	0.0000	0.0000	0.0000	0.0000	0.0000
Asphalt Pavers	0	15	3.2819	0.0654	0.0471	0.0002	0.0867
Asphalt Pavers	16	25	8.5151	0.1478	0.1152	0.0003	0.2238

Table 2
Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Asphalt Pavers	26	50	4.9099	0.3065	0.0028	0.0004	0.1979
Asphalt Pavers	51	120	4.1058	0.8242	0.0053	0.0007	0.2537
Baggage Tug	0	120	4.1078	0.4211	0.0073	0.0009	0.1043
Balers	0	50	3.4235	0.2571	0.0025	0.0004	0.1287
Balers	51	120	2.7108	0.6745	0.0047	0.0006	0.1567
Belt Loader	0	120	2.4323	0.2697	0.0040	0.0005	0.0723
Bobtail	0	120	4.1078	0.4211	0.0073	0.0009	0.1043
Bore/Drill Rigs	0	15	4.5909	0.0790	0.0626	0.0002	0.1318
Bore/Drill Rigs	16	25	8.6066	0.1301	0.1127	0.0003	0.2372
Bore/Drill Rigs	26	50	4.6594	0.3398	0.0033	0.0005	0.1767
Bore/Drill Rigs	51	120	5.5491	1.3370	0.0092	0.0011	0.3239
Bore/Drill Rigs	121	175	5.1118	2.1055	0.0132	0.0016	0.2607
Cargo Loader	0	120	3.0155	0.3689	0.0046	0.0006	0.1041
Cargo Tractor	0	120	7.4035	0.8079	0.0068	0.0007	0.3361
Cart	0	15	3.3280	0.0546	0.0028	0.0002	0.0748
Catering Truck	0	250	6.8831	2.1072	0.0140	0.0015	0.3173
Cement and Mortar Mixers	0	5	1.1699	0.0288	0.0009	0.0001	0.0628
Cement and Mortar Mixers	6	15	3.2286	0.0407	0.0346	0.0001	0.1243
Cement and Mortar Mixers	16	25	9.9873	0.1125	0.1080	0.0004	0.3505
Chippers/Stump Grinders	0	15	4.8531	0.0992	0.0681	0.0002	0.1324
Chippers/Stump Grinders	0	15	5.6581	0.0661	0.0532	0.0002	0.1453
Chippers/Stump Grinders	16	25	8.4293	0.1501	0.1114	0.0003	0.2288
Chippers/Stump Grinders	16	25	9.4702	0.0982	0.0871	0.0003	0.2252
Combines	0	120	4.5367	0.9660	0.0101	0.0013	0.2353
Combines	121	175	6.3213	1.6909	0.0161	0.0020	0.2164
Combines	176	250	7.4776	1.7059	0.0190	0.0024	0.2079
Commercial Turf Equipment	0	15	3.0663	0.0535	0.0029	0.0001	0.0722
Commercial Turf Equipment	16	25	5.6216	0.0900	0.0050	0.0002	0.1275
Commercial Turf Equipment	26	50	4.2167	0.1785	0.0019	0.0003	0.1251
Commercial Turf Equipment	51	120	1.1730	0.1335	0.0035	0.0004	0.0226
Concrete/Industrial Saws	0	5	1.2082	0.0309	0.0010	0.0001	0.0675
Concrete/Industrial Saws	6	15	3.8738	0.0766	0.0557	0.0002	0.1015

Table 2
Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Concrete/Industrial Saws	16	25	7.7666	0.1338	0.1052	0.0003	0.2025
Concrete/Industrial Saws	26	50	3.8643	0.0874	0.0036	0.0006	0.0575
Concrete/Industrial Saws	51	120	1.8376	0.0995	0.0068	0.0008	0.0412
Cranes	0	50	4.0996	0.2458	0.0023	0.0004	0.1639
Cranes	51	120	3.5526	0.6889	0.0046	0.0006	0.2196
Cranes	121	175	3.3328	1.3023	0.0078	0.0010	0.1738
Crushing/Proc. Equipment	0	15	4.2214	0.0830	0.0607	0.0002	0.1100
Crushing/Proc. Equipment	16	25	7.9658	0.1365	0.1079	0.0003	0.2066
Crushing/Proc. Equipment	26	120	7.3005	1.5893	0.0108	0.0013	0.4387
Deicer	0	120	5.7001	1.3698	0.0117	0.0015	0.2856
Dumpers/Tenders	0	5	0.5597	0.0175	0.0005	0.0001	0.0383
Dumpers/Tenders	6	15	2.5086	0.0325	0.0276	0.0001	0.0966
Dumpers/Tenders	16	25	5.2489	0.0608	0.0582	0.0002	0.1846
Dumpers/Tenders	26	120	2.1989	0.5214	0.0036	0.0004	0.1290
Forklift	0	50	3.4877	0.1071	0.0020	0.0003	0.0539
Forklifts	0	25	4.0731	0.0588	0.0037	0.0002	0.0773
Forklifts	26	50	5.9510	0.1612	0.0016	0.0003	0.0952
Forklifts	51	120	3.0542	0.2539	0.0028	0.0003	0.0904
Forklifts	121	175	3.0426	0.5130	0.0058	0.0007	0.0977
Front Mowers	0	15	3.0139	0.0356	0.0024	0.0001	0.0485
Front Mowers	0	15	3.1900	0.0405	0.0021	0.0001	0.0702
Front Mowers	16	25	4.1833	0.0470	0.0031	0.0002	0.0630
Front Mowers	16	25	4.3508	0.0482	0.0027	0.0002	0.0907
Fuel Truck	0	175	1.5860	0.5574	0.0043	0.0005	0.0662
Generator	0	120	10.7668	1.4965	0.0110	0.0012	0.6124
Generator Sets	0	5	1.5476	0.0226	0.0089	0.0001	0.1234
Generator Sets	0	5	1.6863	0.0220	0.0089	0.0001	0.1357
Generator Sets	6	15	3.7586	0.0554	0.0031	0.0002	0.1192
Generator Sets	6	15	4.0894	0.0516	0.0031	0.0002	0.1536
Generator Sets	16	25	8.1023	0.1067	0.0065	0.0003	0.2386
Generator Sets	16	25	8.5825	0.0972	0.0065	0.0003	0.2933
Generator Sets	26	50	4.0527	0.2885	0.0029	0.0005	0.1462

Table 2
Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Generator Sets	51	120	4.5919	1.0597	0.0075	0.0009	0.2521
Generator Sets	121	175	4.9560	2.0248	0.0131	0.0016	0.2496
Golf Carts	0	15	3.2701	0.0291	0.0022	0.0001	0.1508
Ground Power Unit	0	175	6.3675	0.7549	0.0149	0.0019	0.1074
Hydrant truck	0	175	6.2735	1.8212	0.0113	0.0012	0.2988
Hydro Power Units	0	5	0.9859	0.0294	0.0009	0.0001	0.0642
Hydro Power Units	6	15	2.4770	0.0506	0.0356	0.0001	0.0671
Hydro Power Units	16	25	5.5870	0.0994	0.0756	0.0002	0.1505
Hydro Power Units	26	50	3.5264	0.1128	0.0028	0.0004	0.0643
Hydro Power Units	51	120	1.3138	0.0827	0.0049	0.0006	0.0298
Lav Cart	0	15	3.3279	0.0546	0.0028	0.0002	0.0748
Lav Truck	0	175	2.0968	0.4316	0.0043	0.0005	0.0710
Lawn & Garden Tractors	0	15	3.6420	0.0364	0.0025	0.0002	0.0490
Lawn & Garden Tractors	0	15	3.8199	0.0463	0.0023	0.0002	0.0727
Lawn & Garden Tractors	16	25	5.9743	0.0546	0.0038	0.0002	0.0771
Lawn & Garden Tractors	16	25	6.1933	0.0649	0.0035	0.0002	0.1132
Lawn & Garden Tractors	26	50	2.5549	0.1662	0.0020	0.0003	0.0821
Lawn Mowers	0	5	0.5156	0.0072	0.0043	0.0000	0.0280
Lawn Mowers	0	5	0.8641	0.0092	0.0032	0.0000	0.0374
Leaf Blowers/Vacuums	0	5	0.3470	0.0025	0.0016	0.0000	0.0097
Leaf Blowers/Vacuums	0	5	0.5005	0.0040	0.0014	0.0000	0.0185
Lift	0	120	4.5237	0.8322	0.0066	0.0008	0.2461
Maint. Truck	0	175	3.6300	1.0466	0.0086	0.0011	0.1404
Minibikes	0	5	1.8836	0.0074	0.0079	0.0001	0.2944
Off-Road Motorcycles Active	0	15	0.0607	0.0012	0.0001	0.0002	0.0026
Off-Road Motorcycles Active	16	25	0.0607	0.0012	0.0001	0.0004	0.0026
Off-Road Motorcycles Active	26	50	0.0607	0.0012	0.0001	0.0006	0.0026
Off-Road Motorcycles Inactive	0	15	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road Motorcycles Inactive	16	25	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road Motorcycles Inactive	26	50	0.0000	0.0000	0.0000	0.0000	0.0000
Other Agricultural Equipment	0	5	0.8130	0.0224	0.0007	0.0001	0.0490
Other Agricultural Equipment	6	15	3.3984	0.0528	0.0428	0.0001	0.1113

Table 2

Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Other Agricultural Equipment	16	25	8.6736	0.1194	0.1070	0.0003	0.2657
Other Agricultural Equipment	26	50	3.0369	0.2230	0.0021	0.0003	0.1168
Other Agricultural Equipment	51	120	3.0804	0.7367	0.0049	0.0006	0.1808
Other Agricultural Equipment	121	175	3.8813	1.6447	0.0099	0.0012	0.2056
Other Agricultural Equipment	176	250	7.0206	2.5512	0.0179	0.0022	0.3204
Other Construction Equipment	0	175	3.2713	0.4434	0.0080	0.0010	0.0672
Other General Industrial Equipmen	0	15	2.3861	0.0341	0.0022	0.0001	0.0465
Other General Industrial Equipmen	16	25	5.7025	0.0869	0.0050	0.0002	0.1207
Other General Industrial Equipmen	26	50	4.1768	0.1405	0.0021	0.0003	0.0750
Other General Industrial Equipmen	51	120	3.4219	0.4015	0.0056	0.0007	0.1073
Other General Industrial Equipmen	121	175	5.4328	0.8992	0.0124	0.0016	0.1335
Other GSE	0	50	4.7007	0.2919	0.0033	0.0005	0.1562
Other Lawn & Garden Equipment	0	5	1.0153	0.0107	0.0058	0.0001	0.0367
Other Lawn & Garden Equipment	0	5	1.6129	0.0127	0.0043	0.0001	0.0583
Other Lawn & Garden Equipment	6	15	2.5605	0.0312	0.0017	0.0001	0.0415
Other Lawn & Garden Equipment	6	15	2.8730	0.0322	0.0015	0.0001	0.0545
Other Lawn & Garden Equipment	16	25	5.7752	0.0623	0.0037	0.0002	0.0920
Other Lawn & Garden Equipment	16	25	6.3343	0.0615	0.0032	0.0002	0.1146
Other Lawn & Garden Equipment	26	50	3.4554	0.2458	0.0028	0.0004	0.1173
Other Lawn & Garden Equipment	51	120	4.1677	0.9824	0.0078	0.0010	0.2164
Other Material Handling Equipment	0	50	5.3087	0.3059	0.0029	0.0005	0.1950
Other Material Handling Equipment	51	120	2.9364	0.5574	0.0038	0.0005	0.1715
Passenger Stand	0	175	3.7956	1.2905	0.0098	0.0011	0.1610
Paving Equipment	0	5	0.8352	0.0247	0.0007	0.0001	0.0540
Paving Equipment	6	15	3.3660	0.0622	0.0468	0.0002	0.0952
Paving Equipment	16	25	7.7644	0.1256	0.1030	0.0003	0.2135
Paving Equipment	26	50	4.0193	0.2666	0.0029	0.0005	0.1451
Paving Equipment	51	120	2.9883	0.6630	0.0052	0.0006	0.1697
Plate Compactors	0	5	0.7687	0.0232	0.0007	0.0001	0.0507
Plate Compactors	6	15	2.5103	0.0465	0.0349	0.0001	0.0712
Pressure Washers	0	5	1.8891	0.0363	0.0138	0.0001	0.1437
Pressure Washers	0	5	2.5334	0.0347	0.0138	0.0001	0.2013

Table 2
Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Pressure Washers	6	15	3.6542	0.0539	0.0030	0.0002	0.1159
Pressure Washers	6	15	3.9758	0.0501	0.0030	0.0002	0.1494
Pressure Washers	16	25	9.4156	0.1305	0.0076	0.0004	0.2630
Pressure Washers	16	25	10.1383	0.1148	0.0077	0.0004	0.3385
Pressure Washers	26	50	4.4418	0.3218	0.0033	0.0005	0.1674
Pumps	0	5	0.8457	0.0219	0.0036	0.0001	0.0698
Pumps	0	5	1.1949	0.0193	0.0071	0.0001	0.0983
Pumps	6	15	3.2056	0.0585	0.0437	0.0001	0.0961
Pumps	6	15	3.5131	0.0529	0.0417	0.0001	0.1220
Pumps	16	25	6.9405	0.1174	0.0931	0.0003	0.1875
Pumps	16	25	7.2734	0.1072	0.0918	0.0003	0.2179
Pumps	26	50	4.1906	0.2835	0.0028	0.0004	0.1611
Pumps	51	120	5.4067	1.1991	0.0085	0.0011	0.3218
Pumps	121	175	5.2246	2.0530	0.0131	0.0016	0.2625
Rear Engine Riding Mowers	0	15	1.8878	0.0223	0.0015	0.0001	0.0304
Rear Engine Riding Mowers	0	15	1.9981	0.0254	0.0013	0.0001	0.0440
Rear Engine Riding Mowers	16	25	3.7849	0.0425	0.0028	0.0002	0.0570
Rear Engine Riding Mowers	16	25	3.9364	0.0436	0.0024	0.0002	0.0821
Rollers	0	5	1.2743	0.0295	0.0010	0.0001	0.0643
Rollers	6	15	3.0792	0.0609	0.0443	0.0002	0.0807
Rollers	16	25	6.8998	0.1188	0.0935	0.0003	0.1799
Rollers	26	50	6.2034	0.3350	0.0030	0.0005	0.2538
Rollers	51	120	5.4495	0.9393	0.0062	0.0008	0.3454
Rough Terrain Forklifts	0	50	6.9705	0.4184	0.0039	0.0006	0.2786
Rough Terrain Forklifts	51	120	5.4620	1.0605	0.0071	0.0009	0.3375
Rough Terrain Forklifts	121	175	5.0717	1.9825	0.0118	0.0015	0.2644
Rubber Tired Loaders	0	50	5.4509	0.3157	0.0029	0.0005	0.2220
Rubber Tired Loaders	51	120	4.2814	0.7943	0.0051	0.0006	0.2686
Sailboat Auxiliary Inboard Engine	0	15	1.2724	0.0391	0.0005	0.0001	0.0477
Service Truck	0	250	2.2316	0.7016	0.0048	0.0006	0.1020
Shredders	0	5	1.2198	0.0320	0.0010	0.0001	0.0699
Shredders	0	5	2.3354	0.0193	0.0082	0.0001	0.0831

Table 2
Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Signal Boards	0	5	1.4715	0.0376	0.0012	0.0001	0.0822
Signal Boards	6	15	3.3551	0.0659	0.0483	0.0002	0.0873
Skid Steer Loaders	0	15	4.4908	0.0895	0.0644	0.0002	0.1198
Skid Steer Loaders	16	25	6.4638	0.1123	0.0875	0.0003	0.1712
Skid Steer Loaders	26	50	3.1164	0.1405	0.0025	0.0004	0.0794
Skid Steer Loaders	51	120	2.6073	0.4271	0.0061	0.0008	0.1147
Snowblowers	0	5	0.7478	0.0038	0.0027	0.0000	0.0154
Snowblowers	0	5	0.9824	0.0073	0.0024	0.0000	0.0313
Snowblowers	6	15	1.7382	0.0154	0.0010	0.0001	0.0206
Snowblowers	6	15	1.9533	0.0215	0.0010	0.0001	0.0347
Snowblowers	16	25	3.2800	0.0257	0.0018	0.0001	0.0380
Snowblowers	16	25	3.6076	0.0343	0.0018	0.0001	0.0616
Specialty Vehicles Carts	0	5	1.3852	0.0103	0.0065	0.0001	0.0397
Specialty Vehicles Carts	6	15	2.2404	0.0228	0.0014	0.0001	0.0305
Specialty Vehicles Carts	16	25	6.4546	0.0589	0.0039	0.0003	0.0857
Sprayers	0	5	0.7342	0.0205	0.0006	0.0001	0.0448
Sprayers	6	15	2.3669	0.0311	0.0247	0.0001	0.0889
Sprayers	16	25	5.7274	0.0676	0.0601	0.0002	0.1967
Sprayers	26	50	2.9673	0.2208	0.0022	0.0003	0.1118
Sprayers	51	120	2.6478	0.6522	0.0045	0.0006	0.1535
Sprayers	121	175	3.5623	1.4745	0.0093	0.0012	0.1813
Surfacing Equipment	0	5	0.8340	0.0262	0.0008	0.0001	0.0572
Surfacing Equipment	6	15	2.1681	0.0449	0.0311	0.0001	0.0595
Surfacing Equipment	16	25	5.4656	0.0985	0.0739	0.0002	0.1491
Swathers	0	120	3.6130	0.8791	0.0061	0.0008	0.2103
Swathers	121	175	3.4310	1.4163	0.0089	0.0011	0.1748
Sweeper	0	120	2.4291	0.4501	0.0036	0.0004	0.1315
Sweepers/Scrubbers	0	15	3.1344	0.0429	0.0027	0.0002	0.0584
Sweepers/Scrubbers	16	25	7.4855	0.1090	0.0063	0.0003	0.1532
Sweepers/Scrubbers	26	50	4.9556	0.1647	0.0033	0.0005	0.0828
Sweepers/Scrubbers	51	120	2.8098	0.3521	0.0064	0.0008	0.0790
Sweepers/Scrubbers	121	175	5.5013	0.7619	0.0131	0.0016	0.1027

Table 2

Four-stroke Gasoline Off-road Equipment Emission Factors for 2009 in Kern County APCD Jurisdiction by Equipment Catgeory and Horsepower Range[a]

Equipment Type	HP Range		Emission Factor (lb/hr)				
	From	To	CO	NOx	PM10	SOx	VOC
Tampers/Rammers	0	15	2.8766	0.0512	0.0392	0.0001	0.0848
Tillers	0	5	0.6983	0.0090	0.0040	0.0001	0.0265
Tillers	0	5	0.9776	0.0102	0.0038	0.0001	0.0458
Tillers	6	15	3.2522	0.0426	0.0024	0.0001	0.1138
Tractors/Loaders/Backhoes	0	120	3.2756	0.4804	0.0040	0.0005	0.1851
Transport Refrigeration Units	0	15	3.3252	0.0497	0.0032	0.0002	0.0681
Trenchers	0	15	3.6481	0.0737	0.0524	0.0002	0.0977
Trenchers	16	25	8.1316	0.1431	0.1100	0.0003	0.2167
Trenchers	26	50	4.6243	0.2793	0.0026	0.0004	0.1846
Trenchers	51	120	4.4079	0.8617	0.0058	0.0007	0.2720
Trimmers/Edgers/Brush Cutters	0	5	0.1372	0.0036	0.0001	0.0000	0.0079
Trimmers/Edgers/Brush Cutters	0	5	0.2323	0.0028	0.0010	0.0000	0.0133
Vessels w/Inboard Engines	0	250	13.7184	0.6443	0.0081	0.0010	0.4897
Vessels w/Inboard Jet Engines	0	500	16.5255	0.7567	0.0096	0.0012	0.5951
Vessels w/Outboard Engines	0	50	4.0598	0.1276	0.0018	0.0002	0.1552
Vessels w/Sterndrive Engines	0	250	10.2088	0.4638	0.0060	0.0007	0.3626
Water Truck	0	175	1.6002	0.5348	0.0040	0.0005	0.0690
Welders	0	15	3.6655	0.0529	0.0415	0.0002	0.1329
Welders	16	25	5.4790	0.0780	0.0668	0.0002	0.1714
Welders	26	50	4.6157	0.3294	0.0030	0.0005	0.1880
Welders	51	120	3.1910	0.7335	0.0047	0.0006	0.1973
Welders	121	175	3.4198	1.5072	0.0088	0.0011	0.1902
Wood Splitters	0	5	1.3449	0.0162	0.0096	0.0001	0.0613
Wood Splitters	0	5	2.3991	0.0181	0.0058	0.0001	0.0739

[a] These are composite horsepower-based off-road emission factors for 2009 developed by running CARB's OFFROAD2007 Model (December 15, 2006 version).
Total daily emissions from the model for each type of equipment within each horsepower range were divided by the total daily operating hours for the equipment within each horsepower range to calculate hourly emissions from individual pieces of equipment.

Table 3
Construction Equipment Exhaust Emission Factors

Equipment Type	Model	Horsepower	Fuel	Key	ARB Off-Road Model Category	CO (lb/hr)[a]	VOC (lb/hr)[a]	NO_X (lb/hr)[a]	SO_X (lb/hr)[a]	PM10 (lb/hr)[a]	PM2.5 (lb/hr)[b]
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	Air Compressor, Ingersoll-Rand0023.5Diesel	Air Compressors	0.089	0.035	0.144	0.000	0.011	0.010
Asphalt Paver, Cat	AP1055B	174	Diesel	Asphalt Paver, Cat 0174.0Diesel	Pavers	0.803	0.214	1.682	0.001	0.094	0.086
Scraper, Cat	651	500	Diesel	Scraper, Cat0500.0Diesel	Scrapers	1.651	0.381	3.606	0.003	0.146	0.134
Scraper, Cat	623	330	Diesel	Scraper, Cat0330.0Diesel	Scrapers	1.651	0.381	3.606	0.003	0.146	0.134
Dozer, Cat	824	354	Diesel	Dozer, Cat0354.0Diesel	Rubber Tired Dozers	1.865	0.376	3.354	0.003	0.143	0.132
Dozer, Cat	834	498	Diesel	Dozer, Cat0498.0Diesel	Rubber Tired Dozers	1.865	0.376	3.354	0.003	0.143	0.132
Dozer, Cat	D-6	150	Diesel	Dozer, Cat0150.0Diesel	Crawler Tractors	0.766	0.204	1.559	0.001	0.089	0.082
Dozer, Cat	D-9	410	Diesel	Dozer, Cat0410.0Diesel	Crawler Tractors	1.296	0.304	2.873	0.003	0.116	0.107
Dozer, Cat	D-10	580	Diesel	Dozer, Cat0580.0Diesel	Crawler Tractors	2.324	0.548	5.248	0.005	0.210	0.193
Blade, Cat	140H	165	Diesel	Blade, Cat0165.0Diesel	Graders	0.743	0.184	1.437	0.001	0.082	0.076
Blade, Cat	14H	210	Diesel	Blade, Cat0210.0Diesel	Graders	0.519	0.186	1.900	0.002	0.070	0.065
Blade, Cat	16H	265	Diesel	Blade, Cat0265.0Diesel	Graders	0.812	0.225	2.249	0.002	0.085	0.079
Backhoe, Cat,	430E	97	Diesel	Backhoe, Cat, 0097.0Diesel	Tractors/Loaders/Backhoes	0.366	0.099	0.606	0.001	0.055	0.051
Backhoe, CAT	416E	74	Diesel	Backhoe, CAT0074.0Diesel	Tractors/Loaders/Backhoes	0.366	0.099	0.606	0.001	0.055	0.051
Cable Puller	N/A	385	Diesel	Cable Puller0385.0Diesel	Other Construction Equipment	0.653	0.181	2.120	0.002	0.072	0.066
Compactor, Cat	826H	410	Diesel	Compactor, Cat 0410.0Diesel	Rollers	0.842	0.211	2.208	0.002	0.083	0.076
Crane, 150-Ton, Manitowoc	555	347	Diesel	Crane, 150-Ton, Manitowoc0347.0Diesel	Cranes	0.716	0.191	1.876	0.002	0.073	0.067
Crane, 20-Ton, Grove	YB777	130	Diesel	Crane, 20-Ton, Grove0130.0Diesel	Cranes	0.490	0.127	0.984	0.001	0.056	0.052
Crane 90 Ton	N/A	275	Diesel	Crane 90 Ton0275.0Diesel	Cranes	0.716	0.191	1.876	0.002	0.073	0.067
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	Crane, 225-Ton, Manitowoc, 0340.0Diesel	Cranes	0.716	0.191	1.876	0.002	0.073	0.067
Crane, 40-Ton, Grove	RT600	173	Diesel	Crane, 40-Ton, Grove0173.0Diesel	Cranes	0.490	0.127	0.984	0.001	0.056	0.052
Crane 50 Ton, Grove	TR600E	173	Diesel	Crane 50 Ton, Grove0173.0Diesel	Cranes	0.490	0.127	0.984	0.001	0.056	0.052
Dozer, CAT	D8	305	Diesel	Dozer, CAT0305.0Diesel	Crawler Tractors	1.296	0.304	2.873	0.003	0.116	0.107
Forklift, Cat	3054E	120	Diesel	Forklift, Cat0120.0Diesel	Forklifts	0.229	0.068	0.383	0.000	0.038	0.035
Loader, Cat,	972G	275	Diesel	Loader, Cat, 0275.0Diesel	Rubber Tired Loaders	0.822	0.228	2.302	0.002	0.087	0.080
Loader, CAT	966R	150	Diesel	Loader, CAT0150.0Diesel	Rubber Tired Loaders	0.635	0.156	1.223	0.001	0.070	0.064
Manlift JLG 1350SJP	1350SJP	87	Diesel	Manlift JLG 1350SJP0087.0Diesel	Aerial Lifts	0.254	0.077	0.482	0.000	0.039	0.036
Motor Grader, Cat	140H	150	Diesel	Motor Grader, Cat 0150.0Diesel	Graders	0.743	0.184	1.437	0.001	0.082	0.076
Pole Digger, International	4700	210	Diesel	Pole Digger, International0210.0Diesel	Bore/Drill Rigs	0.348	0.100	1.309	0.002	0.039	0.036
Sideboom, CAT	572R Series2	240	Diesel	Sideboom, CAT0240.0Diesel	Cranes	0.367	0.131	1.309	0.001	0.050	0.046
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	Truck, Concrete Pump, REED0350.0Diesel	Pumps	1.050	0.272	3.372	0.003	0.106	0.097
Welder, Multiquip	BLW-300SS	19.5	Diesel	Welder, Multiquip0019.5Diesel	Welders	0.070	0.028	0.112	0.000	0.008	0.008
Welder, Multiquip	BLW-300SS	19.5	Gasoline	Welder, Multiquip0019.5Gasoline	Welders	5.479	0.171	0.078	0.000	0.067	0.050
Welder, Multiquip	BLW-400SS	31	Diesel	Welder, Multiquip0031.0Diesel	Welders	0.317	0.135	0.279	0.000	0.031	0.028

[a] From Table 10 for diesel and Table 11 for gasoline for all except scrapers. Scrapers are from Table 21 and are for 2006 model year.

[b] Diesel PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction of PM10 in Diesel Engine Exhaust = 0.920 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5

PM2.5 Fraction of PM10 in Gasoline Engine Exhaust = 0.756 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Emission factor [pounds per hour] x Number pieces of equipment x Operating time for each piece [hours per day]

Table 4-A
Kern County APCD Jurisdiction 2009 On-Road Motor Vehicle Emission Factors

Vehicle Class	Emission Factors[a]												
	CO (lb/mi)	VOC (lb/mi)	NO_x (lb/mi)	SO_x (lb/mi)	PM10 Exh (lb/mi)	PM10 Tire (lb/mi)	PM10 Brake (lb/mi)	PM10 Tire + Brake (lb/mi)	Diesel PM (lb/mi)	PM2.5 Exh (lb/mi)	PM2.5 Tire (lb/mi)	PM2.5 Brake (lb/mi)	PM2.5 Tire + Brake (lb/mi)
LDA-NCAT	2.09E-01	2.78E-02	1.22E-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	0.00E+00	0.00E+00
LDA-CAT	8.01E-03	6.37E-04	7.94E-04	1.04E-05	2.09E-05	2.09E-05	3.13E-05	5.22E-05	0.00E+00	1.94E-05	5.22E-06	1.34E-05	1.87E-05
LDA-DSL	0.00E+00	0.00E+00	4.00E-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
LDT1-NCAT	2.05E-01	2.36E-02	1.18E-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	0.00E+00	0.00E+00
LDT1-CAT	1.72E-02	1.26E-03	1.67E-03	0.00E+00	2.79E-05	2.79E-05	2.79E-05	5.58E-05	0.00E+00	2.59E-05	6.97E-06	1.20E-05	1.89E-05
LDT1-DSL	1.23E-03	0.00E+00	3.69E-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
LDT2-NCAT	2.09E-01	2.44E-02	1.11E-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	0.00E+00	0.00E+00
LDT2-CAT	1.17E-02	8.68E-04	1.71E-03	0.00E+00	6.35E-05	2.12E-05	2.12E-05	4.23E-05	0.00E+00	5.89E-05	5.29E-06	9.08E-06	1.44E-05
LDT2-DSL	0.00E+00	0.00E+00	5.00E-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
MDV-NCAT	3.25E-01	2.00E-02	1.50E-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	0.00E+00	0.00E+00
MDV-CAT	1.18E-02	8.48E-04	1.92E-03	0.00E+00	4.46E-05	0.00E+00	4.46E-05	4.46E-05	0.00E+00	4.14E-05	0.00E+00	1.92E-05	1.92E-05
MDV-DSL	0.00E+00	0.00E+00	6.67E-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
LHDT1-NCAT	2.80E-01	4.00E-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	0.00E+00	0.00E+00	0.00E+00
LHDT1-CAT	2.10E-02	2.42E-03	3.84E-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
LHDT1-DSL	2.80E-03	4.00E-04	1.04E-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	0.00E+00	0.00E+00
LHDT2-CAT	3.62E-02	3.85E-03	5.38E-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
LHDT2-DSL	3.16E-03	5.26E-04	1.26E-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	0.00E+00	0.00E+00
MHDT-NCAT	6.40E-01	1.00E-01	2.00E-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	0.00E+00	0.00E+00
MHDT-CAT	1.04E-01	1.00E-02	1.80E-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	0.00E+00	0.00E+00
MHDT-DSL	8.28E-03	1.03E-03	2.28E-02	0.00E+00	1.03E-03	0.00E+00	0.00E+00	0.00E+00	1.03E-03	9.52E-04	0.00E+00	0.00E+00	0.00E+00
HHDT-CAT	1.73E-01	1.17E-02	3.67E-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	0.00E+00	0.00E+00
HHDT-DSL	1.21E-02	2.95E-03	3.89E-02	4.16E-05	1.54E-03	8.32E-05	6.24E-05	1.46E-04	1.54E-03	1.42E-03	2.08E-05	2.68E-05	4.75E-05
OBUS-CAT	6.50E-02	5.00E-03	1.50E-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	0.00E+00	0.00E+00
OBUS-DSL	6.67E-03	0.00E+00	2.00E-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	0.00E+00	0.00E+00
SBUS-CAT	4.00E-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	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SBUS-DSL	1.40E-02	2.00E-03	3.00E-02	0.00E+00	2.00E-03	0.00E+00	0.00E+00	0.00E+00	2.00E-03	1.84E-03	0.00E+00	0.00E+00	0.00E+00
UB-CAT	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
UB-DSL	0.00E+00	0.00E+00	2.00E-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	0.00E+00	0.00E+00
MH-NCAT	3.00E-01	1.00E-02	1.00E-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	0.00E+00	0.00E+00
MH-CAT	3.03E-02	1.29E-03	4.52E-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
MH-DSL	0.00E+00	0.00E+00	2.00E-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	0.00E+00	0.00E+00
MCY-NCAT	1.67E-01	1.21E-02	3.40E-03	0.00E+00	2.13E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.61E-04	0.00E+00	0.00E+00	0.00E+00
MCY-CAT	4.63E-02	7.08E-03	2.92E-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

[a] Emission factors, except PM2.5, calculated by dividing total emissions [lb/day] from BURDEN output of EMFAC2007, version 2.3, by total VMT [mi/day] from BURDEN output. PM10 emission factors by mass fractions in table below.

Table 4-B
PM2.5 Mass Fractions of PM10

PM10 Category	Tech.	PM2.5 Fraction[a]
Exhaust	CAT	0.928
Exhaust	NCAT	0.756
Exhaust	DSL	0.920
Tire Wear	N/A	0.250
Brake Wear	N/A	0.429

[a] From Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Table 5-A
2009 Motor Vehicle Emission Factors

Vehicle Type	Vehicle Class	Emission Factors								
		CO (lb/mi)	VOC (lb/mi)	NO_x (lb/mi)	SO_x (lb/mi)	Exh. PM10 (lb/mi)	Fug. PM10 (lb/mi)	Diesel PM (lb/mi)	Exh. PM2.5 (lb/mi)	Fug. PM2.5 (lb/mi)
Water Trucks, Freightliner 4000 gallon	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00015	0.00154	0.00142	0.00005
Water Pull (8000 gallon) CAT	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00015	0.00154	0.00142	0.00005
On-Site Welding Truck	MHDT-CAT	0.10400	0.01000	0.01800	0.00000	0.00000	0.73840	0.00000	0.00000	0.15654
On-Site Fuel/lLube Truck International	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
On-Site Flatbed Truck, Chevrolet	MHDT-CAT	0.10400	0.01000	0.01800	0.00000	0.00000	0.73840	0.00000	0.00000	0.15654
On-Site Dump Truck, Volvo	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
On-Site 3/4 Ton Pick-Up, Ford	LDT2-CAT	0.01175	0.00087	0.00171	0.00000	0.00006	0.73844	0.00000	0.00006	0.15656
On-Site Water Truck	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
On-Site Bus, MC	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
On-Site Cement Trucks, MACK	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
On-Site Low Boy Trucks	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.73855	0.00154	0.00142	0.15659
Off-Site Flat Bed Trucks	MHDT-CAT	0.10400	0.01000	0.01800	0.00000	0.00000	0.00083	0.00000	0.00000	0.00014
Off-Site Asphalt Trucks	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Cement Trucks, MACK	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Construction Worker Commute	LDT1-CAT	0.01721	0.00126	0.00167	0.00000	0.00003	0.00088	0.00000	0.00003	0.00016
Off-Site Dump Truck, Volvo	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Low Boy Trucks	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Pickup Trucks	LDT1-CAT	0.01721	0.00126	0.00167	0.00000	0.00003	0.00088	0.00000	0.00003	0.00016
Off-Site Pipe Hauling Trucks	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Water Trucks	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Bus, MC	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019
Off-Site Welding Truck	MHDT-CAT	0.10400	0.01000	0.01800	0.00000	0.00000	0.00083	0.00000	0.00000	0.00014
Off-Site Fuel/lLube Truck International	HHDT-DSL	0.01214	0.00295	0.03890	0.00004	0.00154	0.00097	0.00154	0.00142	0.00019

Note: The emission factors, except fugitive emissions from entrained road dust, were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model and dividing calculated daily emissions by daily vehicle-miles-traveled.
Welding trucks, fuel/lube trucks and flatbed trucks are assumed to be Medium-Duty Catalyst Equipped Vehicles.
Pickup trucks and construction worker commuting vehicles are assumed to be Light-Duty Trucks 1.
All other vehicles are assumed to be heavy heavy-duty diesel vehicles.
All the emission factors account for the emissions from start, running and idling exhaust. In addition, the VOC emission factors take into account diurnal, hot soak, running and resting emissions, and fugitive PM10 and PM2.5 emission factors take into account tire and brake wear and entrained paved or unpaved road dust, except for water trucks. Entrained unpaved road dust emissions. from water trucks are assumed to be zero, because water trucks will be equipped with front spray bars, which will eliminate entrained dust emissions.

Emissions [pounds/day] = Emission factor [pounds/mile] x Vehicle miles traveled [miles/day]

Table 5-B
Motor Vehicle Entrained Paved Road PM10 Emission Factors

Vehicle Type	On-Road Average Vehicle Weight (tons)[a]	Road Type	Silt Loading (g/m2)[b]	PM10 Emission Factor (lb/mi)[c]	PM2.5 Emission Factor (lb/mi)[d]
Off-Site Flat Bed Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Asphalt Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Cement Trucks, MACK	2.4	Collector	0.035	0.0008	0.0001
Off-Site Construction Worker Commute	2.4	Collector	0.035	0.0008	0.0001
Off-Site Dump Truck, Volvo	2.4	Collector	0.035	0.0008	0.0001
Off-Site Low Boy Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Pickup Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Pipe Hauling Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Water Trucks	2.4	Collector	0.035	0.0008	0.0001
Off-Site Bus, MC	2.4	Collector	0.035	0.0008	0.0001
Off-Site Welding Truck	2.4	Collector	0.035	0.0008	0.0001
Off-Site Fuel/lLube Truck International	2.4	Collector	0.035	0.0008	0.0001

[a] Average on-road vehicle weight in Kern County from ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997)

[b] From ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997)

[c] Emission factor [g/mi] = 7.26 (Silt Loading/2)$^{0.65}$ (Weight/3)$^{1.5}$,
from ARB Emission Inventory Methodology 7.9, Entrained Paved Road Dust (1997)

[d] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10

PM2.5 Fraction of PM10 in Paved Road Dust = 0.169 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds/day] = Emission factor [pounds/mile] x Vehicle miles traveled [miles/day]

Table 6
Fugitive Dust PM10 Emission Factors

Soil Dropping During Excavation

Emission Factor [lb/cu. yd] = 0.0011 x (mean wind speed [mi/hr] / 5)$^{1.3}$ / (moisture [%] / 2)$^{1.4}$ x (number drops per ton) x (density [ton/cu. yd])
Reference: AP-42, Equation (1), Section 13.2.4, January 1995

Parameter	Value	Basis
Mean Wind Speed	12	SCAQMD 1993 CEQA Air Quality Handbook, Default
Moisture	15	"Open Fugitive Dust PM10 Control Strategies Study," Midwest Research Institute, October 12, 1990, moist soil.
Number Drops	4	Assumption
Soil Density	1.215	Table 2.46, Handbook of Solid Waste Management

PM10 Emission Factor (Uncontrolled)	9.94E-04	lb/cu. yd
Reduction from Watering Twice/Day	0%	
Controlled PM10 Emission Factor	9.94E-04	lb/cu. yd
Controlled PM2.5 Emission Factor[a]	2.07E-04	lb/cu. yd

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Construction Dust = 0.208 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Controlled emission factor [pounds per cubic yard] x Volume soil handled [cubic yards per day]

Table 6
Fugitive Dust PM10 Emission Factors

Storage Pile Wind Erosion

Emission Factor [lb/day-acre] = 0.85 x (silt content [%] / 1.5) x (365 / 235) x (percentage of time unobstructed wind exceeds 12 mph / 15)
Reference: Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, EPA, September 1992

Parameter	Value	Basis
Silt Content	7.5	SCAQMD 1993 CEQA Air Quality Handbook, Overburden
Pct. time wind > 12 mph	13.3	"Emissions Inventory Guidance, Mineral Handling and Processing Industries," MDAQMD, April 10, 2000, p. 17.

PM10 Emission Factor (Uncontrolled)	5.9	lb/day-acre
Reduction from Watering Twice/Day	50%	
Controlled PM10 Emission Factor	2.9	lb/day-acre
Controlled PM2.5 Emission Factor[a]	0.6	lb/day-acre

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Construction Dust = 0.208 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Controlled emission factor [pounds per acre-day] x Storage pile surface area [acres]

Table 6
Fugitive Dust PM10 Emission Factors

Bulldozing, Scraping and Grading

Emission Factor [lb/hr] = 0.75 x (silt content [%])$^{1.5}$ / (moisture)$^{1.4}$
Reference: AP-42, Table 11.9-1, July 1998

Parameter	Value	Basis
Silt Content	7.5	SCAQMD 1993 CEQA Air Quality Handbook, Overburden
Moisture	15	SCAQMD 1993 CEQA Air Quality Handbook, Moist Soil

PM10 Emission Factor (Uncontrolled)	0.348	lb/hr
Reduction from Watering Twice/Day	0%	
Controlled PM10 Emission Factor	0.348	lb/hr
Controlled PM2.5 Emission Factor[a]	0.072	lb/hr

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Construction Dust = 0.208 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Controlled emission factor [pounds per hour] x Bulldozing or grading time [hours/day]

Table 6
Fugitive Dust PM10 Emission Factors

Vehicles on Unpaved Surfaces

Emission Factor [lb/mi] = 1.5 x (silt content [%] / 12)$^{0.9}$ x (vehicle weight [tons] / 3)$^{0.45}$
Reference: AP-42, Section 13.2.2, December 2003 for industrial unpaved roads

Parameter	Value	Basis
Silt Content	7.5	SCAQMD 1993 CEQA Air Quality Handbook, Overburden
Vehicle Weight	20	Average of 30 tons loaded and 10 tons empty weights

PM10 Emission Factor (Uncontrolled)	2.308	lb/mi	
Reduction from Watering Twice/Day	68%		from SCAQMD 1993 CEQA Air Quality Handbook, Table 11-4
Controlled PM10 Emission Factor	0.738	lb/mi	
Controlled PM2.5 Emission Factor[a]	0.157	lb/mi	

[a] PM2.5 emission factor [lb/hr] = PM10 emission factor [lb/hr] x PM2.5 fraction of PM10
PM2.5 Fraction of PM10 in Unpaved Road Dust = 0.212 from Appendix A, Final–Methodology to Calculate Particulate Matter (PM) 2.5 and PM 2.5 Significance Thresholds, SCAQMD, October 2006

Emissions [pounds per day] = Controlled emission factor [pounds per mile] x Miles traveled [miles/day]

Table 7-A
Solar Facility Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Day	Monthly Number												
					Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment																	
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	4.5	0	0	0	0	4	4	4	5	6	8	6	6	6
Asphalt Paver, Cat	AP1055B	174	Diesel	6	0	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	651	500	Diesel	10	0	12	12	11	11	11	11	8	8	0	0	0	0
Scraper, Cat	623	330	Diesel	10	0	0	3	3	3	3	3	3	3	3	0	0	0
Dozer, Cat	824	354	Diesel	10	0	0	2	1	1	1	1	1	0	0	0	0	0
Dozer, Cat	834	498	Diesel	10	0	0	0	2	2	2	2	2	1	0	0	0	0
Dozer, Cat	D-6	150	Diesel	10	0	0	0		2	3	3	3	3	2	0	0	0
Dozer, Cat	D-9	410	Diesel	10	0	3	3	3	3	3	3	3	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	10	0	1	2	2	2	2	1	1	0	0	0	0	0
Blade, Cat	140H	165	Diesel	10	0	0	0	0	0	0	1	1	1	1	0	0	0
Blade, Cat	14H	210	Diesel	10	0	0	0	2	3	3	3	3	3	3	0	0	0
Blade, Cat	16H	265	Diesel	10	0	0			1	1	2	2	1	1	0	0	0
Backhoe, Cat,	430E	97	Diesel	5	0	0	2	2	2	4	4	4	4	2	2	2	1
Compactor, Cat	826H	410	Diesel	5	0	0	1	1	1	2	2	2	2	1	1	1	0
Crane, 150-Ton, Manitowoc	555	347	Diesel	4	0	0	0	0	0	1	2	2	2	2	2	1	1
Crane, 20-Ton, Grove	YB777	130	Diesel	5	0	0	0	1	1	1	1	1	2	6	4	4	4
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	5	0	0	0	0	1	1	2	2	2	4	4	4	4
Loader, Cat,	972G	275	Diesel	5	0	0	0	1	1	1	2	3	3	3	3	3	3
Motor Grader, Cat	140H	150	Diesel														
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	4	0	0	2	3	3	2	2	2	2	2	1	1	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	6	1	1	1	2	3	6	7	9	9	13	9	9	8
Welder, Multiquip	BLW-300SS	19.5	Gasoline	6.5	0	5	5	5	5	7	7	7	7	8	8	9	9
Motor Vehicles																	
On-site Vehicles																	
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	10	0	1	2	2	2	2	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	10	0	4	8	8	6	4	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	5	0	0	0	2	2	2	2	2	4	6	6	6	6
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	5	1	3	3	3	3	3	3	1	1	2	2	2	2
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	5	1	1	1	2	2	2	2	3	3	7	5	5	5
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	5	0	1	1	1	1	2	2	2	2	4	4	4	4
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	4	2	2	2	2	2	2	2	2	2	7	7	7	7
Off-Site Vehicles																	
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	20	4	4	4	4	4	9	9	15	15	20	20	20	15
Off-Site Asphalt Trucks	N/A	N/A	Diesel	20	0	0	0	0	0	0	0	0	0	0	0	0	0
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	20	0	0	5	5	5	5	6	6	6	4	1	1	1
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	60	111	121	156	199	240	213	173	185	461	771	744	782	739
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	40	0	2	2	2	2	2	2	2	2	2	2	2	2
Off-Site Low Boy Trucks	N/A	N/A	Diesel	15	0	5	0	0	5	5	5	5	5	3	3	3	3
Off-Site Pickup Trucks	F-250	N/A	Gasoline	20	5	5	5	5	5	5	5	5	7	12	14	14	14
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	120	0	0	0	4	4	4	4	4	4	8	8	8	8
Off-Site Water Trucks	FL80	N/A	Diesel	5	1	1	1	2	2	2	2	2	2	2	1	1	1
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	20	1	1	1	2	2	2	2	2	2	3	3	3	3

Table 7-A (continued)
Solar Facility Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Day	Monthly Number											
					Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment																
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	4.5	6	6	6	5	5	4	4	6	4	4	4	2
Asphalt Paver, Cat	AP1055B	174	Diesel	6	0	0	0	0	0	0	0	0	0	0	1	1
Scraper, Cat	651	500	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	623	330	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	824	354	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	834	498	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-6	150	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-9	410	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	140H	165	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	14H	210	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	16H	265	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe, Cat,	430E	97	Diesel	5	1	1	1	1	1	1	1	1	1	0	0	0
Compactor, Cat	826H	410	Diesel	5	0	0	0	0	0	0	0	1	1	1	1	1
Crane, 150-Ton, Manitowoc	555	347	Diesel	4	1	1	0	0	0	0	0	0	0	0	0	0
Crane, 20-Ton, Grove	YB777	130	Diesel	5	4	4	4	4	4	3	3	3	2	2	2	1
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	4	1	1	1	1	1	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	5	4	4	4	4	4	3	3	3	2	2	2	2
Loader, Cat,	972G	275	Diesel	5	2	1	1	0	0	0	0	0	0	0	0	0
Motor Grader, Cat	140H	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	4	0	0	0	0	0	0	0	0	0	0	0	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	6	8	7	7	6	6	5	5	5	5	5	5	5
Welder, Multiquip	BLW-300SS	19.5	Gasoline	6.5	9	9	9	9	7	7	7	6	6	6	4	3
Motor Vehicles																
On-site Vehicles																
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	10	0	0	0	0	0	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	5	6	6	6	6	3	6	6	4	2	2	2	1
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	5	2	2	2	2	2	2	2	1	1	1	1	1
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	5	5	5	5	3	3	3	3	3	3	3	3	3
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	5	4	4	4	4	3	2	2	1	1	1	1	1
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	4	7	7	7	7	7	7	7	7	2	2	2	2
Off-Site Vehicles																
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	20	15	10	10	10	5	5	1	1	1	1	1	1
Off-Site Asphalt Trucks	N/A	N/A	Diesel	20	0	0	0	0	0	0	0	0	0	0	2	2
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	20	1	1	0	0	0	0	0	0	0	0	0	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	60	730	836	731	713	667	532	559	503	338	235	226	68
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	40	2	2	2	2	2	2	2	0	0	0	0	0
Off-Site Low Boy Trucks	N/A	N/A	Diesel	15	3	1	1	0	0	0	0	0	0	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	20	14	14	10	7	5	3	2	0	0	0	0	0
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	120	4	4	2	2	0	0	0	0	0	0	0	0
Off-Site Water Trucks	FL80	N/A	Diesel	5	1	1	1	1	0	0	0	0	0	0	0	0
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	20	2	2	1	1	0	0	0	0	0	0	0	0

Table 7-B
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Monthly Operating Hours or Miles[a]												
				Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment																
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	0	0	0	0	396	396	396	495	594	792	594	594	594
Asphalt Paver, Cat	AP1055B	174	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	651	500	Diesel	0	2,640	2,640	2,420	2,420	2,420	2,420	1,760	1,760	0	0	0	0
Scraper, Cat	623	330	Diesel	0	0	660	660	660	660	660	660	660	660	0	0	0
Dozer, Cat	824	354	Diesel	0	0	440	220	220	220	220	220	0	0	0	0	0
Dozer, Cat	834	498	Diesel	0	0	0	440	440	440	440	440	220	0	0	0	0
Dozer, Cat	D-6	150	Diesel	0	0	0	0	440	660	660	660	660	440	0	0	0
Dozer, Cat	D-9	410	Diesel	0	660	660	660	660	660	660	660	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	0	220	440	440	440	440	220	220	0	0	0	0	0
Blade, Cat	140H	165	Diesel	0	0	0	0	0	0	220	220	220	220	0	0	0
Blade, Cat	14H	210	Diesel	0	0	0	440	660	660	660	660	660	660	0	0	0
Blade, Cat	16H	265	Diesel	0	0	0	0	220	220	440	440	220	220	0	0	0
Backhoe, Cat,	430E	97	Diesel	0	0	220	220	220	440	440	440	440	220	220	220	110
Compactor, Cat	826H	410	Diesel	0	0	110	110	110	220	220	220	220	110	110	110	0
Crane, 150-Ton, Manitowoc	555	347	Diesel	0	0	0	0	0	88	176	176	176	176	176	88	88
Crane, 20-Ton, Grove	YB777	130	Diesel	0	0	0	110	110	110	110	110	220	660	440	440	440
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	0	0	0	0	110	110	220	220	220	440	440	440	440
Loader, Cat,	972G	275	Diesel	0	0	0	110	110	110	220	330	330	330	330	330	330
Motor Grader, Cat	140H	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	0	0	176	264	264	176	176	176	176	176	88	88	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	132	132	132	264	396	792	924	1,188	1,188	1,716	1,188	1,188	1,056
Welder, Multiquip	BLW-300SS	19.5	Gasoline	0	715	715	715	715	1,001	1,001	1,001	1,001	1,144	1,144	1,287	1,287
Motor Vehicles																
On-site Vehicles																
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	0	220	440	440	440	440	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	0	880	1,760	1,760	1,320	880	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	0	0	0	220	220	220	220	220	440	660	660	660	660
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	110	330	330	330	330	330	330	110	110	220	220	220	220
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	110	110	110	220	220	220	220	330	330	770	550	550	550
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	0	110	110	110	110	220	220	220	220	440	440	440	440
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	176	176	176	176	176	176	176	176	176	616	616	616	616
Off-Site Vehicles																
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	1,760	1,760	1,760	1,760	1,760	3,960	3,960	6,600	6,600	8,800	8,800	8,800	6,600
Off-Site Asphalt Trucks	N/A	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	0	0	2,200	2,200	2,200	2,200	2,640	2,640	2,640	1,760	440	440	440
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	146,520	159,720	205,920	262,680	316,800	281,160	228,360	244,200	608,520	1,017,720	982,080	1,032,240	975,480
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	0	1,760	1,760	1,760	1,760	1,760	1,760	1,760	1,760	1,760	1,760	1,760	1,760
Off-Site Low Boy Trucks	N/A	N/A	Diesel	0	1,650	0	0	1,650	1,650	1,650	1,650	1,650	990	990	990	990
Off-Site Pickup Trucks	F-250	N/A	Gasoline	2,200	2,200	2,200	2,200	2,200	2,200	2,200	2,200	3,080	5,280	6,160	6,160	6,160
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	0	0	0	10,560	10,560	10,560	10,560	10,560	10,560	21,120	21,120	21,120	21,120
Off-Site Water Trucks	FL80	N/A	Diesel	110	110	110	220	220	220	220	220	220	220	110	110	110
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	440	440	440	880	880	880	880	880	880	1,320	1,320	1,320	1,320

Table 7-B (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Monthly Operating Hours or Miles[a]											
				Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment															
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	594	594	594	495	495	396	396	594	396	396	396	198
Asphalt Paver, Cat	AP1055B	174	Diesel	0	0	0	0	0	0	0	0	0	0	132	132
Scraper, Cat	651	500	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	623	330	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	824	354	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	834	498	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-6	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-9	410	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	140H	165	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	14H	210	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	16H	265	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe, Cat,	430E	97	Diesel	110	110	110	110	110	110	110	110	110	0	0	0
Compactor, Cat	826H	410	Diesel	0	0	0	0	0	0	0	110	110	110	110	110
Crane, 150-Ton, Manitowoc	555	347	Diesel	88	88	0	0	0	0	0	0	0	0	0	0
Crane, 20-Ton, Grove	YB777	130	Diesel	440	440	440	440	440	330	330	330	220	220	220	110
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	88	88	88	88	88	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	440	440	440	440	440	330	330	330	220	220	220	220
Loader, Cat,	972G	275	Diesel	220	110	110	0	0	0	0	0	0	0	0	0
Motor Grader, Cat	140H	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	1,056	924	924	792	792	660	660	660	660	660	660	660
Welder, Multiquip	BLW-300SS	19.5	Gasoline	1,287	1,287	1,287	1,287	1,001	1,001	1,001	858	858	858	572	429
Motor Vehicles															
On-site Vehicles															
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	660	660	660	660	330	660	660	440	220	220	220	110
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	220	220	220	220	220	220	220	110	110	110	110	110
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	550	550	550	330	330	330	330	330	330	330	330	330
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	440	440	440	440	330	220	220	110	110	110	110	110
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	616	616	616	616	616	616	616	616	176	176	176	176
Off-Site Vehicles															
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	6,600	4,400	4,400	4,400	2,200	2,200	440	440	440	440	440	440
Off-Site Asphalt Trucks	N/A	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	880	880
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	440	440	0	0	0	0	0	0	0	0	0	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	963,600	1,103,520	964,920	941,160	880,440	702,240	737,880	663,960	446,160	310,200	298,320	89,760
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	1,760	1,760	1,760	1,760	1,760	1,760	1,760	0	0	0	0	0
Off-Site Low Boy Trucks	N/A	N/A	Diesel	990	330	330	0	0	0	0	0	0	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	6,160	6,160	4,400	3,080	2,200	1,320	880	0	0	0	0	0
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	10,560	10,560	5,280	5,280	0	0	0	0	0	0	0	0
Off-Site Water Trucks	FL80	N/A	Diesel	110	110	110	110	0	0	0	0	0	0	0	0
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	880	880	440	440	0	0	0	0	0	0	0	0

a Based on 22 working days per month

Table 7-C
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0893	0.0	0.0	0.0	0.0	35.4	35.4	35.4	44.2	53.0	70.7	53.0	53.0	53.0
Asphalt Paver, Cat	0.8031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	4,358.4	4,358.4	3,995.2	3,995.2	3,995.2	3,995.2	2,905.6	2,905.6	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	0.0	1,089.6	1,089.6	1,089.6	1,089.6	1,089.6	1,089.6	1,089.6	1,089.6	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	820.6	410.3	410.3	410.3	410.3	410.3	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	820.6	820.6	820.6	820.6	820.6	410.3	0.0	0.0	0.0	0.0
Dozer, Cat	0.7655	0.0	0.0	0.0	0.0	336.8	505.3	505.3	505.3	505.3	336.8	0.0	0.0	0.0
Dozer, Cat	1.2964	0.0	855.6	855.6	855.6	855.6	855.6	855.6	855.6	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.3239	0.0	511.3	1,022.5	1,022.5	1,022.5	1,022.5	511.3	511.3	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	163.6	163.6	163.6	163.6	0.0	0.0	0.0
Blade, Cat	0.5194	0.0	0.0	0.0	228.5	342.8	342.8	342.8	342.8	342.8	342.8	0.0	0.0	0.0
Blade, Cat	0.8122	0.0	0.0	0.0	0.0	178.7	178.7	357.4	357.4	178.7	178.7	0.0	0.0	0.0
Backhoe, Cat,	0.3657	0.0	0.0	80.4	80.4	80.4	160.9	160.9	160.9	160.9	80.4	80.4	80.4	40.2
Compactor, Cat	0.8418	0.0	0.0	92.6	92.6	92.6	185.2	185.2	185.2	185.2	92.6	92.6	92.6	0.0
Crane, 150-Ton, Manitowoc	0.7164	0.0	0.0	0.0	0.0	0.0	63.0	126.1	126.1	126.1	126.1	126.1	63.0	63.0
Crane, 20-Ton, Grove	0.4901	0.0	0.0	0.0	53.9	53.9	53.9	53.9	53.9	107.8	323.4	215.6	215.6	215.6
Crane, 225-Ton, Manitowoc,	0.7164	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.4901	0.0	0.0	0.0	0.0	53.9	53.9	107.8	107.8	107.8	215.6	215.6	215.6	215.6
Loader, Cat,	0.8223	0.0	0.0	0.0	90.5	90.5	90.5	180.9	271.4	271.4	271.4	271.4	271.4	271.4
Motor Grader, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	1.0497	0.0	0.0	184.8	277.1	277.1	184.8	184.8	184.8	184.8	184.8	92.4	92.4	0.0
Welder, Multiquip	0.0698	9.2	9.2	9.2	18.4	27.6	55.2	64.5	82.9	82.9	119.7	82.9	82.9	73.7
Welder, Multiquip	5.4790	0.0	3,917.5	3,917.5	3,917.5	3,917.5	5,484.5	5,484.5	5,484.5	5,484.5	6,268.0	6,268.0	7,051.5	7,051.5
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0121	0.0	2.7	5.3	5.3	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0121	0.0	10.7	21.4	21.4	16.0	10.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1040	0.0	0.0	0.0	22.9	22.9	22.9	22.9	22.9	45.8	68.6	68.6	68.6	68.6
On-Site Fuel/lLube Truck International	0.0121	1.3	4.0	4.0	4.0	4.0	4.0	4.0	1.3	1.3	2.7	2.7	2.7	2.7
On-Site Flatbed Truck, Chevrolet	0.1040	11.4	11.4	11.4	22.9	22.9	22.9	22.9	34.3	34.3	80.1	57.2	57.2	57.2
On-Site Dump Truck, Volvo	0.0121	0.0	1.3	1.3	1.3	1.3	2.7	2.7	2.7	2.7	5.3	5.3	5.3	5.3
On-Site 3/4 Ton Pick-Up, Ford	0.0117	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	7.2	7.2	7.2	7.2
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.1040	183.0	183.0	183.0	183.0	183.0	411.8	411.8	686.4	686.4	915.2	915.2	915.2	686.4
Off-Site Asphalt Trucks	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0121	0.0	0.0	26.7	26.7	26.7	26.7	32.1	32.1	32.1	21.4	5.3	5.3	5.3
Off-Site Construction Worker Commute	0.0172	2,521.7	2,748.9	3,544.0	4,520.9	5,452.3	4,838.9	3,930.2	4,202.8	10,473.0	17,515.6	16,902.2	17,765.5	16,788.6
Off-Site Dump Truck, Volvo	0.0121	0.0	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4	21.4
Off-Site Low Boy Trucks	0.0121	0.0	20.0	0.0	0.0	20.0	20.0	20.0	20.0	20.0	12.0	12.0	12.0	12.0
Off-Site Pickup Trucks	0.0172	37.9	37.9	37.9	37.9	37.9	37.9	37.9	37.9	53.0	90.9	106.0	106.0	106.0
Off-Site Pipe Hauling Trucks	0.0121	0.0	0.0	0.0	128.2	128.2	128.2	128.2	128.2	128.2	256.4	256.4	256.4	256.4
Off-Site Water Trucks	0.0121	1.3	1.3	1.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	1.3	1.3	1.3
Off-Site Fuel/lLube Truck International	0.0121	5.3	5.3	5.3	10.7	10.7	10.7	10.7	10.7	10.7	16.0	16.0	16.0	16.0
Construction Equipment Total		**9.2**	**9,651.9**	**12,431.2**	**12,952.8**	**13,681.0**	**15,587.8**	**15,635.4**	**14,663.5**	**12,360.1**	**9,864.2**	**7,498.0**	**8,218.5**	**7,984.1**
On-Site Motor Vehicle Total		**14.8**	**32.2**	**45.6**	**79.9**	**74.5**	**70.5**	**54.5**	**63.3**	**86.2**	**164.0**	**141.1**	**141.1**	**141.1**
Off-Site Motor Vehicle Total		**2,749.3**	**3,017.9**	**3,819.7**	**4,931.4**	**5,882.9**	**5,498.3**	**4,594.9**	**5,142.1**	**11,427.4**	**18,851.5**	**18,235.9**	**19,099.2**	**17,893.5**

Table 7-C (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0893	53.0	53.0	53.0	44.2	44.2	35.4	35.4	53.0	35.4	35.4	35.4	17.7
Asphalt Paver, Cat	0.8031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	106.0	106.0
Scraper, Cat	1.6509	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.7655	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.2964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.3239	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.5194	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.8122	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.3657	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	40.2	0.0	0.0	0.0
Compactor, Cat	0.8418	0.0	0.0	0.0	0.0	0.0	0.0	0.0	92.6	92.6	92.6	92.6	92.6
Crane, 150-Ton, Manitowoc	0.7164	63.0	63.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.4901	215.6	215.6	215.6	215.6	215.6	161.7	161.7	161.7	107.8	107.8	107.8	53.9
Crane, 225-Ton, Manitowoc,	0.7164	63.0	63.0	63.0	63.0	63.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.4901	215.6	215.6	215.6	215.6	215.6	161.7	161.7	161.7	107.8	107.8	107.8	107.8
Loader, Cat,	0.8223	180.9	90.5	90.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	1.0497	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0698	73.7	64.5	64.5	55.2	55.2	46.0	46.0	46.0	46.0	46.0	46.0	46.0
Welder, Multiquip	5.4790	7,051.5	7,051.5	7,051.5	7,051.5	5,484.5	5,484.5	5,484.5	4,701.0	4,701.0	4,701.0	3,134.0	2,350.5
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1040	68.6	68.6	68.6	68.6	34.3	68.6	68.6	45.8	22.9	22.9	22.9	11.4
On-Site Fuel/lLube Truck International	0.0121	2.7	2.7	2.7	2.7	2.7	2.7	2.7	1.3	1.3	1.3	1.3	1.3
On-Site Flatbed Truck, Chevrolet	0.1040	57.2	57.2	57.2	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3	34.3
On-Site Dump Truck, Volvo	0.0121	5.3	5.3	5.3	5.3	4.0	2.7	2.7	1.3	1.3	1.3	1.3	1.3
On-Site 3/4 Ton Pick-Up, Ford	0.0117	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2	2.1	2.1	2.1	2.1
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.1040	686.4	457.6	457.6	457.6	228.8	228.8	45.8	45.8	45.8	45.8	45.8	45.8
Off-Site Asphalt Trucks	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	10.7
Off-Site Cement Trucks, MACK	0.0121	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0172	16,584.1	18,992.2	16,606.9	16,197.9	15,152.9	12,086.0	12,699.4	11,427.1	7,678.7	5,338.7	5,134.3	1,544.8
Off-Site Dump Truck, Volvo	0.0121	21.4	21.4	21.4	21.4	21.4	21.4	21.4	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0121	12.0	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0172	106.0	106.0	75.7	53.0	37.9	22.7	15.1	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0121	128.2	128.2	64.1	64.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0121	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0121	10.7	10.7	5.3	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**7,956.6**	**7,857.0**	**7,793.9**	**7,685.4**	**6,118.4**	**5,929.5**	**5,929.5**	**5,256.3**	**5,130.8**	**5,090.6**	**3,629.6**	**2,774.5**
On-Site Motor Vehicle Total		**141.1**	**141.1**	**141.1**	**118.2**	**82.6**	**115.5**	**115.5**	**90.0**	**61.9**	**61.9**	**61.9**	**50.5**
Off-Site Motor Vehicle Total		**17,555.5**	**19,726.8**	**17,236.3**	**16,800.7**	**15,440.9**	**12,358.9**	**12,781.6**	**11,472.9**	**7,724.4**	**5,384.5**	**5,190.7**	**1,601.3**

Note: Totals may not match sum of individual values because of rounding.

Table 7-D
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0352	0.0	0.0	0.0	0.0	14.0	14.0	14.0	17.4	20.9	27.9	20.9	20.9	20.9
Asphalt Paver, Cat	0.2144	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	1,005.4	1,005.4	921.6	921.6	921.6	921.6	670.2	670.2	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	0.0	251.3	251.3	251.3	251.3	251.3	251.3	251.3	251.3	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	165.3	82.7	82.7	82.7	82.7	82.7	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	165.3	165.3	165.3	165.3	165.3	82.7	0.0	0.0	0.0	0.0
Dozer, Cat	0.2036	0.0	0.0	0.0	0.0	89.6	134.4	134.4	134.4	134.4	89.6	0.0	0.0	0.0
Dozer, Cat	0.3039	0.0	200.6	200.6	200.6	200.6	200.6	200.6	200.6	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.5475	0.0	120.5	240.9	240.9	240.9	240.9	120.5	120.5	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	40.5	40.5	40.5	40.5	0.0	0.0	0.0
Blade, Cat	0.1856	0.0	0.0	0.0	81.7	122.5	122.5	122.5	122.5	122.5	122.5	0.0	0.0	0.0
Blade, Cat	0.2248	0.0	0.0	0.0	0.0	49.4	49.4	98.9	98.9	49.4	49.4	0.0	0.0	0.0
Backhoe, Cat,	0.0990	0.0	0.0	21.8	21.8	21.8	43.6	43.6	43.6	43.6	21.8	21.8	21.8	10.9
Compactor, Cat	0.2106	0.0	0.0	23.2	23.2	23.2	46.3	46.3	46.3	46.3	23.2	23.2	23.2	0.0
Crane, 150-Ton, Manitowoc	0.1912	0.0	0.0	0.0	0.0	0.0	16.8	33.7	33.7	33.7	33.7	33.7	16.8	16.8
Crane, 20-Ton, Grove	0.1274	0.0	0.0	0.0	14.0	14.0	14.0	14.0	14.0	28.0	84.1	56.0	56.0	56.0
Crane, 225-Ton, Manitowoc,	0.1912	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.1274	0.0	0.0	0.0	0.0	14.0	14.0	28.0	28.0	28.0	56.0	56.0	56.0	56.0
Loader, Cat,	0.2276	0.0	0.0	0.0	25.0	25.0	25.0	50.1	75.1	75.1	75.1	75.1	75.1	75.1
Motor Grader, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.2724	0.0	0.0	47.9	71.9	71.9	47.9	47.9	47.9	47.9	47.9	24.0	24.0	0.0
Welder, Multiquip	0.0275	3.6	3.6	3.6	7.3	10.9	21.8	25.4	32.7	32.7	47.2	32.7	32.7	29.1
Welder, Multiquip	0.1714	0.0	122.5	122.5	122.5	122.5	171.6	171.6	171.6	171.6	196.1	196.1	220.6	220.6
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0030	0.0	0.6	1.3	1.3	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0030	0.0	2.6	5.2	5.2	3.9	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0100	0.0	0.0	0.0	2.2	2.2	2.2	2.2	2.2	4.4	6.6	6.6	6.6	6.6
On-Site Fuel/lLube Truck International	0.0030	0.3	1.0	1.0	1.0	1.0	1.0	1.0	0.3	0.3	0.6	0.6	0.6	0.6
On-Site Flatbed Truck, Chevrolet	0.0100	1.1	1.1	1.1	2.2	2.2	2.2	2.2	3.3	3.3	7.7	5.5	5.5	5.5
On-Site Dump Truck, Volvo	0.0030	0.0	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.3
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0100	17.6	17.6	17.6	17.6	17.6	39.6	39.6	66.0	66.0	88.0	88.0	88.0	66.0
Off-Site Asphalt Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0030	0.0	0.0	6.5	6.5	6.5	6.5	7.8	7.8	7.8	5.2	1.3	1.3	1.3
Off-Site Construction Worker Commute	0.0013	183.9	200.5	258.5	329.7	397.7	352.9	286.6	306.5	763.8	1,277.5	1,232.7	1,295.7	1,224.5
Off-Site Dump Truck, Volvo	0.0030	0.0	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
Off-Site Low Boy Trucks	0.0030	0.0	4.9	0.0	0.0	4.9	4.9	4.9	4.9	4.9	2.9	2.9	2.9	2.9
Off-Site Pickup Trucks	0.0013	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	3.9	6.6	7.7	7.7	7.7
Off-Site Pipe Hauling Trucks	0.0030	0.0	0.0	0.0	31.2	31.2	31.2	31.2	31.2	31.2	62.4	62.4	62.4	62.4
Off-Site Water Trucks	0.0030	0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.3
Off-Site Fuel/lLube Truck International	0.0030	1.3	1.3	1.3	2.6	2.6	2.6	2.6	2.6	2.6	3.9	3.9	3.9	3.9
Construction Equipment Total		**3.6**	**1,452.6**	**2,082.6**	**2,229.8**	**2,441.2**	**2,583.8**	**2,612.8**	**2,397.2**	**1,878.9**	**1,166.3**	**539.5**	**547.1**	**485.5**
On-Site Motor Vehicle Total		**1.6**	**5.8**	**9.0**	**12.3**	**11.0**	**10.1**	**6.2**	**6.6**	**8.8**	**16.8**	**14.6**	**14.6**	**14.6**
Off-Site Motor Vehicle Total		**205.9**	**232.5**	**292.2**	**396.2**	**469.0**	**446.3**	**381.3**	**427.6**	**886.0**	**1,452.3**	**1,404.5**	**1,467.4**	**1,374.2**

Table 7-D (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0352	20.9	20.9	20.9	17.4	17.4	14.0	14.0	20.9	14.0	14.0	14.0	7.0
Asphalt Paver, Cat	0.2144	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.3	28.3
Scraper, Cat	0.3808	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2036	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3039	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.5475	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1856	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.2248	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0990	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	0.0	0.0	0.0
Compactor, Cat	0.2106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.2	23.2	23.2	23.2	23.2
Crane, 150-Ton, Manitowoc	0.1912	16.8	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.1274	56.0	56.0	56.0	56.0	56.0	42.0	42.0	42.0	28.0	28.0	28.0	14.0
Crane, 225-Ton, Manitowoc,	0.1912	16.8	16.8	16.8	16.8	16.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.1274	56.0	56.0	56.0	56.0	56.0	42.0	42.0	42.0	28.0	28.0	28.0	28.0
Loader, Cat,	0.2276	50.1	25.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.2724	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0275	29.1	25.4	25.4	21.8	21.8	18.2	18.2	18.2	18.2	18.2	18.2	18.2
Welder, Multiquip	0.1714	220.6	220.6	220.6	220.6	171.6	171.6	171.6	147.1	147.1	147.1	98.0	73.5
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0100	6.6	6.6	6.6	6.6	3.3	6.6	6.6	4.4	2.2	2.2	2.2	1.1
On-Site Fuel/lLube Truck International	0.0030	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.3	0.3	0.3
On-Site Flatbed Truck, Chevrolet	0.0100	5.5	5.5	5.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
On-Site Dump Truck, Volvo	0.0030	1.3	1.3	1.3	1.3	1.0	0.6	0.6	0.3	0.3	0.3	0.3	0.3
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2	0.2	0.2
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0100	66.0	44.0	44.0	44.0	22.0	22.0	4.4	4.4	4.4	4.4	4.4	4.4
Off-Site Asphalt Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6
Off-Site Cement Trucks, MACK	0.0030	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0013	1,209.5	1,385.2	1,211.2	1,181.4	1,105.2	881.5	926.2	833.4	560.0	389.4	374.5	112.7
Off-Site Dump Truck, Volvo	0.0030	5.2	5.2	5.2	5.2	5.2	5.2	5.2	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0030	2.9	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0013	7.7	7.7	5.5	3.9	2.8	1.7	1.1	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0030	31.2	31.2	15.6	15.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0030	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0030	2.6	2.6	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**477.3**	**448.6**	**431.8**	**399.6**	**350.6**	**298.6**	**298.6**	**304.3**	**269.3**	**258.4**	**237.7**	**192.2**
On-Site Motor Vehicle Total		**14.6**	**14.6**	**14.6**	**12.4**	**8.8**	**11.7**	**11.7**	**8.9**	**6.3**	**6.3**	**6.3**	**5.2**
Off-Site Motor Vehicle Total		**1,326.8**	**1,478.5**	**1,284.1**	**1,251.6**	**1,135.1**	**910.3**	**936.9**	**837.8**	**564.4**	**393.8**	**381.5**	**119.7**

Note: Totals may not match sum of individual values because of rounding.

Table 7-E
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.1439	0.0	0.0	0.0	0.0	57.0	57.0	57.0	71.2	85.5	114.0	85.5	85.5	85.5
Asphalt Paver, Cat	1.6818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	9,520.7	9,520.7	8,727.3	8,727.3	8,727.3	8,727.3	6,347.2	6,347.2	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	0.0	2,380.2	2,380.2	2,380.2	2,380.2	2,380.2	2,380.2	2,380.2	2,380.2	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	1,475.6	737.8	737.8	737.8	737.8	737.8	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	1,475.6	1,475.6	1,475.6	1,475.6	1,475.6	737.8	0.0	0.0	0.0	0.0
Dozer, Cat	1.5591	0.0	0.0	0.0	0.0	686.0	1,029.0	1,029.0	1,029.0	1,029.0	686.0	0.0	0.0	0.0
Dozer, Cat	2.8731	0.0	1,896.2	1,896.2	1,896.2	1,896.2	1,896.2	1,896.2	1,896.2	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	5.2476	0.0	1,154.5	2,308.9	2,308.9	2,308.9	2,308.9	1,154.5	1,154.5	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	316.0	316.0	316.0	316.0	0.0	0.0	0.0
Blade, Cat	1.8997	0.0	0.0	0.0	835.9	1,253.8	1,253.8	1,253.8	1,253.8	1,253.8	1,253.8	0.0	0.0	0.0
Blade, Cat	2.2486	0.0	0.0	0.0	0.0	494.7	494.7	989.4	989.4	494.7	494.7	0.0	0.0	0.0
Backhoe, Cat,	0.6061	0.0	0.0	133.3	133.3	133.3	266.7	266.7	266.7	266.7	133.3	133.3	133.3	66.7
Compactor, Cat	2.2084	0.0	0.0	242.9	242.9	242.9	485.8	485.8	485.8	485.8	242.9	242.9	242.9	0.0
Crane, 150-Ton, Manitowoc	1.8761	0.0	0.0	0.0	0.0	0.0	165.1	330.2	330.2	330.2	330.2	330.2	165.1	165.1
Crane, 20-Ton, Grove	0.9835	0.0	0.0	0.0	108.2	108.2	108.2	108.2	108.2	216.4	649.1	432.7	432.7	432.7
Crane, 225-Ton, Manitowoc,	1.8761	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.9835	0.0	0.0	0.0	0.0	108.2	108.2	216.4	216.4	216.4	432.7	432.7	432.7	432.7
Loader, Cat,	2.3019	0.0	0.0	0.0	253.2	253.2	253.2	506.4	759.6	759.6	759.6	759.6	759.6	759.6
Motor Grader, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	3.3717	0.0	0.0	593.4	890.1	890.1	593.4	593.4	593.4	593.4	593.4	296.7	296.7	0.0
Welder, Multiquip	0.1124	14.8	14.8	14.8	29.7	44.5	89.1	103.9	133.6	133.6	192.9	133.6	133.6	118.7
Welder, Multiquip	0.0780	0.0	55.8	55.8	55.8	55.8	78.1	78.1	78.1	78.1	89.2	89.2	100.4	100.4
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0389	0.0	8.6	17.1	17.1	17.1	17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0389	0.0	34.2	68.5	68.5	51.3	34.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0180	0.0	0.0	0.0	4.0	4.0	4.0	4.0	4.0	7.9	11.9	11.9	11.9	11.9
On-Site Fuel/lLube Truck International	0.0389	4.3	12.8	12.8	12.8	12.8	12.8	12.8	4.3	4.3	8.6	8.6	8.6	8.6
On-Site Flatbed Truck, Chevrolet	0.0180	2.0	2.0	2.0	4.0	4.0	4.0	4.0	5.9	5.9	13.9	9.9	9.9	9.9
On-Site Dump Truck, Volvo	0.0389	0.0	4.3	4.3	4.3	4.3	8.6	8.6	8.6	8.6	17.1	17.1	17.1	17.1
On-Site 3/4 Ton Pick-Up, Ford	0.0017	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	1.1	1.1	1.1	1.1
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0180	31.7	31.7	31.7	31.7	31.7	71.3	71.3	118.8	118.8	158.4	158.4	158.4	118.8
Off-Site Asphalt Trucks	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0389	0.0	0.0	85.6	85.6	85.6	85.6	102.7	102.7	102.7	68.5	17.1	17.1	17.1
Off-Site Construction Worker Commute	0.0017	245.2	267.3	344.6	439.6	530.2	470.6	382.2	408.7	1,018.4	1,703.3	1,643.6	1,727.6	1,632.6
Off-Site Dump Truck, Volvo	0.0389	0.0	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5	68.5
Off-Site Low Boy Trucks	0.0389	0.0	64.2	0.0	0.0	64.2	64.2	64.2	64.2	64.2	38.5	38.5	38.5	38.5
Off-Site Pickup Trucks	0.0017	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	5.2	8.8	10.3	10.3	10.3
Off-Site Pipe Hauling Trucks	0.0389	0.0	0.0	0.0	410.8	410.8	410.8	410.8	410.8	410.8	821.5	821.5	821.5	821.5
Off-Site Water Trucks	0.0389	4.3	4.3	4.3	8.6	8.6	8.6	8.6	8.6	8.6	8.6	4.3	4.3	4.3
Off-Site Fuel/lLube Truck International	0.0389	17.1	17.1	17.1	34.2	34.2	34.2	34.2	34.2	34.2	51.3	51.3	51.3	51.3
Construction Equipment Total		**14.8**	**12,642.0**	**18,622.0**	**20,075.2**	**21,853.9**	**22,508.4**	**22,706.0**	**20,623.0**	**15,724.4**	**8,668.3**	**2,936.6**	**2,782.7**	**2,161.5**
On-Site Motor Vehicle Total		**6.6**	**62.2**	**105.0**	**110.9**	**93.8**	**81.0**	**29.6**	**23.0**	**27.0**	**52.5**	**48.5**	**48.5**	**48.5**
Off-Site Motor Vehicle Total		**302.0**	**456.7**	**555.4**	**1,082.6**	**1,237.3**	**1,217.3**	**1,146.0**	**1,220.1**	**1,831.3**	**2,927.4**	**2,813.6**	**2,897.5**	**2,762.9**

Table 7-E (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.1439	85.5	85.5	85.5	71.2	71.2	57.0	57.0	85.5	57.0	57.0	57.0	28.5
Asphalt Paver, Cat	1.6818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	222.0	222.0
Scraper, Cat	3.6063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.5591	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.8731	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	5.2476	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.8997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	2.2486	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.6061	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7	0.0	0.0	0.0
Compactor, Cat	2.2084	0.0	0.0	0.0	0.0	0.0	0.0	0.0	242.9	242.9	242.9	242.9	242.9
Crane, 150-Ton, Manitowoc	1.8761	165.1	165.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.9835	432.7	432.7	432.7	432.7	432.7	324.6	324.6	324.6	216.4	216.4	216.4	108.2
Crane, 225-Ton, Manitowoc,	1.8761	165.1	165.1	165.1	165.1	165.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.9835	432.7	432.7	432.7	432.7	432.7	324.6	324.6	324.6	216.4	216.4	216.4	216.4
Loader, Cat,	2.3019	506.4	253.2	253.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	3.3717	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.1124	118.7	103.9	103.9	89.1	89.1	74.2	74.2	74.2	74.2	74.2	74.2	74.2
Welder, Multiquip	0.0780	100.4	100.4	100.4	100.4	78.1	78.1	78.1	66.9	66.9	66.9	44.6	33.5
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0180	11.9	11.9	11.9	11.9	5.9	11.9	11.9	7.9	4.0	4.0	4.0	2.0
On-Site Fuel/lLube Truck International	0.0389	8.6	8.6	8.6	8.6	8.6	8.6	8.6	4.3	4.3	4.3	4.3	4.3
On-Site Flatbed Truck, Chevrolet	0.0180	9.9	9.9	9.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
On-Site Dump Truck, Volvo	0.0389	17.1	17.1	17.1	17.1	12.8	8.6	8.6	4.3	4.3	4.3	4.3	4.3
On-Site 3/4 Ton Pick-Up, Ford	0.0017	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.3	0.3	0.3	0.3
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0180	118.8	79.2	79.2	79.2	39.6	39.6	7.9	7.9	7.9	7.9	7.9	7.9
Off-Site Asphalt Trucks	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.2	34.2
Off-Site Cement Trucks, MACK	0.0389	17.1	17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0017	1,612.7	1,846.9	1,614.9	1,575.2	1,473.5	1,175.3	1,234.9	1,111.2	746.7	519.2	499.3	150.2
Off-Site Dump Truck, Volvo	0.0389	68.5	68.5	68.5	68.5	68.5	68.5	68.5	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0389	38.5	12.8	12.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0017	10.3	10.3	7.4	5.2	3.7	2.2	1.5	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0389	410.8	410.8	205.4	205.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0389	4.3	4.3	4.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0389	34.2	34.2	17.1	17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**2,073.4**	**1,805.3**	**1,640.2**	**1,357.9**	**1,335.6**	**925.1**	**925.1**	**1,185.3**	**940.5**	**873.8**	**1,073.5**	**925.6**
On-Site Motor Vehicle Total		**48.5**	**48.5**	**48.5**	**44.5**	**34.3**	**36.0**	**36.0**	**23.5**	**18.8**	**18.8**	**18.8**	**16.8**
Off-Site Motor Vehicle Total		**2,315.2**	**2,484.1**	**2,009.6**	**1,954.8**	**1,585.3**	**1,285.6**	**1,312.8**	**1,119.2**	**754.6**	**527.1**	**541.4**	**192.4**

Note: Totals may not match sum of individual values because of rounding.

Table 7-F
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0002	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Asphalt Paver, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	8.3	8.3	7.6	7.6	7.6	7.6	5.5	5.5	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	1.1	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	1.1	1.1	1.1	1.1	1.1	0.6	0.0	0.0	0.0	0.0
Dozer, Cat	0.0014	0.0	0.0	0.0	0.0	0.6	0.9	0.9	0.9	0.9	0.6	0.0	0.0	0.0
Dozer, Cat	0.0025	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0047	0.0	1.0	2.1	2.1	2.1	2.1	1.0	1.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0
Blade, Cat	0.0019	0.0	0.0	0.0	0.9	1.3	1.3	1.3	1.3	1.3	1.3	0.0	0.0	0.0
Blade, Cat	0.0023	0.0	0.0	0.0	0.0	0.5	0.5	1.0	1.0	0.5	0.5	0.0	0.0	0.0
Backhoe, Cat,	0.0006	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1
Compactor, Cat	0.0021	0.0	0.0	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.2	0.2	0.2	0.0
Crane, 150-Ton, Manitowoc	0.0018	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2
Crane, 20-Ton, Grove	0.0009	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.6	0.4	0.4	0.4
Crane, 225-Ton, Manitowoc,	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.4	0.4	0.4	0.4
Loader, Cat,	0.0023	0.0	0.0	0.0	0.3	0.3	0.3	0.5	0.8	0.8	0.8	0.8	0.8	0.8
Motor Grader, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0034	0.0	0.0	0.6	0.9	0.9	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.0
Welder, Multiquip	0.0001	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Welder, Multiquip	0.0002	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/ILube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0000	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Dump Truck, Volvo	0.0000	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Low Boy Trucks	0.0000	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0000	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.9	0.9	0.9	0.9
Off-Site Water Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/ILube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Construction Equipment Total		**0.0**	**11.2**	**16.4**	**17.8**	**19.5**	**20.2**	**20.5**	**18.7**	**14.5**	**8.4**	**3.1**	**2.9**	**2.3**
On-Site Motor Vehicle Total		**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.0**	**0.2**	**0.2**	**0.6**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**1.1**	**1.1**	**1.1**	**1.1**

Table 7-F (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0002	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Asphalt Paver, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0047	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0006	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Compactor, Cat	0.0021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Crane, 150-Ton, Manitowoc	0.0018	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0009	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1
Crane, 225-Ton, Manitowoc,	0.0018	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0009	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Loader, Cat,	0.0023	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0034	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0001	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Welder, Multiquip	0.0002	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Dump Truck, Volvo	0.0000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0000	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**2.2**	**1.9**	**1.8**	**1.5**	**1.4**	**1.0**	**1.0**	**1.3**	**1.0**	**1.0**	**1.1**	**0.9**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.6**	**0.6**	**0.3**	**0.3**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 7-G
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0106	0.0	0.0	0.0	0.0	4.2	4.2	4.2	5.2	6.3	8.4	6.3	6.3	6.3
Asphalt Paver, Cat	0.0938	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	385.5	385.5	353.4	353.4	353.4	353.4	257.0	257.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	0.0	96.4	96.4	96.4	96.4	96.4	96.4	96.4	96.4	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	63.0	31.5	31.5	31.5	31.5	31.5	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	63.0	63.0	63.0	63.0	63.0	31.5	0.0	0.0	0.0	0.0
Dozer, Cat	0.0894	0.0	0.0	0.0	0.0	39.3	59.0	59.0	59.0	59.0	39.3	0.0	0.0	0.0
Dozer, Cat	0.1160	0.0	76.6	76.6	76.6	76.6	76.6	76.6	76.6	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2098	0.0	46.2	92.3	92.3	92.3	92.3	46.2	46.2	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	18.1	18.1	18.1	18.1	0.0	0.0	0.0
Blade, Cat	0.0705	0.0	0.0	0.0	31.0	46.5	46.5	46.5	46.5	46.5	46.5	0.0	0.0	0.0
Blade, Cat	0.0853	0.0	0.0	0.0	0.0	18.8	18.8	37.6	37.6	18.8	18.8	0.0	0.0	0.0
Backhoe, Cat,	0.0553	0.0	0.0	12.2	12.2	12.2	24.3	24.3	24.3	24.3	12.2	12.2	12.2	6.1
Compactor, Cat	0.0830	0.0	0.0	9.1	9.1	9.1	18.3	18.3	18.3	18.3	9.1	9.1	9.1	0.0
Crane, 150-Ton, Manitowoc	0.0727	0.0	0.0	0.0	0.0	0.0	6.4	12.8	12.8	12.8	12.8	12.8	6.4	6.4
Crane, 20-Ton, Grove	0.0562	0.0	0.0	0.0	6.2	6.2	6.2	6.2	6.2	12.4	37.1	24.7	24.7	24.7
Crane, 225-Ton, Manitowoc,	0.0727	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0562	0.0	0.0	0.0	0.0	6.2	6.2	12.4	12.4	12.4	24.7	24.7	24.7	24.7
Loader, Cat,	0.0867	0.0	0.0	0.0	9.5	9.5	9.5	19.1	28.6	28.6	28.6	28.6	28.6	28.6
Motor Grader, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.1059	0.0	0.0	18.6	28.0	28.0	18.6	18.6	18.6	18.6	18.6	9.3	9.3	0.0
Welder, Multiquip	0.0083	1.1	1.1	1.1	2.2	3.3	6.6	7.7	9.8	9.8	14.2	9.8	9.8	8.7
Welder, Multiquip	0.0668	0.0	47.7	47.7	47.7	47.7	66.8	66.8	66.8	66.8	76.4	76.4	85.9	85.9
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0015	0.0	0.3	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0015	0.0	1.4	2.7	2.7	2.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0015	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2	0.3	0.3	0.3	0.3
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0015	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.7	0.7	0.7	0.7
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0015	0.0	0.0	3.4	3.4	3.4	3.4	4.1	4.1	4.1	2.7	0.7	0.7	0.7
Off-Site Construction Worker Commute	0.0000	4.1	4.5	5.7	7.3	8.8	7.8	6.4	6.8	17.0	28.4	27.4	28.8	27.2
Off-Site Dump Truck, Volvo	0.0015	0.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Off-Site Low Boy Trucks	0.0015	0.0	2.5	0.0	0.0	2.5	2.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5
Off-Site Pickup Trucks	0.0000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Off-Site Pipe Hauling Trucks	0.0015	0.0	0.0	0.0	16.2	16.2	16.2	16.2	16.2	16.2	32.5	32.5	32.5	32.5
Off-Site Water Trucks	0.0015	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Off-Site Fuel/lLube Truck International	0.0015	0.7	0.7	0.7	1.4	1.4	1.4	1.4	1.4	1.4	2.0	2.0	2.0	2.0
Construction Equipment Total		**1.1**	**557.1**	**802.6**	**859.2**	**944.3**	**1,004.7**	**1,018.6**	**934.9**	**737.6**	**461.3**	**214.0**	**217.2**	**191.5**
On-Site Motor Vehicle Total		**0.2**	**2.4**	**4.1**	**4.1**	**3.4**	**2.9**	**0.9**	**0.5**	**0.5**	**1.1**	**1.1**	**1.1**	**1.1**
Off-Site Motor Vehicle Total		**5.0**	**10.6**	**12.7**	**31.4**	**35.5**	**34.5**	**33.7**	**34.1**	**44.3**	**70.3**	**67.2**	**68.6**	**67.0**

Table 7-G (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0106	6.3	6.3	6.3	5.2	5.2	4.2	4.2	6.3	4.2	4.2	4.2	2.1
Asphalt Paver, Cat	0.0938	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	12.4
Scraper, Cat	0.1460	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0894	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2098	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0705	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0853	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0553	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	6.1	0.0	0.0	0.0
Compactor, Cat	0.0830	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.1	9.1	9.1	9.1	9.1
Crane, 150-Ton, Manitowoc	0.0727	6.4	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0562	24.7	24.7	24.7	24.7	24.7	18.6	18.6	18.6	12.4	12.4	12.4	6.2
Crane, 225-Ton, Manitowoc,	0.0727	6.4	6.4	6.4	6.4	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0562	24.7	24.7	24.7	24.7	24.7	18.6	18.6	18.6	12.4	12.4	12.4	12.4
Loader, Cat,	0.0867	19.1	9.5	9.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.1059	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0083	8.7	7.7	7.7	6.6	6.6	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Welder, Multiquip	0.0668	85.9	85.9	85.9	85.9	66.8	66.8	66.8	57.3	57.3	57.3	38.2	28.6
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0015	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0015	0.7	0.7	0.7	0.7	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
Off-Site Cement Trucks, MACK	0.0015	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	26.9	30.8	26.9	26.3	24.6	19.6	20.6	18.5	12.4	8.7	8.3	2.5
Off-Site Dump Truck, Volvo	0.0015	2.7	2.7	2.7	2.7	2.7	2.7	2.7	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0015	1.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0015	16.2	16.2	8.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0015	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0015	1.4	1.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**188.4**	**177.8**	**171.4**	**159.7**	**140.6**	**119.7**	**119.7**	**121.4**	**106.9**	**100.8**	**94.1**	**76.3**
On-Site Motor Vehicle Total		**1.1**	**1.1**	**1.1**	**1.1**	**0.9**	**0.7**	**0.7**	**0.4**	**0.3**	**0.3**	**0.3**	**0.3**
Off-Site Motor Vehicle Total		**49.7**	**52.6**	**39.2**	**38.0**	**27.3**	**22.3**	**23.3**	**18.5**	**12.4**	**8.7**	**9.7**	**3.9**

Note: Totals may not match sum of individual values because of rounding.

Table 7-H
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0098	0.0	0.0	0.0	0.0	3.9	3.9	3.9	4.8	5.8	7.7	5.8	5.8	5.8
Asphalt Paver, Cat	0.0863	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	354.7	354.7	325.1	325.1	325.1	325.1	236.5	236.5	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	0.0	88.7	88.7	88.7	88.7	88.7	88.7	88.7	88.7	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	58.0	29.0	29.0	29.0	29.0	29.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	58.0	58.0	58.0	58.0	58.0	29.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0823	0.0	0.0	0.0	0.0	36.2	54.3	54.3	54.3	54.3	36.2	0.0	0.0	0.0
Dozer, Cat	0.1067	0.0	70.4	70.4	70.4	70.4	70.4	70.4	70.4	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1930	0.0	42.5	84.9	84.9	84.9	84.9	42.5	42.5	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	16.6	16.6	16.6	16.6	0.0	0.0	0.0
Blade, Cat	0.0648	0.0	0.0	0.0	28.5	42.8	42.8	42.8	42.8	42.8	42.8	0.0	0.0	0.0
Blade, Cat	0.0785	0.0	0.0	0.0	0.0	17.3	17.3	34.5	34.5	17.3	17.3	0.0	0.0	0.0
Backhoe, Cat,	0.0509	0.0	0.0	11.2	11.2	11.2	22.4	22.4	22.4	22.4	11.2	11.2	11.2	5.6
Compactor, Cat	0.0764	0.0	0.0	8.4	8.4	8.4	16.8	16.8	16.8	16.8	8.4	8.4	8.4	0.0
Crane, 150-Ton, Manitowoc	0.0669	0.0	0.0	0.0	0.0	0.0	5.9	11.8	11.8	11.8	11.8	11.8	5.9	5.9
Crane, 20-Ton, Grove	0.0517	0.0	0.0	0.0	5.7	5.7	5.7	5.7	5.7	11.4	34.2	22.8	22.8	22.8
Crane, 225-Ton, Manitowoc,	0.0669	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0517	0.0	0.0	0.0	0.0	5.7	5.7	11.4	11.4	11.4	22.8	22.8	22.8	22.8
Loader, Cat,	0.0798	0.0	0.0	0.0	8.8	8.8	8.8	17.6	26.3	26.3	26.3	26.3	26.3	26.3
Motor Grader, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0974	0.0	0.0	17.2	25.7	25.7	17.2	17.2	17.2	17.2	17.2	8.6	8.6	0.0
Welder, Multiquip	0.0076	1.0	1.0	1.0	2.0	3.0	6.0	7.0	9.1	9.1	13.1	9.1	9.1	8.0
Welder, Multiquip	0.0505	0.0	36.1	36.1	36.1	36.1	50.5	50.5	50.5	50.5	57.7	57.7	65.0	65.0
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0014	0.0	0.3	0.6	0.6	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0014	0.0	1.2	2.5	2.5	1.9	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0014	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.2	0.2	0.3	0.3	0.3	0.3
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0014	0.0	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0014	0.0	0.0	3.1	3.1	3.1	3.1	3.7	3.7	3.7	2.5	0.6	0.6	0.6
Off-Site Construction Worker Commute	0.0000	3.8	4.1	5.3	6.8	8.2	7.3	5.9	6.3	15.8	26.3	25.4	26.7	25.3
Off-Site Dump Truck, Volvo	0.0014	0.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Off-Site Low Boy Trucks	0.0014	0.0	2.3	0.0	0.0	2.3	2.3	2.3	2.3	2.3	1.4	1.4	1.4	1.4
Off-Site Pickup Trucks	0.0000	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
Off-Site Pipe Hauling Trucks	0.0014	0.0	0.0	0.0	14.9	14.9	14.9	14.9	14.9	14.9	29.9	29.9	29.9	29.9
Off-Site Water Trucks	0.0014	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Off-Site Fuel/lLube Truck International	0.0014	0.6	0.6	0.6	1.2	1.2	1.2	1.2	1.2	1.2	1.9	1.9	1.9	1.9
Construction Equipment Total		**1.0**	**504.7**	**730.6**	**782.6**	**860.9**	**913.3**	**926.1**	**849.2**	**667.7**	**411.8**	**184.4**	**185.7**	**162.1**
On-Site Motor Vehicle Total		**0.2**	**2.2**	**3.7**	**3.7**	**3.1**	**2.7**	**0.8**	**0.5**	**0.5**	**1.0**	**1.0**	**1.0**	**1.0**
Off-Site Motor Vehicle Total		**4.6**	**9.8**	**11.8**	**29.0**	**32.7**	**31.8**	**31.0**	**31.4**	**40.9**	**64.9**	**62.0**	**63.3**	**61.8**

Table 7-H (continued)
Solar Facility Construction Monthly Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0098	5.8	5.8	5.8	4.8	4.8	3.9	3.9	5.8	3.9	3.9	3.9	1.9
Asphalt Paver, Cat	0.0863	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	11.4
Scraper, Cat	0.1344	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0823	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1067	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1930	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0648	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0785	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0509	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	0.0	0.0	0.0
Compactor, Cat	0.0764	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	8.4	8.4	8.4	8.4
Crane, 150-Ton, Manitowoc	0.0669	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0517	22.8	22.8	22.8	22.8	22.8	17.1	17.1	17.1	11.4	11.4	11.4	5.7
Crane, 225-Ton, Manitowoc,	0.0669	5.9	5.9	5.9	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0517	22.8	22.8	22.8	22.8	22.8	17.1	17.1	17.1	11.4	11.4	11.4	11.4
Loader, Cat,	0.0798	17.6	8.8	8.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0076	8.0	7.0	7.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Welder, Multiquip	0.0505	65.0	65.0	65.0	65.0	50.5	50.5	50.5	43.3	43.3	43.3	28.9	21.7
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0014	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0014	0.6	0.6	0.6	0.6	0.5	0.3	0.3	0.2	0.2	0.2	0.2	0.2
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
Off-Site Cement Trucks, MACK	0.0014	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	24.9	28.6	25.0	24.4	22.8	18.2	19.1	17.2	11.5	8.0	7.7	2.3
Off-Site Dump Truck, Volvo	0.0014	2.5	2.5	2.5	2.5	2.5	2.5	2.5	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0014	1.4	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0014	14.9	14.9	7.5	7.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0014	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0014	1.2	1.2	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**159.2**	**149.5**	**143.6**	**132.8**	**118.4**	**99.2**	**99.2**	**102.3**	**89.0**	**83.4**	**80.3**	**65.5**
On-Site Motor Vehicle Total		**1.0**	**1.0**	**1.0**	**1.0**	**0.8**	**0.7**	**0.7**	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**
Off-Site Motor Vehicle Total		**46.0**	**48.7**	**36.3**	**35.2**	**25.3**	**20.7**	**21.6**	**17.2**	**11.5**	**8.0**	**9.0**	**3.6**

Note: Totals may not match sum of individual values because of rounding.

Table 7-I
Solar Facility Construction Monthly Motor Vehicle Fugitive PM10 Emissions

Vehicle Type	Emission Factor (lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0001	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0001	0.0	0.1	0.3	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.7384	0.0	0.0	0.0	162.4	162.4	162.4	162.4	162.4	324.9	487.3	487.3	487.3	487.3
On-Site Fuel/lLube Truck International	0.7385	81.2	243.7	243.7	243.7	243.7	243.7	243.7	81.2	81.2	162.5	162.5	162.5	162.5
On-Site Flatbed Truck, Chevrolet	0.7384	81.2	81.2	81.2	162.4	162.4	162.4	162.4	243.7	243.7	568.6	406.1	406.1	406.1
On-Site Dump Truck, Volvo	0.7385	0.0	81.2	81.2	81.2	81.2	162.5	162.5	162.5	162.5	325.0	325.0	325.0	325.0
On-Site 3/4 Ton Pick-Up, Ford	0.7384	130.0	130.0	130.0	130.0	130.0	130.0	130.0	130.0	130.0	454.9	454.9	454.9	454.9
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0008	1.5	1.5	1.5	1.5	1.5	3.3	3.3	5.5	5.5	7.3	7.3	7.3	5.5
Off-Site Asphalt Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0010	0.0	0.0	2.1	2.1	2.1	2.1	2.6	2.6	2.6	1.7	0.4	0.4	0.4
Off-Site Construction Worker Commute	0.0009	129.2	140.8	181.5	231.6	279.3	247.9	201.3	215.3	536.5	897.2	865.8	910.0	860.0
Off-Site Dump Truck, Volvo	0.0010	0.0	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Off-Site Low Boy Trucks	0.0010	0.0	1.6	0.0	0.0	1.6	1.6	1.6	1.6	1.6	1.0	1.0	1.0	1.0
Off-Site Pickup Trucks	0.0009	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.7	4.7	5.4	5.4	5.4
Off-Site Pipe Hauling Trucks	0.0010	0.0	0.0	0.0	10.3	10.3	10.3	10.3	10.3	10.3	20.5	20.5	20.5	20.5
Off-Site Water Trucks	0.0010	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1
Off-Site Fuel/lLube Truck International	0.0010	0.4	0.4	0.4	0.9	0.9	0.9	0.9	0.9	0.9	1.3	1.3	1.3	1.3
On-Site Motor Vehicle Total		**292.4**	**536.3**	**536.5**	**780.1**	**780.1**	**861.3**	**861.1**	**779.8**	**942.3**	**1,998.2**	**1,835.8**	**1,835.8**	**1,835.8**
Off-Site Motor Vehicle Total		**133.1**	**148.0**	**189.3**	**250.1**	**299.5**	**269.9**	**223.7**	**239.9**	**561.8**	**935.5**	**903.5**	**947.7**	**895.9**

Note: Totals may not match sum of individual values because of rounding.

Table 7-I (continued)
Solar Facility Construction Monthly Motor Vehicle Fugitive PM10 Emissions

Vehicle Type	Emission Factor (lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.7384	487.3	487.3	487.3	487.3	243.7	487.3	487.3	324.9	162.4	162.4	162.4	81.2
On-Site Fuel/lLube Truck International	0.7385	162.5	162.5	162.5	162.5	162.5	162.5	162.5	81.2	81.2	81.2	81.2	81.2
On-Site Flatbed Truck, Chevrolet	0.7384	406.1	406.1	406.1	243.7	243.7	243.7	243.7	243.7	243.7	243.7	243.7	243.7
On-Site Dump Truck, Volvo	0.7385	325.0	325.0	325.0	325.0	243.7	162.5	162.5	81.2	81.2	81.2	81.2	81.2
On-Site 3/4 Ton Pick-Up, Ford	0.7384	454.9	454.9	454.9	454.9	454.9	454.9	454.9	454.9	130.0	130.0	130.0	130.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0008	5.5	3.6	3.6	3.6	1.8	1.8	0.4	0.4	0.4	0.4	0.4	0.4
Off-Site Asphalt Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
Off-Site Cement Trucks, MACK	0.0010	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0009	849.5	972.8	850.7	829.7	776.2	619.1	650.5	585.3	393.3	273.5	263.0	79.1
Off-Site Dump Truck, Volvo	0.0010	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0010	1.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0009	5.4	5.4	3.9	2.7	1.9	1.2	0.8	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0010	10.3	10.3	5.1	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0010	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0010	0.9	0.9	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Total		**1,835.8**	**1,835.8**	**1,835.8**	**1,673.3**	**1,348.4**	**1,510.9**	**1,510.9**	**1,185.9**	**698.6**	**698.6**	**698.6**	**617.3**
Off-Site Motor Vehicle Total		**874.7**	**995.6**	**865.9**	**843.4**	**781.6**	**623.8**	**653.4**	**585.7**	**393.7**	**273.8**	**264.2**	**80.3**

Note: Totals may not match sum of individual values because of rounding.

On-site vehicle travel is on unpaved surfaces and offsite travel is on paved roads.

Table 7-J
Solar Facility Construction Monthly Motor Vehicle Fugitive PM2.5 Emissions

Vehicle Type	Emission Factor (lb/mile)	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1565	0.0	0.0	0.0	34.4	34.4	34.4	34.4	34.4	68.9	103.3	103.3	103.3	103.3
On-Site Fuel/lLube Truck International	0.1566	17.2	51.7	51.7	51.7	51.7	51.7	51.7	17.2	17.2	34.4	34.4	34.4	34.4
On-Site Flatbed Truck, Chevrolet	0.1565	17.2	17.2	17.2	34.4	34.4	34.4	34.4	51.7	51.7	120.5	86.1	86.1	86.1
On-Site Dump Truck, Volvo	0.1566	0.0	17.2	17.2	17.2	17.2	34.4	34.4	34.4	34.4	68.9	68.9	68.9	68.9
On-Site 3/4 Ton Pick-Up, Ford	0.1566	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	96.4	96.4	96.4	96.4
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0001	0.2	0.2	0.2	0.2	0.2	0.6	0.6	0.9	0.9	1.2	1.2	1.2	0.9
Off-Site Asphalt Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0002	0.0	0.0	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.3	0.1	0.1	0.1
Off-Site Construction Worker Commute	0.0002	23.2	25.3	32.6	41.6	50.2	44.6	36.2	38.7	96.5	161.3	155.7	163.6	154.6
Off-Site Dump Truck, Volvo	0.0002	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Off-Site Low Boy Trucks	0.0002	0.0	0.3	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
Off-Site Pickup Trucks	0.0002	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.5	0.8	1.0	1.0	1.0
Off-Site Pipe Hauling Trucks	0.0002	0.0	0.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	4.0	4.0	4.0	4.0
Off-Site Water Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0002	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
On-Site Motor Vehicle Total		**62.0**	**113.7**	**113.8**	**165.4**	**165.4**	**182.6**	**182.6**	**165.3**	**199.8**	**423.6**	**389.2**	**389.2**	**389.2**
Off-Site Motor Vehicle Total		**23.9**	**26.7**	**34.1**	**45.2**	**54.0**	**48.7**	**40.4**	**43.3**	**101.2**	**168.5**	**162.7**	**170.6**	**161.3**

Table 7-J (continued)
Solar Facility Construction Monthly Motor Vehicle Fugitive PM2.5 Emissions

Vehicle Type	Emission Factor (lb/mile)	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1565	103.3	103.3	51.7	103.3	103.3	68.9	34.4	34.4	34.4	17.2	0.0	0.0
On-Site Fuel/lLube Truck International	0.1566	34.4	34.4	34.4	34.4	34.4	17.2	17.2	17.2	17.2	17.2	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1565	86.1	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	51.7	0.0	0.0
On-Site Dump Truck, Volvo	0.1566	68.9	68.9	51.7	34.4	34.4	17.2	17.2	17.2	17.2	17.2	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.1566	96.4	96.4	96.4	96.4	96.4	96.4	27.6	27.6	27.6	27.6	0.0	0.0
Off-Site Vehicles		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Flat Bed Trucks	0.0001	0.6	0.6	0.3	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Off-Site Asphalt Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.0	0.0
Off-Site Cement Trucks, MACK	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0002	152.9	149.2	139.5	111.3	117.0	105.2	70.7	49.2	47.3	14.2	0.0	0.0
Off-Site Dump Truck, Volvo	0.0002	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0002	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0002	0.7	0.5	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0002	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0002	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Total		**389.2**	**354.8**	**285.9**	**320.3**	**320.3**	**251.4**	**148.1**	**148.1**	**148.1**	**130.9**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**155.7**	**151.7**	**140.5**	**112.2**	**117.5**	**105.3**	**70.8**	**49.2**	**47.5**	**14.5**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

On-site vehicle travel is on unpaved surfaces and offsite travel is on paved roads.

Table 7-K
Solar Facility Construction Monthly Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Month												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation[a]	Cu. Yd.	0	622,857	622,857	570,952	570,952	570,952	570,952	415,238	415,238	0	0	0	0
Storage Pile Wind Erosion[b]	Acres-Days	0	70	70	70	70	0	0	0	0	0	0	0	0
Bulldozing,Scraping and Grading	Hours	0	3,520	4,840	5,280	6,160	6,380	6,600	5,940	4,400	2,200	0	0	0

Table 7-K (continued)
Solar Facility Construction Monthly Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Month											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavationa	Cu. Yd.	0	0	0	0	0	0	0	0	0	0	0	0
Storage Pile Wind Erosionb	Acres-Days	0	0	0	0	0	0	0	0	0	0	0	0
Bulldozing,Scraping and Grading	Hours	0	0	0	0	0	0	0	0	0	0	0	0

[a] Total cut is 4,360,000 Cu. Yd., which was apportioned by number of Cat 651 scrapers used during each month.

[b] Based on stockpiling three percent of total cut at any one time during excavation in a pile 300 ft. x 300 ft. x 10 ft. tall. Also based on 30 days per month

Table 7-L
Solar Facility Construction Monthly Fugitive PM10 Emissions

Activity	Emission Factor	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation	9.94E-04	0.0	618.9	618.9	567.3	567.3	567.3	567.3	412.6	412.6	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	2.93	0.0	205.4	205.4	205.4	205.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.348	0.0	1,223.7	1,682.6	1,835.5	2,141.4	2,217.9	2,294.4	2,065.0	1,529.6	764.8	0.0	0.0	0.0
Total		**0.0**	**2,048.0**	**2,506.9**	**2,608.3**	**2,914.2**	**2,785.2**	**2,861.7**	**2,477.5**	**1,942.2**	**764.8**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 7-L (continued)
Solar Facility Construction Monthly Fugitive PM10 Emissions

Activity	Units	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavation	9.94E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	2.93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.348	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 7-M
Solar Facility Construction Monthly Fugitive PM2.5 Emissions

Activity	Emission Factor	Monthly Emissions (lb/month)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation	2.07E-04	0.0	128.7	128.7	118.0	118.0	118.0	118.0	85.8	85.8	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	0.61	0.0	42.7	42.7	42.7	42.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.157	0.0	551.0	757.7	826.5	964.3	998.7	1,033.2	929.9	688.8	344.4	0.0	0.0	0.0
Total		**0.0**	**722.5**	**929.1**	**987.3**	**1,125.0**	**1,116.7**	**1,151.2**	**1,015.7**	**774.6**	**344.4**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 7-M (continued)
Solar Facility Construction Monthly Fugitive PM2.5 Emissions

Activity	Units	Monthly Emissions (lb/month)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavation	2.07E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	0.61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.157	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 7-N
Solar Facility Construction Monthly Asphaltic Paving VOC Emissions

Item	Quantity per Month												
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Area Paved (acres)	0	0	0	0	0	0	0	0	0	0	0	0	0
Emission Factor (lb/acre)[a]	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62
Emissions (lb/month)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Totals may not match sum of individual values because of rounding.

Table 7-N (continued)
Solar Facility Construction Monthly Asphaltic Paving VOC Emissions

Activity	Quantity per Month											
	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Area Paved (acres)	0	0	0	0	0	0	0	0	0	0	3	3
Emission Factor (lb/acre)a	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62
Emissions (lb/month)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	8.1

Note: Totals may not match sum of individual values because of rounding.
[a] Source: URBEMIS2002 for Windows Users' Guide, Version 8.7, April 2005

Table 8-A
Solar Facility Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Hour	Monthly Number												
					Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment																	
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	1	0	0	0	0	4	4	4	5	6	8	6	6	6
Asphalt Paver, Cat	AP1055B	174	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	651	500	Diesel	1	0	12	12	11	11	11	11	8	8	0	0	0	0
Scraper, Cat	623	330	Diesel	1	0	0	3	3	3	3	3	3	3	3	0	0	0
Dozer, Cat	824	354	Diesel	1	0	0	2	1	1	1	1	1	0	0	0	0	0
Dozer, Cat	834	498	Diesel	1	0	0	0	2	2	2	2	2	1	0	0	0	0
Dozer, Cat	D-6	150	Diesel	1	0	0	0	0	2	3	3	3	3	2	0	0	0
Dozer, Cat	D-9	410	Diesel	1	0	3	3	3	3	3	3	3	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	1	0	1	2	2	2	2	1	1	0	0	0	0	0
Blade, Cat	140H	165	Diesel	1	0	0	0	0	0	0	1	1	1	1	0	0	0
Blade, Cat	14H	210	Diesel	1	0	0	0	2	3	3	3	3	3	3	0	0	0
Blade, Cat	16H	265	Diesel	1	0	0	0	0	1	1	2	2	1	1	0	0	0
Backhoe, Cat,	430E	97	Diesel	1	0	0	2	2	2	4	4	4	4	2	2	2	1
Compactor, Cat	826H	410	Diesel	1	0	0	1	1	1	2	2	2	2	1	1	1	0
Crane, 150-Ton, Manitowoc	555	347	Diesel	1	0	0	0	0	0	1	2	2	2	2	2	1	1
Crane, 20-Ton, Grove	YB777	130	Diesel	1	0	0	0	1	1	1	1	1	2	6	4	4	4
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	1	0	0	0	0	1	1	2	2	2	4	4	4	4
Loader, Cat,	972G	275	Diesel	1	0	0	0	1	1	1	2	3	3	3	3	3	3
Motor Grader, Cat	140H	150	Diesel	1													
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	1	0	0	2	3	3	2	2	2	2	2	1	1	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	1	1	1	1	2	3	6	7	9	9	13	9	9	8
Welder, Multiquip	BLW-300SS	19.5	Gasoline	1	0	5	5	5	5	7	7	7	7	8	8	9	9
Motor Vehicles																	
On-site Vehicles																	
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	5	0	1	2	2	2	2	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	5	0	4	8	8	6	4	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	2	0	0	0	2	2	2	2	2	4	6	6	6	6
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	2	1	3	3	3	3	3	3	1	1	2	2	2	2
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	2	1	1	1	2	2	2	2	3	3	7	5	5	5
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	2	0	1	1	1	1	2	2	2	2	4	4	4	4
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	2	2	2	2	2	2	2	2	2	2	7	7	7	7
Off-Site Vehicles																	
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	20	4	4	4	4	4	9	9	15	15	20	20	20	15
Off-Site Asphalt Trucks	N/A	N/A	Diesel	20	0	0	0	0	0	0	0	0	0	0	0	0	0
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	20	0	0	5	5	5	5	6	6	6	4	1	1	1
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	35	111	121	156	199	240	213	173	185	461	771	744	782	739
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	35	0	2	2	2	2	2	2	2	2	2	2	2	2
Off-Site Low Boy Trucks	N/A	N/A	Diesel	15	0	5	0	0	5	5	5	5	5	3	3	3	3
Off-Site Pickup Trucks	F-250	N/A	Gasoline	20	5	5	5	5	5	5	5	5	7	12	14	14	14
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	35	0	0	0	4	4	4	4	4	4	8	8	8	8
Off-Site Water Trucks	FL80	N/A	Diesel	5	1	1	1	2	2	2	2	2	2	2	1	1	1
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	20	1	1	1	2	2	2	2	2	2	3	3	3	3

Table 8-A (continued)
Solar Facility Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Hour	Monthly Number											
					Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment																
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	1	6	6	6	5	5	4	4	6	4	4	4	2
Asphalt Paver, Cat	AP1055B	174	Diesel	1	0	0	0	0	0	0	0	0	0	0	1	1
Scraper, Cat	651	500	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	623	330	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	824	354	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	834	498	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-6	150	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-9	410	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	140H	165	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	14H	210	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	16H	265	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe, Cat,	430E	97	Diesel	1	1	1	1	1	1	1	1	1	1	0	0	0
Compactor, Cat	826H	410	Diesel	1	0	0	0	0	0	0	0	1	1	1	1	1
Crane, 150-Ton, Manitowoc	555	347	Diesel	1	1	1	0	0	0	0	0	0	0	0	0	0
Crane, 20-Ton, Grove	YB777	130	Diesel	1	4	4	4	4	4	3	3	3	2	2	2	1
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	1	1	1	1	1	1	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	1	4	4	4	4	4	3	3	3	2	2	2	2
Loader, Cat,	972G	275	Diesel	1	2	1	1	0	0	0	0	0	0	0	0	0
Motor Grader, Cat	140H	150	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	1	0	0	0	0	0	0	0	0	0	0	0	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	1	8	7	7	6	6	5	5	5	5	5	5	5
Welder, Multiquip	BLW-300SS	19.5	Gasoline	1	9	9	9	9	7	7	7	6	6	6	4	3
Motor Vehicles																
On-site Vehicles																
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	5	0	0	0	0	0	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	5	0	0	0	0	0	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	2	6	6	6	6	3	6	6	4	2	2	2	1
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	2	2	2	2	2	2	2	2	1	1	1	1	1
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	2	5	5	5	3	3	3	3	3	3	3	3	3
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	2	4	4	4	4	3	2	2	1	1	1	1	1
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	2	7	7	7	7	7	7	7	7	2	2	2	2
Off-Site Vehicles																
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	20	15	10	10	10	5	5	1	1	1	1	1	1
Off-Site Asphalt Trucks	N/A	N/A	Diesel	20	0	0	0	0	0	0	0	0	0	0	2	2
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	20	1	1	0	0	0	0	0	0	0	0	0	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	35	730	836	731	713	667	532	559	503	338	235	226	68
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	35	2	2	2	2	2	2	2	0	0	0	0	0
Off-Site Low Boy Trucks	N/A	N/A	Diesel	15	3	1	1	0	0	0	0	0	0	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	20	14	14	10	7	5	3	2	0	0	0	0	0
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	35	4	4	2	2	0	0	0	0	0	0	0	0
Off-Site Water Trucks	FL80	N/A	Diesel	5	1	1	1	1	0	0	0	0	0	0	0	0
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	20	2	2	1	1	0	0	0	0	0	0	0	0

Table 8-B
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hourly Operating Hours or Miles[a]												
				Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment																
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	0	0	0	0	4	4	4	5	6	8	6	6	6
Asphalt Paver, Cat	AP1055B	174	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	651	500	Diesel	0	12	12	11	11	11	11	8	8	0	0	0	0
Scraper, Cat	623	330	Diesel	0	0	3	3	3	3	3	3	3	3	0	0	0
Dozer, Cat	824	354	Diesel	0	0	2	1	1	1	1	1	0	0	0	0	0
Dozer, Cat	834	498	Diesel	0	0	0	2	2	2	2	2	1	0	0	0	0
Dozer, Cat	D-6	150	Diesel	0	0	0	0	2	3	3	3	3	2	0	0	0
Dozer, Cat	D-9	410	Diesel	0	3	3	3	3	3	3	3	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	0	1	2	2	2	2	1	1	0	0	0	0	0
Blade, Cat	140H	165	Diesel	0	0	0	0	0	0	1	1	1	1	0	0	0
Blade, Cat	14H	210	Diesel	0	0	0	2	3	3	3	3	3	3	0	0	0
Blade, Cat	16H	265	Diesel	0	0	0	0	1	1	2	2	1	1	0	0	0
Backhoe, Cat,	430E	97	Diesel	0	0	2	2	2	4	4	4	4	2	2	2	1
Compactor, Cat	826H	410	Diesel	0	0	1	1	1	2	2	2	2	1	1	1	0
Crane, 150-Ton, Manitowoc	555	347	Diesel	0	0	0	0	0	1	2	2	2	2	2	1	1
Crane, 20-Ton, Grove	YB777	130	Diesel	0	0	0	1	1	1	1	1	2	6	4	4	4
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	0	0	0	0	1	1	2	2	2	4	4	4	4
Loader, Cat,	972G	275	Diesel	0	0	0	1	1	1	2	3	3	3	3	3	3
Motor Grader, Cat	140H	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	0	0	2	3	3	2	2	2	2	2	1	1	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	1	1	1	2	3	6	7	9	9	13	9	9	8
Welder, Multiquip	BLW-300SS	19.5	Gasoline	0	5	5	5	5	7	7	7	7	8	8	9	9
Motor Vehicles																
On-site Vehicles																
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	0	5	10	10	10	10	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	0	20	40	40	30	20	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	0	0	0	4	4	4	4	4	8	12	12	12	12
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	2	6	6	6	6	6	6	2	2	4	4	4	4
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	2	2	2	4	4	4	4	6	6	14	10	10	10
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	0	2	2	2	2	4	4	4	4	8	8	8	8
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	4	4	4	4	4	4	4	4	4	14	14	14	14
Off-Site Vehicles																
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	80	80	80	80	80	180	180	300	300	400	400	400	300
Off-Site Asphalt Trucks	N/A	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	0	0	100	100	100	100	120	120	120	80	20	20	20
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	3,885	4,235	5,460	6,965	8,400	7,455	6,055	6,475	16,135	26,985	26,040	27,370	25,865
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	0	70	70	70	70	70	70	70	70	70	70	70	70
Off-Site Low Boy Trucks	N/A	N/A	Diesel	0	75	0	0	75	75	75	75	75	45	45	45	45
Off-Site Pickup Trucks	F-250	N/A	Gasoline	100	100	100	100	100	100	100	100	140	240	280	280	280
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	0	0	0	140	140	140	140	140	140	280	280	280	280
Off-Site Water Trucks	FL80	N/A	Diesel	5	5	5	10	10	10	10	10	10	10	5	5	5
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	20	20	20	40	40	40	40	40	40	60	60	60	60

Table 8-B (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hourly Operating Hours or Miles[a]											
				Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment															
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	6	6	6	5	5	4	4	6	4	4	4	2
Asphalt Paver, Cat	AP1055B	174	Diesel	0	0	0	0	0	0	0	0	0	0	1	1
Scraper, Cat	651	500	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Scraper, Cat	623	330	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	824	354	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	834	498	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-6	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-9	410	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Dozer, Cat	D-10	580	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	140H	165	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	14H	210	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Blade, Cat	16H	265	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Backhoe, Cat,	430E	97	Diesel	1	1	1	1	1	1	1	1	1	0	0	0
Compactor, Cat	826H	410	Diesel	0	0	0	0	0	0	0	1	1	1	1	1
Crane, 150-Ton, Manitowoc	555	347	Diesel	1	1	0	0	0	0	0	0	0	0	0	0
Crane, 20-Ton, Grove	YB777	130	Diesel	4	4	4	4	4	3	3	3	2	2	2	1
Crane, 225-Ton, Manitowoc,	14000	340	Diesel	1	1	1	1	1	0	0	0	0	0	0	0
Crane, 40-Ton, Grove	RT600	173	Diesel	4	4	4	4	4	3	3	3	2	2	2	2
Loader, Cat,	972G	275	Diesel	2	1	1	0	0	0	0	0	0	0	0	0
Motor Grader, Cat	140H	150	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Truck, Concrete Pump, REED	XT36R-160	350	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Welder, Multiquip	BLW-300SS	19.5	Diesel	8	7	7	6	6	5	5	5	5	5	5	5
Welder, Multiquip	BLW-300SS	19.5	Gasoline	9	9	9	9	7	7	7	6	6	6	4	3
Motor Vehicles															
On-site Vehicles															
Water Trucks, Freightliner 4000 gallon	FL80	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
Water Pull (8000 gallon) CAT	651	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Gasoline	12	12	12	12	6	12	12	8	4	4	4	2
On-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	4	4	4	4	4	4	4	2	2	2	2	2
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Gasoline	10	10	10	6	6	6	6	6	6	6	6	6
On-Site Dump Truck, Volvo	N/A	N/A	Diesel	8	8	8	8	6	4	4	2	2	2	2	2
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	14	14	14	14	14	14	14	14	4	4	4	4
Off-Site Vehicles															
Off-Site Flat Bed Trucks	T7500	N/A	Gasoline	300	200	200	200	100	100	20	20	20	20	20	20
Off-Site Asphalt Trucks	N/A	N/A	Diesel	0	0	0	0	0	0	0	0	0	0	40	40
Off-Site Cement Trucks, MACK	RD690S	N/A	Diesel	20	20	0	0	0	0	0	0	0	0	0	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	25,550	29,260	25,585	24,955	23,345	18,620	19,565	17,605	11,830	8,225	7,910	2,380
Off-Site Dump Truck, Volvo	N/A	N/A	Diesel	70	70	70	70	70	70	70	0	0	0	0	0
Off-Site Low Boy Trucks	N/A	N/A	Diesel	45	15	15	0	0	0	0	0	0	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	280	280	200	140	100	60	40	0	0	0	0	0
Off-Site Pipe Hauling Trucks	T7500	N/A	Diesel	140	140	70	70	0	0	0	0	0	0	0	0
Off-Site Water Trucks	FL80	N/A	Diesel	5	5	5	5	0	0	0	0	0	0	0	0
Off-Site Fuel/lLube Truck International	4400 SA	N/A	Diesel	40	40	20	20	0	0	0	0	0	0	0	0

a Based on 22 working days per month

Table 8-C
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0893	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.5	0.7	0.5	0.5	0.5
Asphalt Paver, Cat	0.8031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	19.8	19.8	18.2	18.2	18.2	18.2	13.2	13.2	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	0.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	3.7	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	3.7	3.7	3.7	3.7	3.7	1.9	0.0	0.0	0.0	0.0
Dozer, Cat	0.7655	0.0	0.0	0.0	0.0	1.5	2.3	2.3	2.3	2.3	1.5	0.0	0.0	0.0
Dozer, Cat	1.2964	0.0	3.9	3.9	3.9	3.9	3.9	3.9	3.9	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.3239	0.0	2.3	4.6	4.6	4.6	4.6	2.3	2.3	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7	0.7	0.7	0.0	0.0	0.0
Blade, Cat	0.5194	0.0	0.0	0.0	1.0	1.6	1.6	1.6	1.6	1.6	1.6	0.0	0.0	0.0
Blade, Cat	0.8122	0.0	0.0	0.0	0.0	0.8	0.8	1.6	1.6	0.8	0.8	0.0	0.0	0.0
Backhoe, Cat,	0.3657	0.0	0.0	0.7	0.7	0.7	1.5	1.5	1.5	1.5	0.7	0.7	0.7	0.4
Compactor, Cat	0.8418	0.0	0.0	0.8	0.8	0.8	1.7	1.7	1.7	1.7	0.8	0.8	0.8	0.0
Crane, 150-Ton, Manitowoc	0.7164	0.0	0.0	0.0	0.0	0.0	0.7	1.4	1.4	1.4	1.4	1.4	0.7	0.7
Crane, 20-Ton, Grove	0.4901	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	1.0	2.9	2.0	2.0	2.0
Crane, 225-Ton, Manitowoc,	0.7164	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.4901	0.0	0.0	0.0	0.0	0.5	0.5	1.0	1.0	1.0	2.0	2.0	2.0	2.0
Loader, Cat,	0.8223	0.0	0.0	0.0	0.8	0.8	0.8	1.6	2.5	2.5	2.5	2.5	2.5	2.5
Motor Grader, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	1.0497	0.0	0.0	2.1	3.1	3.1	2.1	2.1	2.1	2.1	2.1	1.0	1.0	0.0
Welder, Multiquip	0.0698	0.1	0.1	0.1	0.1	0.2	0.4	0.5	0.6	0.6	0.9	0.6	0.6	0.6
Welder, Multiquip	5.4790	0.0	27.4	27.4	27.4	27.4	38.4	38.4	38.4	38.4	43.8	43.8	49.3	49.3
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0121	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0121	0.0	0.2	0.5	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1040	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.8	1.2	1.2	1.2	1.2
On-Site Fuel/lLube Truck International	0.0121	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1040	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.6	0.6	1.5	1.0	1.0	1.0
On-Site Dump Truck, Volvo	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
On-Site 3/4 Ton Pick-Up, Ford	0.0117	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.1040	8.3	8.3	8.3	8.3	8.3	18.7	18.7	31.2	31.2	41.6	41.6	41.6	31.2
Off-Site Asphalt Trucks	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0121	0.0	0.0	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.0	0.2	0.2	0.2
Off-Site Construction Worker Commute	0.0172	66.9	72.9	94.0	119.9	144.6	128.3	104.2	111.4	277.7	464.4	448.2	471.1	445.2
Off-Site Dump Truck, Volvo	0.0121	0.0	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Off-Site Low Boy Trucks	0.0121	0.0	0.9	0.0	0.0	0.9	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5
Off-Site Pickup Trucks	0.0172	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	2.4	4.1	4.8	4.8	4.8
Off-Site Pipe Hauling Trucks	0.0121	0.0	0.0	0.0	1.7	1.7	1.7	1.7	1.7	1.7	3.4	3.4	3.4	3.4
Off-Site Water Trucks	0.0121	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Fuel/lLube Truck International	0.0121	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.7
Construction Equipment Total		**0.1**	**53.5**	**68.2**	**71.9**	**75.6**	**88.8**	**90.1**	**86.2**	**76.1**	**67.5**	**55.4**	**60.2**	**57.9**
On-Site Motor Vehicle Total		**0.3**	**0.7**	**1.0**	**1.6**	**1.5**	**1.4**	**1.0**	**1.2**	**1.6**	**3.0**	**2.6**	**2.6**	**2.6**
Off-Site Motor Vehicle Total		**77.2**	**85.0**	**106.4**	**134.3**	**159.9**	**154.0**	**130.2**	**149.9**	**316.8**	**516.8**	**500.4**	**523.3**	**487.0**

Table 8-C (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0893	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.5	0.4	0.4	0.4	0.2
Asphalt Paver, Cat	0.8031	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
Scraper, Cat	1.6509	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	1.6509	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.8650	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.7655	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.2964	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.3239	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.5194	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.8122	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.3657	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
Compactor, Cat	0.8418	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8
Crane, 150-Ton, Manitowoc	0.7164	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.4901	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.0	1.0	1.0	0.5
Crane, 225-Ton, Manitowoc,	0.7164	0.7	0.7	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.4901	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.0	1.0	1.0	1.0
Loader, Cat,	0.8223	1.6	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.7435	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	1.0497	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0698	0.6	0.5	0.5	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Welder, Multiquip	5.4790	49.3	49.3	49.3	49.3	38.4	38.4	38.4	32.9	32.9	32.9	21.9	16.4
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1040	1.2	1.2	1.2	1.2	0.6	1.2	1.2	0.8	0.4	0.4	0.4	0.2
On-Site Fuel/lLube Truck International	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1040	1.0	1.0	1.0	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
On-Site Dump Truck, Volvo	0.0121	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0117	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.1040	31.2	20.8	20.8	20.8	10.4	10.4	2.1	2.1	2.1	2.1	2.1	2.1
Off-Site Asphalt Trucks	0.0121	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
Off-Site Cement Trucks, MACK	0.0121	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0172	439.7	503.6	440.3	429.5	401.8	320.5	336.7	303.0	203.6	141.6	136.1	41.0
Off-Site Dump Truck, Volvo	0.0121	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0121	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0172	4.8	4.8	3.4	2.4	1.7	1.0	0.7	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0121	1.7	1.7	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0121	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0121	0.5	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**57.8**	**56.9**	**56.2**	**55.2**	**44.2**	**42.4**	**42.4**	**37.9**	**36.7**	**36.4**	**26.2**	**20.1**
On-Site Motor Vehicle Total		**2.6**	**2.6**	**2.6**	**2.2**	**1.5**	**2.1**	**2.1**	**1.7**	**1.1**	**1.1**	**1.1**	**0.9**
Off-Site Motor Vehicle Total		**479.6**	**532.7**	**466.8**	**454.7**	**414.8**	**332.7**	**340.3**	**305.1**	**205.7**	**143.6**	**138.7**	**43.5**

Note: Totals may not match sum of individual values because of rounding.

Table 8-D
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0352	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2
Asphalt Paver, Cat	0.2144	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	4.6	4.6	4.2	4.2	4.2	4.2	3.0	3.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	0.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.8	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	0.8	0.8	0.8	0.8	0.8	0.4	0.0	0.0	0.0	0.0
Dozer, Cat	0.2036	0.0	0.0	0.0	0.0	0.4	0.6	0.6	0.6	0.6	0.4	0.0	0.0	0.0
Dozer, Cat	0.3039	0.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.5475	0.0	0.5	1.1	1.1	1.1	1.1	0.5	0.5	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0
Blade, Cat	0.1856	0.0	0.0	0.0	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0
Blade, Cat	0.2248	0.0	0.0	0.0	0.0	0.2	0.2	0.4	0.4	0.2	0.2	0.0	0.0	0.0
Backhoe, Cat,	0.0990	0.0	0.0	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.1
Compactor, Cat	0.2106	0.0	0.0	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.0
Crane, 150-Ton, Manitowoc	0.1912	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.4	0.4	0.4	0.4	0.2	0.2
Crane, 20-Ton, Grove	0.1274	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.8	0.5	0.5	0.5
Crane, 225-Ton, Manitowoc,	0.1912	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.1274	0.0	0.0	0.0	0.0	0.1	0.1	0.3	0.3	0.3	0.5	0.5	0.5	0.5
Loader, Cat,	0.2276	0.0	0.0	0.0	0.2	0.2	0.2	0.5	0.7	0.7	0.7	0.7	0.7	0.7
Motor Grader, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.2724	0.0	0.0	0.5	0.8	0.8	0.5	0.5	0.5	0.5	0.5	0.3	0.3	0.0
Welder, Multiquip	0.0275	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.4	0.2	0.2	0.2
Welder, Multiquip	0.1714	0.0	0.9	0.9	0.9	0.9	1.2	1.2	1.2	1.2	1.4	1.4	1.5	1.5
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0030	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
On-Site Fuel/lLube Truck International	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
On-Site Dump Truck, Volvo	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0100	0.8	0.8	0.8	0.8	0.8	1.8	1.8	3.0	3.0	4.0	4.0	4.0	3.0
Off-Site Asphalt Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0030	0.0	0.0	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.2	0.1	0.1	0.1
Off-Site Construction Worker Commute	0.0013	4.9	5.3	6.9	8.7	10.5	9.4	7.6	8.1	20.3	33.9	32.7	34.4	32.5
Off-Site Dump Truck, Volvo	0.0030	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Off-Site Low Boy Trucks	0.0030	0.0	0.2	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Off-Site Pickup Trucks	0.0013	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.3	0.4	0.4	0.4
Off-Site Pipe Hauling Trucks	0.0030	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.8	0.8	0.8	0.8
Off-Site Water Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0030	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Construction Equipment Total		**0.0**	**6.9**	**10.3**	**11.3**	**12.4**	**13.4**	**13.8**	**13.0**	**10.7**	**7.8**	**4.6**	**4.6**	**4.0**
On-Site Motor Vehicle Total		**0.0**	**0.1**	**0.2**	**0.3**	**0.2**	**0.2**	**0.1**	**0.1**	**0.2**	**0.3**	**0.3**	**0.3**	**0.3**
Off-Site Motor Vehicle Total		**5.9**	**6.7**	**8.4**	**10.7**	**12.8**	**12.6**	**10.9**	**12.6**	**24.8**	**39.8**	**38.5**	**40.1**	**37.2**

Table 8-D (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0352	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1
Asphalt Paver, Cat	0.2144	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
Scraper, Cat	0.3808	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.3808	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3757	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2036	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.3039	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.5475	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.1856	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.2248	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0990	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Compactor, Cat	0.2106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2
Crane, 150-Ton, Manitowoc	0.1912	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.1274	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.1
Crane, 225-Ton, Manitowoc,	0.1912	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.1274	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.3
Loader, Cat,	0.2276	0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.1841	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.2724	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0275	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Welder, Multiquip	0.1714	1.5	1.5	1.5	1.5	1.2	1.2	1.2	1.0	1.0	1.0	0.7	0.5
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0100	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0100	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
On-Site Dump Truck, Volvo	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0100	3.0	2.0	2.0	2.0	1.0	1.0	0.2	0.2	0.2	0.2	0.2	0.2
Off-Site Asphalt Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Off-Site Cement Trucks, MACK	0.0030	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0013	32.1	36.7	32.1	31.3	29.3	23.4	24.6	22.1	14.8	10.3	9.9	3.0
Off-Site Dump Truck, Volvo	0.0030	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0030	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0013	0.4	0.4	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0030	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0030	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0030	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**3.9**	**3.7**	**3.5**	**3.2**	**2.9**	**2.3**	**2.3**	**2.5**	**2.1**	**2.0**	**1.9**	**1.5**
On-Site Motor Vehicle Total		**0.3**	**0.3**	**0.3**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**
Off-Site Motor Vehicle Total		**36.4**	**39.9**	**34.9**	**34.0**	**30.6**	**24.7**	**25.0**	**22.3**	**15.0**	**10.5**	**10.2**	**3.3**

Note: Totals may not match sum of individual values because of rounding.

Table 8-E
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.1439	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.7	0.9	1.2	0.9	0.9	0.9
Asphalt Paver, Cat	1.6818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	43.3	43.3	39.7	39.7	39.7	39.7	28.9	28.9	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	0.0	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	6.7	3.4	3.4	3.4	3.4	3.4	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	6.7	6.7	6.7	6.7	6.7	3.4	0.0	0.0	0.0	0.0
Dozer, Cat	1.5591	0.0	0.0	0.0	0.0	3.1	4.7	4.7	4.7	4.7	3.1	0.0	0.0	0.0
Dozer, Cat	2.8731	0.0	8.6	8.6	8.6	8.6	8.6	8.6	8.6	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	5.2476	0.0	5.2	10.5	10.5	10.5	10.5	5.2	5.2	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4	1.4	1.4	0.0	0.0	0.0
Blade, Cat	1.8997	0.0	0.0	0.0	3.8	5.7	5.7	5.7	5.7	5.7	5.7	0.0	0.0	0.0
Blade, Cat	2.2486	0.0	0.0	0.0	0.0	2.2	2.2	4.5	4.5	2.2	2.2	0.0	0.0	0.0
Backhoe, Cat,	0.6061	0.0	0.0	1.2	1.2	1.2	2.4	2.4	2.4	2.4	1.2	1.2	1.2	0.6
Compactor, Cat	2.2084	0.0	0.0	2.2	2.2	2.2	4.4	4.4	4.4	4.4	2.2	2.2	2.2	0.0
Crane, 150-Ton, Manitowoc	1.8761	0.0	0.0	0.0	0.0	0.0	1.9	3.8	3.8	3.8	3.8	3.8	1.9	1.9
Crane, 20-Ton, Grove	0.9835	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	2.0	5.9	3.9	3.9	3.9
Crane, 225-Ton, Manitowoc,	1.8761	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.9835	0.0	0.0	0.0	0.0	1.0	1.0	2.0	2.0	2.0	3.9	3.9	3.9	3.9
Loader, Cat,	2.3019	0.0	0.0	0.0	2.3	2.3	2.3	4.6	6.9	6.9	6.9	6.9	6.9	6.9
Motor Grader, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	3.3717	0.0	0.0	6.7	10.1	10.1	6.7	6.7	6.7	6.7	6.7	3.4	3.4	0.0
Welder, Multiquip	0.1124	0.1	0.1	0.1	0.2	0.3	0.7	0.8	1.0	1.0	1.5	1.0	1.0	0.9
Welder, Multiquip	0.0780	0.0	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.7	0.7
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0389	0.0	0.2	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0389	0.0	0.8	1.6	1.6	1.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0180	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
On-Site Fuel/ILube Truck International	0.0389	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2
On-Site Flatbed Truck, Chevrolet	0.0180	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2
On-Site Dump Truck, Volvo	0.0389	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
On-Site 3/4 Ton Pick-Up, Ford	0.0017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0180	1.4	1.4	1.4	1.4	1.4	3.2	3.2	5.4	5.4	7.2	7.2	7.2	5.4
Off-Site Asphalt Trucks	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0389	0.0	0.0	3.9	3.9	3.9	3.9	4.7	4.7	4.7	3.1	0.8	0.8	0.8
Off-Site Construction Worker Commute	0.0017	6.5	7.1	9.1	11.7	14.1	12.5	10.1	10.8	27.0	45.2	43.6	45.8	43.3
Off-Site Dump Truck, Volvo	0.0389	0.0	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Off-Site Low Boy Trucks	0.0389	0.0	2.9	0.0	0.0	2.9	2.9	2.9	2.9	2.9	1.8	1.8	1.8	1.8
Off-Site Pickup Trucks	0.0017	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.5	0.5	0.5
Off-Site Pipe Hauling Trucks	0.0389	0.0	0.0	0.0	5.4	5.4	5.4	5.4	5.4	5.4	10.9	10.9	10.9	10.9
Off-Site Water Trucks	0.0389	0.2	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.2	0.2
Off-Site Fuel/ILube Truck International	0.0389	0.8	0.8	0.8	1.6	1.6	1.6	1.6	1.6	1.6	2.3	2.3	2.3	2.3
Construction Equipment Total		**0.1**	**57.6**	**90.6**	**100.9**	**109.8**	**113.8**	**117.5**	**109.4**	**87.7**	**57.2**	**27.8**	**26.0**	**19.7**
On-Site Motor Vehicle Total		**0.1**	**1.3**	**2.3**	**2.4**	**2.0**	**1.7**	**0.5**	**0.4**	**0.5**	**1.0**	**0.9**	**0.9**	**0.9**
Off-Site Motor Vehicle Total		**9.1**	**15.3**	**18.3**	**27.3**	**32.6**	**32.8**	**31.2**	**34.1**	**50.3**	**74.0**	**69.9**	**72.1**	**67.8**

Table 8-E (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.1439	0.9	0.9	0.9	0.7	0.7	0.6	0.6	0.9	0.6	0.6	0.6	0.3
Asphalt Paver, Cat	1.6818	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7
Scraper, Cat	3.6063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	3.6063	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	3.3537	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	1.5591	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	2.8731	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	5.2476	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	1.8997	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	2.2486	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.6061	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	0.0	0.0
Compactor, Cat	2.2084	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	2.2	2.2	2.2	2.2
Crane, 150-Ton, Manitowoc	1.8761	1.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.9835	3.9	3.9	3.9	3.9	3.9	3.0	3.0	3.0	2.0	2.0	2.0	1.0
Crane, 225-Ton, Manitowoc,	1.8761	1.9	1.9	1.9	1.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.9835	3.9	3.9	3.9	3.9	3.9	3.0	3.0	3.0	2.0	2.0	2.0	2.0
Loader, Cat,	2.3019	4.6	2.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	1.4365	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	3.3717	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.1124	0.9	0.8	0.8	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Welder, Multiquip	0.0780	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.2
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0180	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.0
On-Site Fuel/lLube Truck International	0.0389	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
On-Site Flatbed Truck, Chevrolet	0.0180	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
On-Site Dump Truck, Volvo	0.0389	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
On-Site 3/4 Ton Pick-Up, Ford	0.0017	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0180	5.4	3.6	3.6	3.6	1.8	1.8	0.4	0.4	0.4	0.4	0.4	0.4
Off-Site Asphalt Trucks	0.0389	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6
Off-Site Cement Trucks, MACK	0.0389	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0017	42.8	49.0	42.8	41.8	39.1	31.2	32.7	29.5	19.8	13.8	13.2	4.0
Off-Site Dump Truck, Volvo	0.0389	2.7	2.7	2.7	2.7	2.7	2.7	2.7	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0389	1.8	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0017	0.5	0.5	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0389	5.4	5.4	2.7	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0389	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0389	1.6	1.6	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**19.3**	**16.9**	**15.0**	**12.4**	**12.3**	**8.2**	**8.2**	**10.6**	**8.4**	**7.7**	**9.3**	**7.9**
On-Site Motor Vehicle Total		**0.9**	**0.9**	**0.9**	**0.8**	**0.6**	**0.7**	**0.7**	**0.4**	**0.3**	**0.3**	**0.3**	**0.3**
Off-Site Motor Vehicle Total		**61.1**	**64.3**	**53.8**	**52.0**	**43.8**	**35.8**	**35.9**	**29.8**	**20.2**	**14.1**	**15.2**	**5.9**

Note: Totals may not match sum of individual values because of rounding.

Table 8-F
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Asphalt Paver, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0047	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Compactor, Cat	0.0021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 150-Ton, Manitowoc	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 225-Ton, Manitowoc,	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loader, Cat,	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0034	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Table 8-F (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Asphalt Paver, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.0032	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0026	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0025	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0047	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0019	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0006	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Compactor, Cat	0.0021	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 150-Ton, Manitowoc	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 225-Ton, Manitowoc,	0.0018	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Loader, Cat,	0.0023	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0034	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-G
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0106	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Asphalt Paver, Cat	0.0938	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	1.8	1.8	1.6	1.6	1.6	1.6	1.2	1.2	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0
Dozer, Cat	0.0894	0.0	0.0	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.2	0.0	0.0	0.0
Dozer, Cat	0.1160	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2098	0.0	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Blade, Cat	0.0705	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
Blade, Cat	0.0853	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0
Backhoe, Cat,	0.0553	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Compactor, Cat	0.0830	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0
Crane, 150-Ton, Manitowoc	0.0727	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Crane, 20-Ton, Grove	0.0562	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2
Crane, 225-Ton, Manitowoc,	0.0727	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0562	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Loader, Cat,	0.0867	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.3
Motor Grader, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.1059	0.0	0.0	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0
Welder, Multiquip	0.0083	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Welder, Multiquip	0.0668	0.0	0.3	0.3	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.6
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0015	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0015	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.8	0.7	0.8	0.7
Off-Site Dump Truck, Volvo	0.0015	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Low Boy Trucks	0.0015	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0015	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4
Off-Site Water Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0015	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Construction Equipment Total		**0.0**	**2.7**	**4.0**	**4.4**	**4.8**	**5.2**	**5.4**	**5.1**	**4.2**	**3.1**	**1.8**	**1.8**	**1.6**
On-Site Motor Vehicle Total		**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.1**	**0.4**	**0.5**	**0.8**	**0.9**	**0.9**	**0.9**	**0.9**	**1.2**	**1.6**	**1.5**	**1.5**	**1.5**

Table 8-G (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0106	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Asphalt Paver, Cat	0.0938	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Scraper, Cat	0.1460	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1460	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1433	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0894	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1160	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.2098	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0705	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0853	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0553	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Compactor, Cat	0.0830	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Crane, 150-Ton, Manitowoc	0.0727	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0562	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Crane, 225-Ton, Manitowoc,	0.0727	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0562	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Loader, Cat,	0.0867	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0821	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.1059	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0083	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0668	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.2
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Off-Site Cement Trucks, MACK	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.7	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0.3	0.2	0.2	0.1
Off-Site Dump Truck, Volvo	0.0015	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0015	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0015	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0015	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0015	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**1.6**	**1.5**	**1.4**	**1.3**	**1.1**	**0.9**	**0.9**	**1.0**	**0.8**	**0.8**	**0.8**	**0.6**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**1.2**	**1.3**	**1.0**	**1.0**	**0.8**	**0.6**	**0.7**	**0.5**	**0.3**	**0.2**	**0.3**	**0.1**

Note: Totals may not match sum of individual values because of rounding.

Table 8-H
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Construction Equipment														
Air Compressor, Ingersoll-Rand	0.0098	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Asphalt Paver, Cat	0.0863	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	1.6	1.6	1.5	1.5	1.5	1.5	1.1	1.1	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.3	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.1	0.0	0.0	0.0	0.0
Dozer, Cat	0.0823	0.0	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
Dozer, Cat	0.1067	0.0	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1930	0.0	0.2	0.4	0.4	0.4	0.4	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Blade, Cat	0.0648	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0
Blade, Cat	0.0785	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0
Backhoe, Cat,	0.0509	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Compactor, Cat	0.0764	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0
Crane, 150-Ton, Manitowoc	0.0669	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Crane, 20-Ton, Grove	0.0517	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.2	0.2
Crane, 225-Ton, Manitowoc,	0.0669	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0517	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Loader, Cat,	0.0798	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Motor Grader, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0974	0.0	0.0	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0
Welder, Multiquip	0.0076	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Welder, Multiquip	0.0505	0.0	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Motor Vehicles														
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0014	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0014	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.7	0.7	0.7	0.7
Off-Site Dump Truck, Volvo	0.0014	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Low Boy Trucks	0.0014	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0014	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.4
Off-Site Water Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0014	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Construction Equipment Total		**0.0**	**2.4**	**3.6**	**4.0**	**4.4**	**4.7**	**4.9**	**4.6**	**3.8**	**2.8**	**1.6**	**1.6**	**1.3**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.1**	**0.4**	**0.4**	**0.7**	**0.8**	**0.8**	**0.8**	**0.8**	**1.1**	**1.5**	**1.4**	**1.4**	**1.4**

Table 8-H (continued)
Solar Facility Construction Hourly Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Construction Equipment													
Air Compressor, Ingersoll-Rand	0.0098	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Asphalt Paver, Cat	0.0863	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Scraper, Cat	0.1344	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scraper, Cat	0.1344	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1318	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.0823	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1067	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dozer, Cat	0.1930	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0648	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Blade, Cat	0.0785	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Backhoe, Cat,	0.0509	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Compactor, Cat	0.0764	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Crane, 150-Ton, Manitowoc	0.0669	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 20-Ton, Grove	0.0517	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Crane, 225-Ton, Manitowoc,	0.0669	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Crane, 40-Ton, Grove	0.0517	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Loader, Cat,	0.0798	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Grader, Cat	0.0755	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Truck, Concrete Pump, REED	0.0974	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0076	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0505	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2
Motor Vehicles													
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Fuel/lLube Truck International	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Dump Truck, Volvo	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Off-Site Cement Trucks, MACK	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.7	0.8	0.7	0.6	0.6	0.5	0.5	0.5	0.3	0.2	0.2	0.1
Off-Site Dump Truck, Volvo	0.0014	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0014	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0014	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0014	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0014	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**1.3**	**1.2**	**1.2**	**1.1**	**1.0**	**0.8**	**0.8**	**0.8**	**0.7**	**0.7**	**0.6**	**0.5**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**1.1**	**1.2**	**0.9**	**0.9**	**0.7**	**0.6**	**0.6**	**0.5**	**0.3**	**0.2**	**0.3**	**0.1**

Note: Totals may not match sum of individual values because of rounding.

Table 8-I
Solar Facility Construction Hourly Motor Vehicle Fugitive PM10 Emissions

Vehicle Type	Emission Factor (lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.7384	0.0	0.0	0.0	3.0	3.0	3.0	3.0	3.0	5.9	8.9	8.9	8.9	8.9
On-Site Fuel/lLube Truck International	0.7385	1.5	4.4	4.4	4.4	4.4	4.4	4.4	1.5	1.5	3.0	3.0	3.0	3.0
On-Site Flatbed Truck, Chevrolet	0.7384	1.5	1.5	1.5	3.0	3.0	3.0	3.0	4.4	4.4	10.3	7.4	7.4	7.4
On-Site Dump Truck, Volvo	0.7385	0.0	1.5	1.5	1.5	1.5	3.0	3.0	3.0	3.0	5.9	5.9	5.9	5.9
On-Site 3/4 Ton Pick-Up, Ford	0.7384	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	10.3	10.3	10.3	10.3
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0008	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.2
Off-Site Asphalt Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0010	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0009	3.4	3.7	4.8	6.1	7.4	6.6	5.3	5.7	14.2	23.8	23.0	24.1	22.8
Off-Site Dump Truck, Volvo	0.0010	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Off-Site Low Boy Trucks	0.0010	0.0	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0009	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2
Off-Site Pipe Hauling Trucks	0.0010	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3
Off-Site Water Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
On-Site Motor Vehicle Total		**5.9**	**10.3**	**10.3**	**14.8**	**14.8**	**16.3**	**16.2**	**14.8**	**17.7**	**38.4**	**35.4**	**35.4**	**35.4**
Off-Site Motor Vehicle Total		**3.6**	**4.1**	**5.2**	**6.6**	**8.0**	**7.2**	**6.0**	**6.5**	**15.0**	**24.9**	**24.0**	**25.2**	**23.8**

Note: Totals may not match sum of individual values because of rounding.

Table 8-I (continued)
Solar Facility Construction Hourly Motor Vehicle Fugitive PM10 Emissions

Vehicle Type	Emission Factor (lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.7384	8.9	8.9	8.9	8.9	4.4	8.9	8.9	5.9	3.0	3.0	3.0	1.5
On-Site Fuel/lLube Truck International	0.7385	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.5	1.5	1.5	1.5	1.5
On-Site Flatbed Truck, Chevrolet	0.7384	7.4	7.4	7.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
On-Site Dump Truck, Volvo	0.7385	5.9	5.9	5.9	5.9	4.4	3.0	3.0	1.5	1.5	1.5	1.5	1.5
On-Site 3/4 Ton Pick-Up, Ford	0.7384	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	3.0	3.0	3.0	3.0
Off-Site Vehicles													
Off-Site Flat Bed Trucks	0.0008	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0009	22.5	25.8	22.6	22.0	20.6	16.4	17.2	15.5	10.4	7.3	7.0	2.1
Off-Site Dump Truck, Volvo	0.0010	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0009	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0010	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Total		**35.4**	**35.4**	**35.4**	**32.5**	**26.6**	**29.5**	**29.5**	**23.6**	**13.3**	**13.3**	**13.3**	**11.8**
Off-Site Motor Vehicle Total		**23.3**	**26.5**	**23.1**	**22.4**	**20.8**	**16.6**	**17.4**	**15.5**	**10.4**	**7.3**	**7.0**	**2.2**

Note: Totals may not match sum of individual values because of rounding.

Table 8-J
Solar Facility Construction Hourly Motor Vehicle Fugitive PM2.5 Emissions

Vehicle Type	Emission Factor (lb/mile)	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
On-site Vehicles														
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1565	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	1.3	1.9	1.9	1.9	1.9
On-Site Fuel/lLube Truck International	0.1566	0.3	0.9	0.9	0.9	0.9	0.9	0.9	0.3	0.3	0.6	0.6	0.6	0.6
On-Site Flatbed Truck, Chevrolet	0.1565	0.3	0.3	0.3	0.6	0.6	0.6	0.6	0.9	0.9	2.2	1.6	1.6	1.6
On-Site Dump Truck, Volvo	0.1566	0.0	0.3	0.3	0.3	0.3	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.3
On-Site 3/4 Ton Pick-Up, Ford	0.1566	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	2.2	2.2	2.2	2.2
Off-Site Vehicles														
Off-Site Flat Bed Trucks	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Off-Site Asphalt Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0002	0.6	0.7	0.9	1.1	1.3	1.2	1.0	1.0	2.6	4.3	4.1	4.3	4.1
Off-Site Dump Truck, Volvo	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Off-Site Water Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Total		**1.3**	**2.2**	**2.2**	**3.1**	**3.1**	**3.4**	**3.4**	**3.1**	**3.8**	**8.1**	**7.5**	**7.5**	**7.5**
Off-Site Motor Vehicle Total		**0.6**	**0.7**	**0.9**	**1.2**	**1.4**	**1.3**	**1.1**	**1.2**	**2.7**	**4.5**	**4.3**	**4.5**	**4.3**

Table 8-J (continued)
Solar Facility Construction Hourly Motor Vehicle Fugitive PM2.5 Emissions

Vehicle Type	Emission Factor (lb/mile)	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
On-site Vehicles													
Water Trucks, Freightliner 4000 gallon	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Water Pull (8000 gallon) CAT	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1565	1.9	1.9	0.9	1.9	1.9	1.3	0.6	0.6	0.6	0.3	0.0	0.0
On-Site Fuel/lLube Truck International	0.1566	0.6	0.6	0.6	0.6	0.6	0.3	0.3	0.3	0.3	0.3	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1565	1.6	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.0	0.0
On-Site Dump Truck, Volvo	0.1566	1.3	1.3	0.9	0.6	0.6	0.3	0.3	0.3	0.3	0.3	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.1566	2.2	2.2	2.2	2.2	2.2	2.2	0.6	0.6	0.6	0.6	0.0	0.0
Off-Site Vehicles		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Flat Bed Trucks	0.0001	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Asphalt Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Cement Trucks, MACK	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0002	4.1	4.0	3.7	3.0	3.1	2.8	1.9	1.3	1.3	0.4	0.0	0.0
Off-Site Dump Truck, Volvo	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Pipe Hauling Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Off-Site Fuel/lLube Truck International	0.0002	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Motor Vehicle Total		**7.5**	**6.9**	**5.6**	**6.3**	**6.3**	**5.0**	**2.8**	**2.8**	**2.8**	**2.5**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**4.1**	**4.0**	**3.7**	**3.0**	**3.1**	**2.8**	**1.9**	**1.3**	**1.3**	**0.4**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-K
Solar Facility Construction Hourly Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Hour												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation[a]	Cu. Yd.	0	2,831	2,831	2,595	2,595	2,595	2,595	1,887	1,887	0	0	0	0
Storage Pile Wind Erosion[b]	Acres-Hours	0.00	0.10	0.10	0.10	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozing,Scraping and Grading	Hours	0	16	22	24	28	29	30	27	20	10	0	0	0

Table 8-K (continued)
Solar Facility Construction Hourly Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Month											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavationa	Cu. Yd.	0	0	0	0	0	0	0	0	0	0	0	0
Storage Pile Wind Erosionb	Acres-Hours	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bulldozing,Scraping and Grading	Hours	0	0	0	0	0	0	0	0	0	0	0	0

[a] Hourly quantity = monthly quantity divided by 220 working hours per month (22 days x 10 hr/day)

[a] Hourly quantity = monthly quantity divided by 720 hours per month (30 days x 24 hr/day)

Table 8-L
Solar Facility Construction Hourly Fugitive PM10 Emissions

Activity	Emission Factor	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation	9.94E-04	0.0	2.8	2.8	2.6	2.6	2.6	2.6	1.9	1.9	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	2.93	0.0	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.348	0.0	5.6	7.6	8.3	9.7	10.1	10.4	9.4	7.0	3.5	0.0	0.0	0.0
Total		**0.0**	**8.7**	**10.7**	**11.2**	**12.6**	**12.7**	**13.0**	**11.3**	**8.8**	**3.5**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-L (continued)
Solar Facility Construction Hourly Fugitive PM10 Emissions

Activity	Units	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavation	9.94E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	2.93	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.348	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-M
Solar Facility Construction Hourly Fugitive PM2.5 Emissions

Activity	Emission Factor	Hourly Emissions (lb/hr)												
		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Excavation	2.07E-04	0.0	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	0.61	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.157	0.0	2.5	3.4	3.8	4.4	4.5	4.7	4.2	3.1	1.6	0.0	0.0	0.0
Total		**0.0**	**3.1**	**4.1**	**4.4**	**5.0**	**5.1**	**5.2**	**4.6**	**3.5**	**1.6**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-M (continued)
Solar Facility Construction Hourly Fugitive PM2.5 Emissions

Activity	Units	Hourly Emissions (lb/hr)											
		Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Excavation	2.07E-04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Storage Pile Wind Erosion	0.61	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.157	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 8-N
Solar Facility Construction Hourly Asphaltic Paving VOC Emissions

Item	Quantity per Hour												
	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
Area Paved (acres)[a]	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Emission Factor (lb/acre)[b]	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62
Emissions (lb/month)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Totals may not match sum of individual values because of rounding.

Table 8-N (continued)
Solar Facility Construction Hourly Asphaltic Paving VOC Emissions

Activity	Quantity per Hour											
	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
Area Paved (acres)a	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.014
Emission Factor (lb/acre)b	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62	2.62
Emissions (lb/month)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Totals may not match sum of individual values because of rounding.

[a] Hourly quantity = monthly quantity divided by 220 working hours per month (22 days x 10 hr/day)

[b] Source: URBEMIS2002 for Windows Users' Guide, Version 8.7, April 2005

Table 9-A
Solar Facility Construction CO Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	66.3	70.3	69.4	67.1	64.5	61.6	56.8	52.0	47.6	44.0	41.7	40.5	38.2
Motor Vehicles	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.7	0.7	0.6
On-Site Total	**66.8**	**70.8**	**70.0**	**67.8**	**65.2**	**62.3**	**57.5**	**52.7**	**48.4**	**44.8**	**42.4**	**41.2**	**38.8**
Off-Site Motor Vehicles	**51.6**	**59.2**	**66.5**	**74.4**	**80.6**	**86.0**	**91.0**	**94.9**	**98.7**	**98.7**	**93.2**	**86.7**	**79.8**
12-Month Total	**118.4**	**130.0**	**136.5**	**142.2**	**145.8**	**148.3**	**148.5**	**147.6**	**147.1**	**143.5**	**135.6**	**127.9**	**118.6**
Maximum On-Site 12-Month Total (ton/year)	**70.8**												
Maximum 12-Month Total (ton/year)	**148.5**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	9.2	9,651.9	12,431.2	12,952.8	13,681.0	15,587.8	15,635.4	14,663.5	12,360.1	9,864.2	7,498.0	8,218.5	7,984.1
Motor Vehicles	14.8	32.2	45.6	79.9	74.5	70.5	54.5	63.3	86.2	164.0	141.1	141.1	141.1
On-Site Total	**24.1**	**9,684.2**	**12,476.7**	**13,032.6**	**13,755.5**	**15,658.3**	**15,689.9**	**14,726.8**	**12,446.2**	**10,028.1**	**7,639.1**	**8,359.5**	**8,125.1**
Off-Site Motor Vehicles	**2,749.3**	**3,017.9**	**3,819.7**	**4,931.4**	**5,882.9**	**5,498.3**	**4,594.9**	**5,142.1**	**11,427.4**	**18,851.5**	**18,235.9**	**19,099.2**	**17,893.5**
Monthly Total	**2,773.3**	**12,702.0**	**16,296.4**	**17,964.1**	**19,638.4**	**21,156.6**	**20,284.8**	**19,868.9**	**23,873.7**	**28,879.7**	**25,875.0**	**27,458.8**	**26,018.7**
Maximum On-Site Monthly Total (lb/month)	**15,689.9**												
Maximum Monthly Total (lb/month)	**28,879.7**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.4	438.7	565.1	588.8	621.9	708.5	710.7	666.5	561.8	448.4	340.8	373.6	362.9
Motor Vehicles	0.7	1.5	2.1	3.6	3.4	3.2	2.5	2.9	3.9	7.5	6.4	6.4	6.4
On-Site Total	**1.1**	**440.2**	**567.1**	**592.4**	**625.3**	**711.7**	**713.2**	**669.4**	**565.7**	**455.8**	**347.2**	**380.0**	**369.3**
Off-Site Motor Vehicles	**125.0**	**137.2**	**173.6**	**224.2**	**267.4**	**249.9**	**208.9**	**233.7**	**519.4**	**856.9**	**828.9**	**868.1**	**813.3**
Daily Total	**126.1**	**577.4**	**740.7**	**816.5**	**892.7**	**961.7**	**922.0**	**903.1**	**1,085.2**	**1,312.7**	**1,176.1**	**1,248.1**	**1,182.7**
Maximum On-Site Daily Total (lb/day)	**713.2**												
Maximum Off-Site Daily Total (lb/day)	**896.7**												
Maximum Daily Total (lb/day)	**1,312.7**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.1	53.5	68.2	71.9	75.6	88.8	90.1	86.2	76.1	67.5	55.4	60.2	57.9
Motor Vehicles	0.3	0.7	1.0	1.6	1.5	1.4	1.0	1.2	1.6	3.0	2.6	2.6	2.6
On-Site Total	**0.3**	**54.1**	**69.1**	**73.4**	**77.1**	**90.2**	**91.1**	**87.4**	**77.6**	**70.5**	**58.0**	**62.8**	**60.5**
Off-Site Motor Vehicles	**77.2**	**85.0**	**106.4**	**134.3**	**159.9**	**154.0**	**130.2**	**149.9**	**316.8**	**516.8**	**500.4**	**523.3**	**487.0**
Hourly Total	**77.6**	**139.1**	**175.5**	**207.7**	**237.0**	**244.2**	**221.3**	**237.3**	**394.5**	**587.3**	**558.4**	**586.1**	**547.5**
Maximum On-Site Hourly Total (lb/hour)	**91.1**												
Maximum Hourly Total (lb/hour)	**592.2**												

Table 9-A (continued)
Solar Facility Construction CO Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	35.6	31.6	27.7	23.8	19.9	16.9	13.9	10.9	8.3	5.7	3.2	1.4
Motor Vehicles	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.1	0.0
On-Site Total	**32.1**	**28.1**	**24.2**	**20.2**	**17.1**	**14.1**	**11.1**	**8.4**	**5.8**	**3.3**	**1.4**	**0.0**
Off-Site Motor Vehicles	**62.9**	**53.0**	**44.4**	**36.0**	**28.3**	**22.1**	**15.7**	**10.0**	**6.1**	**3.4**	**0.8**	**0.0**
12-Month Total	**95.0**	**81.1**	**68.5**	**56.2**	**45.4**	**36.2**	**26.8**	**18.4**	**11.9**	**6.7**	**2.2**	**0.0**
Monthly Emissions (lb/month)												
On-Site												
Equipment	7,956.6	7,857.0	7,793.9	7,685.4	6,118.4	5,929.5	5,929.5	5,256.3	5,130.8	5,090.6	3,629.6	2,774.5
Motor Vehicles	141.1	141.1	141.1	118.2	82.6	115.5	115.5	90.0	61.9	61.9	61.9	50.5
On-Site Total	**8,097.7**	**7,998.1**	**7,935.0**	**7,803.6**	**6,201.0**	**6,045.1**	**6,045.1**	**5,346.3**	**5,192.8**	**5,152.5**	**3,691.5**	**2,825.0**
Off-Site Motor Vehicles	**17,555.5**	**19,726.8**	**17,236.3**	**16,800.7**	**15,440.9**	**12,358.9**	**12,781.6**	**11,472.9**	**7,724.4**	**5,384.5**	**5,190.7**	**1,601.3**
Monthly Total	**25,653.2**	**27,724.9**	**25,171.4**	**24,604.3**	**21,641.9**	**18,403.9**	**18,826.7**	**16,819.2**	**12,917.2**	**10,537.0**	**8,882.3**	**4,426.3**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	361.7	357.1	354.3	349.3	278.1	269.5	269.5	238.9	233.2	231.4	165.0	126.1
Motor Vehicles	6.4	6.4	6.4	5.4	3.8	5.3	5.3	4.1	2.8	2.8	2.8	2.3
On-Site Total	**368.1**	**363.5**	**360.7**	**354.7**	**281.9**	**274.8**	**274.8**	**243.0**	**236.0**	**234.2**	**167.8**	**128.4**
Off-Site Motor Vehicles	**798.0**	**896.7**	**783.5**	**763.7**	**701.9**	**561.8**	**581.0**	**521.5**	**351.1**	**244.7**	**235.9**	**72.8**
Daily Total	**1,166.1**	**1,260.2**	**1,144.2**	**1,118.4**	**983.7**	**836.5**	**855.8**	**764.5**	**587.1**	**479.0**	**403.7**	**201.2**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	57.8	56.9	56.2	55.2	44.2	42.4	42.4	37.9	36.7	36.4	26.2	20.1
Motor Vehicles	2.6	2.6	2.6	2.2	1.5	2.1	2.1	1.7	1.1	1.1	1.1	0.9
On-Site Total	**60.4**	**59.5**	**58.8**	**57.4**	**45.8**	**44.5**	**44.5**	**39.6**	**37.9**	**37.5**	**27.4**	**21.0**
Off-Site Motor Vehicles	**479.6**	**532.7**	**466.8**	**454.7**	**414.8**	**332.7**	**340.3**	**305.1**	**205.7**	**143.6**	**138.7**	**43.5**
Hourly Total	**540.0**	**592.2**	**525.5**	**512.1**	**460.5**	**377.2**	**384.8**	**344.6**	**243.6**	**181.2**	**166.1**	**64.5**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-B
Solar Facility Construction Maximum On-Site CO Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	90.1	710.7	70.3
Motor Vehicles[a]	1.0	2.5	0.5
Maximum On-Site Total	**91.1**	**713.2**	**70.8**

[a] Emissions from source during period with maximum on-site total emissions

Table 9-C
Solar Facility Construction VOC Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
	1	2	3	4	5	6	7	8	9	10	11	12	13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	10.0	10.2	9.7	8.9	8.0	7.0	5.9	4.7	3.7	2.9	2.4	2.3	2.1
Motor Vehicles	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**10.0**	**10.3**	**9.8**	**9.0**	**8.1**	**7.1**	**5.9**	**4.8**	**3.7**	**3.0**	**2.5**	**2.4**	**2.2**
Off-Site Motor Vehicles	**4.0**	**4.6**	**5.2**	**5.8**	**6.2**	**6.6**	**6.9**	**7.2**	**7.5**	**7.4**	**7.0**	**6.5**	**5.9**
12-Month Total	**14.1**	**14.9**	**15.0**	**14.7**	**14.3**	**13.6**	**12.9**	**12.0**	**11.2**	**10.4**	**9.5**	**8.8**	**8.1**
Maximum On-Site 12-Month Total (ton/year)	**10.3**												
Maximum 12-Month Total (ton/year)	**15.0**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	3.6	1,452.6	2,082.6	2,229.8	2,441.2	2,583.8	2,612.8	2,397.2	1,878.9	1,166.3	539.5	547.1	485.5
Motor Vehicles	1.6	5.8	9.0	12.3	11.0	10.1	6.2	6.6	8.8	16.8	14.6	14.6	14.6
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**5.2**	**1,458.4**	**2,091.6**	**2,242.1**	**2,452.3**	**2,593.8**	**2,618.9**	**2,403.8**	**1,887.7**	**1,183.1**	**554.0**	**561.7**	**500.1**
Off-Site Motor Vehicles	**205.9**	**232.5**	**292.2**	**396.2**	**469.0**	**446.3**	**381.3**	**427.6**	**886.0**	**1,452.3**	**1,404.5**	**1,467.4**	**1,374.2**
Monthly Total	**211.1**	**1,690.9**	**2,383.8**	**2,638.3**	**2,921.3**	**3,040.1**	**3,000.2**	**2,831.4**	**2,773.7**	**2,635.4**	**1,958.5**	**2,029.1**	**1,874.2**
Maximum On-Site Monthly Total (lb/month)	**2,618.9**												
Maximum Monthly Total (lb/month)	**3,040.1**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.2	66.0	94.7	101.4	111.0	117.4	118.8	109.0	85.4	53.0	24.5	24.9	22.1
Motor Vehicles	0.1	0.3	0.4	0.6	0.5	0.5	0.3	0.3	0.4	0.8	0.7	0.7	0.7
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.2**	**66.3**	**95.1**	**101.9**	**111.5**	**117.9**	**119.0**	**109.3**	**85.8**	**53.8**	**25.2**	**25.5**	**22.7**
Off-Site Motor Vehicles	**9.4**	**10.6**	**13.3**	**18.0**	**21.3**	**20.3**	**17.3**	**19.4**	**40.3**	**66.0**	**63.8**	**66.7**	**62.5**
Daily Total	**9.6**	**76.9**	**108.4**	**119.9**	**132.8**	**138.2**	**136.4**	**128.7**	**126.1**	**119.8**	**89.0**	**92.2**	**85.2**
Maximum On-Site Daily Total (lb/day)	**119.0**												
Maximum Off-Site Daily Total (lb/day)	**67.2**												
Maximum Daily Total (lb/day)	**138.2**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.0	6.9	10.3	11.3	12.4	13.4	13.8	13.0	10.7	7.8	4.6	4.6	4.0
Motor Vehicles	0.0	0.1	0.2	0.3	0.2	0.2	0.1	0.1	0.2	0.3	0.3	0.3	0.3
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.1**	**7.0**	**10.5**	**11.6**	**12.7**	**13.6**	**13.9**	**13.1**	**10.9**	**8.1**	**4.9**	**4.8**	**4.2**
Off-Site Motor Vehicles	**5.9**	**6.7**	**8.4**	**10.7**	**12.8**	**12.6**	**10.9**	**12.6**	**24.8**	**39.8**	**38.5**	**40.1**	**37.2**
Hourly Total	**5.9**	**13.8**	**18.9**	**22.3**	**25.4**	**26.2**	**24.8**	**25.7**	**35.7**	**47.9**	**43.3**	**45.0**	**41.5**
Maximum On-Site Hourly Total (lb/hour)	**13.9**												
Maximum Hourly Total (lb/hour)	**47.9**												

Table 9-C (continued)
Solar Facility Construction VOC Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	2.0	1.7	1.5	1.3	1.1	0.9	0.8	0.6	0.5	0.3	0.2	0.1
Motor Vehicles	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**2.1**	**1.8**	**1.6**	**1.4**	**1.1**	**1.0**	**0.8**	**0.7**	**0.5**	**0.4**	**0.2**	**0.1**
Off-Site Motor Vehicles	**5.3**	**4.6**	**3.9**	**3.3**	**2.6**	**2.1**	**1.6**	**1.1**	**0.7**	**0.4**	**0.3**	**0.1**
12-Month Total	**7.4**	**6.5**	**5.5**	**4.6**	**3.8**	**3.0**	**2.4**	**1.8**	**1.2**	**0.8**	**0.5**	**0.2**
Monthly Emissions (lb/month)												
On-Site												
Equipment	477.3	448.6	431.8	399.6	350.6	298.6	298.6	304.3	269.3	258.4	237.7	192.2
Motor Vehicles	14.6	14.6	14.6	12.4	8.8	11.7	11.7	8.9	6.3	6.3	6.3	5.2
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	8.1
On-Site Total	**491.9**	**463.2**	**446.4**	**412.0**	**359.4**	**310.4**	**310.4**	**313.2**	**275.6**	**264.7**	**252.1**	**205.5**
Off-Site Motor Vehicles	**1,326.8**	**1,478.5**	**1,284.1**	**1,251.6**	**1,135.1**	**910.3**	**936.9**	**837.8**	**564.4**	**393.8**	**381.5**	**119.7**
Monthly Total	**1,818.6**	**1,941.7**	**1,730.5**	**1,663.7**	**1,494.5**	**1,220.7**	**1,247.3**	**1,151.0**	**840.0**	**658.5**	**633.6**	**325.2**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	21.7	20.4	19.6	18.2	15.9	13.6	13.6	13.8	12.2	11.7	10.8	8.7
Motor Vehicles	0.7	0.7	0.7	0.6	0.4	0.5	0.5	0.4	0.3	0.3	0.3	0.2
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
On-Site Total	**22.4**	**21.1**	**20.3**	**18.7**	**16.3**	**14.1**	**14.1**	**14.2**	**12.5**	**12.0**	**11.5**	**9.3**
Off-Site Motor Vehicles	**60.3**	**67.2**	**58.4**	**56.9**	**51.6**	**41.4**	**42.6**	**38.1**	**25.7**	**17.9**	**17.3**	**5.4**
Daily Total	**82.7**	**88.3**	**78.7**	**75.6**	**67.9**	**55.5**	**56.7**	**52.3**	**38.2**	**29.9**	**28.8**	**14.8**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	3.9	3.7	3.5	3.2	2.9	2.3	2.3	2.5	2.1	2.0	1.9	1.5
Motor Vehicles	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Asphaltic Paving	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**4.2**	**3.9**	**3.8**	**3.4**	**3.0**	**2.6**	**2.6**	**2.6**	**2.2**	**2.1**	**2.1**	**1.7**
Off-Site Motor Vehicles	**36.4**	**39.9**	**34.9**	**34.0**	**30.6**	**24.7**	**25.0**	**22.3**	**15.0**	**10.5**	**10.2**	**3.3**
Hourly Total	**40.6**	**43.9**	**38.6**	**37.4**	**33.6**	**27.2**	**27.6**	**24.9**	**17.3**	**12.7**	**12.3**	**5.0**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-D
Solar Facility Construction Maximum On-Site VOC Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	13.8	118.8	10.2
Motor Vehicles[a]	0.1	0.3	0.1
Maximum On-Site Total	**13.9**	**119.0**	**10.3**

[a] Emissions from source during period with maximum on-site total emissions

Table 9-E
Solar Facility Construction NOx Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
	1	2	3	4	5	6	7	8	9	10	11	12	13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	84.6	85.7	80.4	72.0	62.7	52.5	41.9	31.0	21.2	13.9	10.0	9.0	8.1
Motor Vehicles	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
On-Site Total	**84.9**	**86.0**	**80.7**	**72.3**	**63.0**	**52.8**	**42.2**	**31.3**	**21.4**	**14.2**	**10.3**	**9.2**	**8.4**
Off-Site Motor Vehicles	**8.8**	**10.1**	**11.0**	**12.0**	**12.4**	**12.8**	**13.0**	**13.0**	**13.1**	**12.7**	**11.6**	**10.5**	**9.3**
12-Month Total	**93.8**	**96.1**	**91.7**	**84.3**	**75.5**	**65.6**	**55.1**	**44.3**	**34.5**	**26.9**	**21.9**	**19.7**	**17.7**
Maximum On-Site 12-Month Total (ton/year)	**86.0**												
Maximum 12-Month Total (ton/year)	**96.1**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	14.8	12,642.0	18,622.0	20,075.2	21,853.9	22,508.4	22,706.0	20,623.0	15,724.4	8,668.3	2,936.6	2,782.7	2,161.5
Motor Vehicles	6.6	62.2	105.0	110.9	93.8	81.0	29.6	23.0	27.0	52.5	48.5	48.5	48.5
On-Site Total	**21.4**	**12,704.2**	**18,727.0**	**20,186.1**	**21,947.7**	**22,589.4**	**22,735.6**	**20,646.0**	**15,751.4**	**8,720.8**	**2,985.1**	**2,831.2**	**2,210.0**
Off-Site Motor Vehicles	**302.0**	**456.7**	**555.4**	**1,082.6**	**1,237.3**	**1,217.3**	**1,146.0**	**1,220.1**	**1,831.3**	**2,927.4**	**2,813.6**	**2,897.5**	**2,762.9**
Monthly Total	**323.4**	**13,160.9**	**19,282.4**	**21,268.7**	**23,185.1**	**23,806.7**	**23,881.7**	**21,866.1**	**17,582.7**	**11,648.2**	**5,798.7**	**5,728.7**	**4,973.0**
Maximum On-Site Monthly Total (lb/month)	**22,735.6**												
Maximum Monthly Total (lb/month)	**23,881.7**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.7	574.6	846.5	912.5	993.4	1,023.1	1,032.1	937.4	714.7	394.0	133.5	126.5	98.3
Motor Vehicles	0.3	2.8	4.8	5.0	4.3	3.7	1.3	1.0	1.2	2.4	2.2	2.2	2.2
On-Site Total	**1.0**	**577.5**	**851.2**	**917.6**	**997.6**	**1,026.8**	**1,033.4**	**938.5**	**716.0**	**396.4**	**135.7**	**128.7**	**100.5**
Off-Site Motor Vehicles	**13.7**	**20.8**	**25.2**	**49.2**	**56.2**	**55.3**	**52.1**	**55.5**	**83.2**	**133.1**	**127.9**	**131.7**	**125.6**
Daily Total	**14.7**	**598.2**	**876.5**	**966.8**	**1,053.9**	**1,082.1**	**1,085.5**	**993.9**	**799.2**	**529.5**	**263.6**	**260.4**	**226.0**
Maximum On-Site Daily Total (lb/day)	**1,033.4**												
Maximum Off-Site Daily Total (lb/day)	**133.1**												
Maximum Daily Total (lb/day)	**1,085.5**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.1	57.6	90.6	100.9	109.8	113.8	117.5	109.4	87.7	57.2	27.8	26.0	19.7
Motor Vehicles	0.1	1.3	2.3	2.4	2.0	1.7	0.5	0.4	0.5	1.0	0.9	0.9	0.9
On-Site Total	**0.2**	**59.0**	**92.9**	**103.3**	**111.9**	**115.5**	**118.1**	**109.8**	**88.2**	**58.2**	**28.7**	**26.9**	**20.6**
Off-Site Motor Vehicles	**9.1**	**15.3**	**18.3**	**27.3**	**32.6**	**32.8**	**31.2**	**34.1**	**50.3**	**74.0**	**69.9**	**72.1**	**67.8**
Hourly Total	**9.3**	**74.3**	**111.2**	**130.6**	**144.4**	**148.3**	**149.3**	**143.9**	**138.5**	**132.1**	**98.6**	**99.1**	**88.4**
Maximum On-Site Hourly Total (lb/hour)	**118.1**												
Maximum Hourly Total (lb/hour)	**149.3**												

Table 9-E (continued)
Solar Facility Construction NOx Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	7.5	6.5	5.6	4.8	4.1	3.4	3.0	2.5	1.9	1.4	1.0	0.5
Motor Vehicles	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
On-Site Total	**7.7**	**6.7**	**5.7**	**4.9**	**4.2**	**3.5**	**3.0**	**2.5**	**1.9**	**1.5**	**1.0**	**0.5**
Off-Site Motor Vehicles	**8.0**	**6.9**	**5.6**	**4.6**	**3.7**	**2.9**	**2.2**	**1.6**	**1.0**	**0.6**	**0.4**	**0.1**
12-Month Total	**15.8**	**13.5**	**11.4**	**9.5**	**7.9**	**6.4**	**5.3**	**4.1**	**3.0**	**2.1**	**1.4**	**0.6**
Monthly Emissions (lb/month)												
On-Site												
Equipment	2,073.4	1,805.3	1,640.2	1,357.9	1,335.6	925.1	925.1	1,185.3	940.5	873.8	1,073.5	925.6
Motor Vehicles	48.5	48.5	48.5	44.5	34.3	36.0	36.0	23.5	18.8	18.8	18.8	16.8
On-Site Total	**2,121.9**	**1,853.8**	**1,688.8**	**1,402.5**	**1,370.0**	**961.1**	**961.1**	**1,208.8**	**959.2**	**892.6**	**1,092.2**	**942.4**
Off-Site Motor Vehicles	**2,315.2**	**2,484.1**	**2,009.6**	**1,954.8**	**1,585.3**	**1,285.6**	**1,312.8**	**1,119.2**	**754.6**	**527.1**	**541.4**	**192.4**
Monthly Total	**4,437.1**	**4,337.9**	**3,698.3**	**3,357.2**	**2,955.2**	**2,246.6**	**2,273.9**	**2,328.0**	**1,713.9**	**1,419.6**	**1,633.7**	**1,134.8**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	94.2	82.1	74.6	61.7	60.7	42.0	42.0	53.9	42.7	39.7	48.8	42.1
Motor Vehicles	2.2	2.2	2.2	2.0	1.6	1.6	1.6	1.1	0.9	0.9	0.9	0.8
On-Site Total	**96.5**	**84.3**	**76.8**	**63.7**	**62.3**	**43.7**	**43.7**	**54.9**	**43.6**	**40.6**	**49.6**	**42.8**
Off-Site Motor Vehicles	**105.2**	**112.9**	**91.3**	**88.9**	**72.1**	**58.4**	**59.7**	**50.9**	**34.3**	**24.0**	**24.6**	**8.7**
Daily Total	**201.7**	**197.2**	**168.1**	**152.6**	**134.3**	**102.1**	**103.4**	**105.8**	**77.9**	**64.5**	**74.3**	**51.6**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	19.3	16.9	15.0	12.4	12.3	8.2	8.2	10.6	8.4	7.7	9.3	7.9
Motor Vehicles	0.9	0.9	0.9	0.8	0.6	0.7	0.7	0.4	0.3	0.3	0.3	0.3
On-Site Total	**20.2**	**17.8**	**15.9**	**13.3**	**12.9**	**8.9**	**8.9**	**11.0**	**8.7**	**8.1**	**9.6**	**8.2**
Off-Site Motor Vehicles	**61.1**	**64.3**	**53.8**	**52.0**	**43.8**	**35.8**	**35.9**	**29.8**	**20.2**	**14.1**	**15.2**	**5.9**
Hourly Total	**81.3**	**82.1**	**69.6**	**65.3**	**56.7**	**44.6**	**44.7**	**40.9**	**28.9**	**22.2**	**24.8**	**14.1**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-F
Solar Facility Construction Maximum On-Site NOx Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	117.5	1032.1	85.7
Motor Vehicles[a]	0.5	1.3	0.4
Maximum On-Site Total	**118.1**	**1033.4**	**86.0**

[a] Emissions from source during period with maximum on-site total emissions

Table 9-G
Solar Facility Construction SOx Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
	1	2	3	4	5	6	7	8	9	10	11	12	13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
12-Month Total	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Maximum On-Site 12-Month Total (ton/year)	**0.1**												
Maximum 12-Month Total (ton/year)	**0.1**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	0.0	11.2	16.4	17.8	19.5	20.2	20.5	18.7	14.5	8.4	3.1	2.9	2.3
Motor Vehicles	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.0**	**11.3**	**16.5**	**17.9**	**19.6**	**20.2**	**20.5**	**18.7**	**14.5**	**8.5**	**3.1**	**3.0**	**2.3**
Off-Site Motor Vehicles	**0.0**	**0.2**	**0.2**	**0.6**	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	**1.1**	**1.1**	**1.1**	**1.1**
Monthly Total	**0.0**	**11.4**	**16.7**	**18.6**	**20.3**	**21.0**	**21.2**	**19.5**	**15.2**	**9.6**	**4.2**	**4.0**	**3.4**
Maximum On-Site Monthly Total (lb/month)	**20.5**												
Maximum Monthly Total (lb/month)	**21.2**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.0	0.5	0.7	0.8	0.9	0.9	0.9	0.9	0.7	0.4	0.1	0.1	0.1
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.0**	**0.5**	**0.8**	**0.8**	**0.9**	**0.9**	**0.9**	**0.9**	**0.7**	**0.4**	**0.1**	**0.1**	**0.1**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.0**
Daily Total	**0.0**	**0.5**	**0.8**	**0.8**	**0.9**	**1.0**	**1.0**	**0.9**	**0.7**	**0.4**	**0.2**	**0.2**	**0.2**
Maximum On-Site Daily Total (lb/day)	**0.9**												
Maximum Off-Site Daily Total (lb/day)	**0.1**												
Maximum Daily Total (lb/day)	**1.0**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Hourly Total	**0.0**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**
Maximum On-Site Hourly Total (lb/hour)	**0.1**												
Maximum Hourly Total (lb/hour)	**0.1**												

Table 9-G (continued)
Solar Facility Construction SOx Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
12-Month Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Monthly Emissions (lb/month)												
On-Site												
Equipment	2.2	1.9	1.8	1.5	1.4	1.0	1.0	1.3	1.0	1.0	1.1	0.9
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**2.2**	**2.0**	**1.8**	**1.5**	**1.5**	**1.1**	**1.1**	**1.3**	**1.1**	**1.0**	**1.1**	**1.0**
Off-Site Motor Vehicles	**0.6**	**0.6**	**0.3**	**0.3**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Monthly Total	**2.9**	**2.5**	**2.1**	**1.8**	**1.5**	**1.1**	**1.1**	**1.3**	**1.1**	**1.0**	**1.2**	**1.0**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Daily Total	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Motor Vehicles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Hourly Total	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-H
Solar Facility Construction Maximum On-Site SOx Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	0.1	0.9	0.1
Motor Vehicles[a]	0.0	0.0	0.0
Maximum On-Site Total	**0.1**	**0.9**	**0.1**

[a] Emissions from source during period with maximum on-site total emissions

Table 9-I
Solar Facility Construction PM10 Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
	1	2	3	4	5	6	7	8	9	10	11	12	13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	3.9	4.0	3.8	3.5	3.1	2.7	2.3	1.9	1.4	1.1	1.0	0.9	0.8
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	16.5	17.2	16.9	16.3	15.5	14.5	13.3	12.2	11.4	10.5	9.5	8.9	8.3
On-Site Total	**20.4**	**21.2**	**20.7**	**19.8**	**18.6**	**17.2**	**15.6**	**14.1**	**12.8**	**11.7**	**10.4**	**9.8**	**9.2**
Off-Site Motor Vehicle Exhaust and Fugitive	**2.8**	**3.2**	**3.6**	**4.0**	**4.3**	**4.6**	**4.8**	**5.0**	**5.2**	**5.2**	**4.9**	**4.6**	**4.2**
12-Month Total	**23.1**	**24.4**	**24.2**	**23.7**	**22.9**	**21.8**	**20.5**	**19.1**	**18.0**	**16.9**	**15.4**	**14.4**	**13.4**
Maximum On-Site 12-Month Total (ton/year)	**21.2**												
Maximum 12-Month Total (ton/year)	**24.4**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	1.1	557.1	802.6	859.2	944.3	1,004.7	1,018.6	934.9	737.6	461.3	214.0	217.2	191.5
Motor Vehicle Exhaust	0.2	2.4	4.1	4.1	3.4	2.9	0.9	0.5	0.5	1.1	1.1	1.1	1.1
Fugitive	292.4	2,584.3	3,043.3	3,388.4	3,694.3	3,646.5	3,722.8	3,257.4	2,884.4	2,763.0	1,835.8	1,835.8	1,835.8
On-Site Total	**293.7**	**3,143.8**	**3,850.0**	**4,251.6**	**4,641.9**	**4,654.0**	**4,742.2**	**4,192.8**	**3,622.6**	**3,225.3**	**2,050.9**	**2,054.0**	**2,028.4**
Off-Site Motor Vehicle Exhaust and Fugitive	**138.1**	**158.7**	**202.1**	**281.6**	**334.9**	**304.3**	**257.4**	**274.0**	**606.1**	**1,005.9**	**970.7**	**1,016.3**	**962.8**
Monthly Total	**431.8**	**3,302.4**	**4,052.1**	**4,533.2**	**4,976.8**	**4,958.4**	**4,999.6**	**4,466.8**	**4,228.7**	**4,231.2**	**3,021.5**	**3,070.3**	**2,991.2**
Maximum On-Site Monthly Total (lb/month)	**4,742.2**												
Maximum Monthly Total (lb/month)	**4,999.6**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.0	25.3	36.5	39.1	42.9	45.7	46.3	42.5	33.5	21.0	9.7	9.9	8.7
Motor Vehicle Exhaust	0.0	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	13.3	117.5	138.3	154.0	167.9	165.7	169.2	148.1	131.1	125.6	83.4	83.4	83.4
On-Site Total	**13.4**	**142.9**	**175.0**	**193.3**	**211.0**	**211.5**	**215.6**	**190.6**	**164.7**	**146.6**	**93.2**	**93.4**	**92.2**
Off-Site Motor Vehicle Exhaust and Fugitive	**6.3**	**7.2**	**9.2**	**12.8**	**15.2**	**13.8**	**11.7**	**12.5**	**27.6**	**45.7**	**44.1**	**46.2**	**43.8**
Daily Total	**19.6**	**150.1**	**184.2**	**206.1**	**226.2**	**225.4**	**227.3**	**203.0**	**192.2**	**192.3**	**137.3**	**139.6**	**136.0**
Maximum On-Site Daily Total (lb/day)	**215.6**												
Maximum Off-Site Daily Total (lb/day)	**47.6**												
Maximum Daily Total (lb/day)	**227.3**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.0	2.7	4.0	4.4	4.8	5.2	5.4	5.1	4.2	3.1	1.8	1.8	1.6
Motor Vehicle Exhaust	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	5.9	19.0	21.1	26.0	27.4	28.9	29.3	26.0	26.6	41.9	35.4	35.4	35.4
On-Site Total	**5.9**	**21.7**	**25.2**	**30.5**	**32.3**	**34.2**	**34.7**	**31.1**	**30.8**	**45.0**	**37.3**	**37.3**	**37.0**
Off-Site Motor Vehicle Exhaust and Fugitive	**3.8**	**4.4**	**5.6**	**7.4**	**8.9**	**8.1**	**6.9**	**7.4**	**16.2**	**26.5**	**25.5**	**26.7**	**25.2**
Hourly Total	**9.7**	**26.1**	**30.8**	**37.9**	**41.2**	**42.3**	**41.6**	**38.5**	**47.0**	**71.4**	**62.8**	**64.0**	**62.3**
Maximum On-Site Hourly Total (lb/hour)	**45.0**												
Maximum Hourly Total (lb/hour)	**71.4**												

Table 9-I (continued)
Solar Facility Construction PM10 Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	0.8	0.7	0.6	0.5	0.4	0.4	0.3	0.2	0.2	0.1	0.1	0.0
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	7.7	6.8	5.9	5.0	4.1	3.5	2.7	1.9	1.4	1.0	0.7	0.3
On-Site Total	**8.5**	**7.5**	**6.5**	**5.5**	**4.6**	**3.8**	**3.0**	**2.2**	**1.5**	**1.1**	**0.7**	**0.3**
Off-Site Motor Vehicle Exhaust and Fugitive	**3.8**	**3.3**	**2.8**	**2.3**	**1.9**	**1.5**	**1.2**	**0.8**	**0.5**	**0.3**	**0.2**	**0.0**
12-Month Total	**12.3**	**10.8**	**9.3**	**7.8**	**6.5**	**5.3**	**4.2**	**3.0**	**2.1**	**1.5**	**0.9**	**0.4**
Monthly Emissions (lb/month)												
On-Site												
Equipment	188.4	177.8	171.4	159.7	140.6	119.7	119.7	121.4	106.9	100.8	94.1	76.3
Motor Vehicle Exhaust	1.1	1.1	1.1	1.1	0.9	0.7	0.7	0.4	0.3	0.3	0.3	0.3
Fugitive	1,835.8	1,835.8	1,835.8	1,673.3	1,348.4	1,510.9	1,510.9	1,185.9	698.6	698.6	698.6	617.3
On-Site Total	**2,025.2**	**2,014.6**	**2,008.2**	**1,834.1**	**1,489.9**	**1,631.3**	**1,631.3**	**1,307.7**	**805.8**	**799.7**	**793.0**	**694.0**
Off-Site Motor Vehicle Exhaust and Fugitive	**924.4**	**1,048.2**	**905.1**	**881.4**	**809.0**	**646.1**	**676.7**	**604.2**	**406.1**	**282.5**	**273.9**	**84.2**
Monthly Total	**2,949.7**	**3,062.8**	**2,913.3**	**2,715.5**	**2,298.9**	**2,277.4**	**2,307.9**	**1,911.9**	**1,212.0**	**1,082.2**	**1,066.9**	**778.2**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	8.6	8.1	7.8	7.3	6.4	5.4	5.4	5.5	4.9	4.6	4.3	3.5
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	83.4	83.4	83.4	76.1	61.3	68.7	68.7	53.9	31.8	31.8	31.8	28.1
On-Site Total	**92.1**	**91.6**	**91.3**	**83.4**	**67.7**	**74.1**	**74.1**	**59.4**	**36.6**	**36.4**	**36.0**	**31.5**
Off-Site Motor Vehicle Exhaust and Fugitive	**42.0**	**47.6**	**41.1**	**40.1**	**36.8**	**29.4**	**30.8**	**27.5**	**18.5**	**12.8**	**12.4**	**3.8**
Daily Total	**134.1**	**139.2**	**132.4**	**123.4**	**104.5**	**103.5**	**104.9**	**86.9**	**55.1**	**49.2**	**48.5**	**35.4**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	1.6	1.5	1.4	1.3	1.1	0.9	0.9	1.0	0.8	0.8	0.8	0.6
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	35.4	35.4	35.4	32.5	26.6	29.5	29.5	23.6	13.3	13.3	13.3	11.8
On-Site Total	**37.0**	**36.9**	**36.9**	**33.8**	**27.7**	**30.5**	**30.5**	**24.6**	**14.1**	**14.1**	**14.1**	**12.4**
Off-Site Motor Vehicle Exhaust and Fugitive	**24.5**	**27.8**	**24.1**	**23.4**	**21.6**	**17.2**	**18.0**	**16.0**	**10.8**	**7.5**	**7.3**	**2.3**
Hourly Total	**61.6**	**64.7**	**60.9**	**57.2**	**49.3**	**47.7**	**48.5**	**40.6**	**24.9**	**21.6**	**21.4**	**14.7**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-J
Solar Facility Construction Maximum On-Site PM10 Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	3.1	46.3	4.0
Motor Vehicle Exhaust[a]	0.0	0.0	0.0
Fugitive[a]	41.9	169.2	17.2
Maximum On-Site Total	**45.0**	**215.6**	**21.2**

[a] Emissions from source during period with maximum on-site total emissions

Table 9-K
Solar Facility Construction PM2.5 Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13
	1	2	3	4	5	6	7	8	9	10	11	12	13
12-Month Running Emissions (ton/year)[a]													
On-Site													
Equipment	3.5	3.6	3.4	3.1	2.8	2.4	2.0	1.6	1.3	1.0	0.8	0.8	0.7
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	5.4	5.5	5.3	5.0	4.5	4.0	3.5	3.0	2.5	2.1	1.8	1.6	1.4
On-Site Total	**8.9**	**9.1**	**8.7**	**8.1**	**7.3**	**6.5**	**5.6**	**4.6**	**3.8**	**3.1**	**2.6**	**2.4**	**2.2**
Off-Site Motor Vehicle Exhaust and Fugitive	**0.7**	**0.8**	**0.8**	**0.9**	**1.0**	**1.0**	**1.0**	**1.1**	**1.1**	**1.0**	**0.9**	**0.8**	**0.7**
12-Month Total	**9.5**	**9.9**	**9.6**	**9.0**	**8.3**	**7.5**	**6.6**	**5.7**	**4.8**	**4.1**	**3.5**	**3.3**	**2.9**
Maximum On-Site 12-Month Total (ton/year)	**9.1**												
Maximum 12-Month Total (ton/year)	**9.9**												
Monthly Emissions (lb/month)													
On-Site													
Equipment	1.0	504.7	730.6	782.6	860.9	913.3	926.1	849.2	667.7	411.8	184.4	185.7	162.1
Motor Vehicle Exhaust	0.2	2.2	3.7	3.7	3.1	2.7	0.8	0.5	0.5	1.0	1.0	1.0	1.0
Fugitive	62.0	836.2	1,042.9	1,152.7	1,290.4	1,299.3	1,333.7	1,181.0	974.4	768.0	389.2	389.2	389.2
On-Site Total	**63.2**	**1,343.1**	**1,777.2**	**1,939.0**	**2,154.4**	**2,215.3**	**2,260.6**	**2,030.7**	**1,642.5**	**1,180.8**	**574.5**	**575.9**	**552.3**
Off-Site Motor Vehicle Exhaust and Fugitive	**28.5**	**36.4**	**45.8**	**74.1**	**86.7**	**80.5**	**71.4**	**74.7**	**142.1**	**233.4**	**224.7**	**233.9**	**223.2**
Monthly Total	**91.7**	**1,379.5**	**1,823.1**	**2,013.2**	**2,241.2**	**2,295.8**	**2,332.1**	**2,105.4**	**1,784.6**	**1,414.2**	**799.2**	**809.8**	**775.5**
Maximum On-Site Monthly Total (lb/month)	**2,260.6**												
Maximum Monthly Total (lb/month)	**2,332.1**												
Daily Emissions (lb/day)[b]													
On-Site													
Equipment	0.0	22.9	33.2	35.6	39.1	41.5	42.1	38.6	30.3	18.7	8.4	8.4	7.4
Motor Vehicle Exhaust	0.0	0.1	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	2.8	38.0	47.4	52.4	58.7	59.1	60.6	53.7	44.3	34.9	17.7	17.7	17.7
On-Site Total	**2.9**	**61.0**	**80.8**	**88.1**	**97.9**	**100.7**	**102.8**	**92.3**	**74.7**	**53.7**	**26.1**	**26.2**	**25.1**
Off-Site Motor Vehicle Exhaust and Fugitive	**1.3**	**1.7**	**2.1**	**3.4**	**3.9**	**3.7**	**3.2**	**3.4**	**6.5**	**10.6**	**10.2**	**10.6**	**10.1**
Daily Total	**4.2**	**62.7**	**82.9**	**91.5**	**101.9**	**104.4**	**106.0**	**95.7**	**81.1**	**64.3**	**36.3**	**36.8**	**35.2**
Maximum On-Site Daily Total (lb/day)	**102.8**												
Maximum Off-Site Daily Total (lb/day)	**10.6**												
Maximum Daily Total (lb/day)	**106.0**												
Hourly Emissions (lb/hour)[c]													
On-Site													
Equipment	0.0	2.4	3.6	4.0	4.4	4.7	4.9	4.6	3.8	2.8	1.6	1.6	1.3
Motor Vehicle Exhaust	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	1.3	5.3	6.3	7.5	8.1	8.5	8.7	7.7	7.3	9.7	7.5	7.5	7.5
On-Site Total	**1.3**	**7.8**	**10.0**	**11.6**	**12.6**	**13.3**	**13.6**	**12.4**	**11.1**	**12.5**	**9.1**	**9.1**	**8.9**
Off-Site Motor Vehicle Exhaust and Fugitive	**0.8**	**1.1**	**1.3**	**1.9**	**2.3**	**2.1**	**1.9**	**2.0**	**3.8**	**5.9**	**5.7**	**5.9**	**5.6**
Hourly Total	**2.0**	**8.9**	**11.3**	**13.4**	**14.8**	**15.4**	**15.5**	**14.4**	**14.9**	**18.4**	**14.8**	**15.0**	**14.5**
Maximum On-Site Hourly Total (lb/hour)	**13.6**												
Maximum Hourly Total (lb/hour)	**18.4**												

Table 9-K (continued)
Solar Facility Construction PM2.5 Emissions Summary

	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25
12-Month Running Emissions (ton/yr)[a]												
On-Site												
Equipment	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.1	0.1	0.0
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	1.2	1.1	0.9	0.7	0.6	0.4	0.3	0.2	0.1	0.1	0.0	0.0
On-Site Total	**1.9**	**1.6**	**1.4**	**1.2**	**0.9**	**0.7**	**0.5**	**0.4**	**0.3**	**0.2**	**0.1**	**0.0**
Off-Site Motor Vehicle Exhaust and Fugitive	**0.6**	**0.5**	**0.4**	**0.3**	**0.3**	**0.2**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**
12-Month Total	**2.5**	**2.2**	**1.8**	**1.5**	**1.2**	**0.9**	**0.7**	**0.5**	**0.3**	**0.2**	**0.1**	**0.0**
Monthly Emissions (lb/month)												
On-Site												
Equipment	159.2	149.5	143.6	132.8	118.4	99.2	99.2	102.3	89.0	83.4	80.3	65.5
Motor Vehicle Exhaust	1.0	1.0	1.0	1.0	0.8	0.7	0.7	0.3	0.3	0.3	0.3	0.3
Fugitive	389.2	354.8	285.9	320.3	320.3	251.4	148.1	148.1	148.1	130.9	0.0	0.0
On-Site Total	**549.4**	**505.2**	**430.4**	**454.1**	**439.5**	**351.2**	**247.9**	**250.7**	**237.4**	**214.6**	**80.6**	**65.8**
Off-Site Motor Vehicle Exhaust and Fugitive	**201.7**	**200.3**	**176.8**	**147.3**	**142.8**	**126.0**	**92.4**	**66.4**	**59.1**	**22.5**	**9.0**	**3.6**
Monthly Total	**751.1**	**705.5**	**607.3**	**601.4**	**582.3**	**477.2**	**340.3**	**317.1**	**296.4**	**237.0**	**89.6**	**69.4**
Daily Emissions (lb/day)[b]												
On-Site												
Equipment	7.2	6.8	6.5	6.0	5.4	4.5	4.5	4.6	4.0	3.8	3.7	3.0
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	17.7	16.1	13.0	14.6	14.6	11.4	6.7	6.7	6.7	5.9	0.0	0.0
On-Site Total	**25.0**	**23.0**	**19.6**	**20.6**	**20.0**	**16.0**	**11.3**	**11.4**	**10.8**	**9.8**	**3.7**	**3.0**
Off-Site Motor Vehicle Exhaust and Fugitive	**9.2**	**9.1**	**8.0**	**6.7**	**6.5**	**5.7**	**4.2**	**3.0**	**2.7**	**1.0**	**0.4**	**0.2**
Daily Total	**34.1**	**32.1**	**27.6**	**27.3**	**26.5**	**21.7**	**15.5**	**14.4**	**13.5**	**10.8**	**4.1**	**3.2**
Hourly Emissions (lb/hour)[c]												
On-Site												
Equipment	1.3	1.2	1.2	1.1	1.0	0.8	0.8	0.8	0.7	0.7	0.6	0.5
Motor Vehicle Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fugitive	7.5	6.9	5.6	6.3	6.3	5.0	2.8	2.8	2.8	2.5	0.0	0.0
On-Site Total	**8.9**	**8.2**	**6.8**	**7.4**	**7.3**	**5.8**	**3.6**	**3.7**	**3.5**	**3.2**	**0.7**	**0.5**
Off-Site Motor Vehicle Exhaust and Fugitive	**5.3**	**5.2**	**4.7**	**3.9**	**3.8**	**3.4**	**2.5**	**1.8**	**1.6**	**0.6**	**0.3**	**0.1**
Hourly Total	**14.1**	**13.4**	**11.5**	**11.2**	**11.1**	**9.2**	**6.1**	**5.4**	**5.1**	**3.8**	**0.9**	**0.7**

[a] The value for each month is the total for that month and the next 11 months

[b] Daily emissions = Monthly emissions / 22 working days/month

[c] Hourly emissions are based on simultaneous operation of all emission sources

Table 9-L
Solar Facility Construction Maximum On-Site PM2.5 Emissions Summary

Source	Hourly (lb/hr)	Daily (lb/day)	Annual (ton/yr)
Equipment[a]	4.9	42.1	3.6
Motor Vehicle Exhaust[a]	0.0	0.0	0.0
Fugitive[a]	8.7	60.6	5.5
Maximum On-Site Total	**13.6**	**102.8**	**9.1**

[a] Emissions from source during period with maximum on-site total emissions

Table 10
Emission Rates for Modeling Impacts During Construction of Solar Facility

Pollutant	Source	Averaging Period	Emission Rate (lb/hr)	How Calculated
CO	Construction Equipment	1-hr	9.01E+01	Maximum hourly (lb/hr)
CO	On-site Motor Vehicles	1-hr	1.00E+00	Maximum hourly (lb/hr)
CO	Construction Equipment	8-hr	9.01E+01	Maximum hourly (lb/hr)
CO	On-site Motor Vehicles	8-hr	1.00E+00	Maximum hourly (lb/hr)
NO2	Construction Equipment	1-hr	1.18E+02	Maximum hourly (lb/hr)
NO2	On-site Motor Vehicles	1-hr	5.40E-01	Maximum hourly (lb/hr)
NO2	Construction Equipment	Annual	5.87E+01	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
NO2	On-site Motor Vehicles	Annual	2.50E-01	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
SO2	Construction Equipment	1-hr	1.08E-01	Maximum hourly (lb/hr)
SO2	On-site Motor Vehicles	1-hr	4.16E-04	Maximum hourly (lb/hr)
SO2	Construction Equipment	3-hr	1.08E-01	Maximum hourly (lb/hr)
SO2	On-site Motor Vehicles	3-hr	4.16E-04	Maximum hourly (lb/hr)
SO2	Construction Equipment	24-hr	1.16E-01	Max. daily (lb/day)/8 hr. per day
SO2	On-site Motor Vehicles	24-hr	1.30E-04	Max. daily (lb/day)/8 hr. per day
SO2	Construction Equipment	Annual	5.32E-02	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
SO2	On-site Motor Vehicles	Annual	2.10E-04	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM10	Construction Equipment	24-hr	5.79E+00	Max. daily (lb/day)/8 hr. per day
PM10	On-site Motor Vehicles	24-hr	4.87E-03	Max. daily (lb/day)/8 hr. per day
PM10	Fugitive Emissions	24-hr	2.12E+01	Max. daily (lb/day)/ hr. per day
PM10	Construction Equipment	Annual	2.72E+00	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM10	On-site Motor Vehicles	Annual	7.85E-03	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM10	Fugitive Emissions	Annual	1.18E+01	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM2.5	Construction Equipment	24-hr	5.26E+00	Max. daily (lb/day)/8 hr. per day
PM2.5	On-site Motor Vehicles	24-hr	4.48E-03	Max. daily (lb/day)/8 hr. per day
PM2.5	Fugitive Emissions	24-hr	7.58E+00	Max. daily (lb/day)/8 hr. per day
PM2.5	Construction Equipment	Annual	2.46E+00	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM2.5	On-site Motor Vehicles	Annual	7.22E-03	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day
PM2.5	Fugitive Emissions	Annual	3.78E+00	Max. Annual (ton/yr)x2000 (lb/ton) /365 days per year/8 hr. per day

Table 11-A
Gas Line Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Day	Daily Number				
					Month 1	Month 2	Month 3	Month 4	Month 5
					1	2	3	4	5
Construction Equipment									
Backhoe, CAT	416E	74	Diesel	5	10	15	8	12	4
Loader, CAT	966R	150	Diesel	5	0	4	4	7	2
Dozer, CAT	D8	305	Diesel	5	4	15	12	12	3
Crane 50 Ton, Grove	TR600E	173	Diesel	5	2	0	0	0	0
Sideboom, CAT	572R Series2	240	Diesel	5	5	24	24	24	6
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	5	1	1	0	0	0
Welder, Multiquip	BLW-400SS	31	Diesel	5	0	12	12	12	3
Motor Vehicles									
On-Site Vehicles									
On-Site Dump Truck, Volvo	WG64T	N/A	Diesel	0	9	12	0	0	0
On-Site Welding Truck	N/A	N/A	Diesel	0	0	12	12	12	3
On-Site Water Truck	N/A	N/A	Diesel	0	3	4	4	4	3
On-Site Bus, MC	102D3	N/A	Diesel	0	3	7	4	4	1
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Diesel	0	7	5	0	0	0
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	0	18	37	24	39	11
Off-Site Vehicles									
Off-Site Dump Truck, Volvo	WG64T	N/A	Diesel	36	9	12	0	0	0
Off-Site Welding Truck	N/A	N/A	Diesel	36	0	12	12	12	3
Off-Site Water Trucks	N/A	N/A	Diesel	36	3	4	4	4	3
Off-Site Bus, MC	102D3	N/A	Diesel	36	3	7	4	4	1
Off-Site Flat Bed Trucks	T7500	N/A	Diesel	36	7	5	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	36	18	37	24	39	11
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	60	147	242	174	225	63

All vehicle travel is considered off-site because it is on paved roads.

Table 11-B
Gas Line Construction Monthly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Daily Operating Hours or Miles[a]				
				Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment								
Backhoe, CAT	416E	74	Diesel	50	75	40	60	20
Loader, CAT	966R	150	Diesel	0	20	20	35	10
Dozer, CAT	D8	305	Diesel	20	75	60	60	15
Crane 50 Ton, Grove	TR600E	173	Diesel	10	0	0	0	0
Sideboom, CAT	572R Series2	240	Diesel	25	120	120	120	30
Air Compressor, Ingersoll-Rand	P65WK	23.5	Diesel	5	5	0	0	0
Welder, Multiquip	BLW-400SS	31	Diesel	0	60	60	60	15
Motor Vehicles								
On-Site Vehicles								
On-Site Dump Truck, Volvo	WG64T	N/A	Diesel	0	0	0	0	0
On-Site Welding Truck	N/A	N/A	Diesel	0	0	0	0	0
On-Site Water Truck	N/A	N/A	Diesel	0	0	0	0	0
On-Site Bus, MC	102D3	N/A	Diesel	0	0	0	0	0
On-Site Flatbed Truck, Chevrolet	T7500	N/A	Diesel	0	0	0	0	0
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	0	0	0	0	0
Off-Site Vehicles								
Off-Site Dump Truck, Volvo	WG64T	N/A	Diesel	324	432	0	0	0
Off-Site Welding Truck	N/A	N/A	Diesel	0	432	432	432	108
Off-Site Water Trucks	N/A	N/A	Diesel	108	144	144	144	108
Off-Site Bus, MC	102D3	N/A	Diesel	108	252	144	144	36
Off-Site Flat Bed Trucks	T7500	N/A	Diesel	252	180	0	0	0
Off-Site Pickup Trucks	F-250	N/A	Gasoline	648	1,332	864	1,404	396
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	8,820	14,520	10,440	13,500	3,780

Table 11-C
Gas Line Construction Daily Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.3657	18.3	27.4	14.6	21.9	7.3
Loader, CAT	0.6345	0.0	12.7	12.7	22.2	6.3
Dozer, CAT	1.2964	25.9	97.2	77.8	77.8	19.4
Crane 50 Ton, Grove	0.4901	4.9	0.0	0.0	0.0	0.0
Sideboom, CAT	0.3665	9.2	44.0	44.0	44.0	11.0
Air Compressor, Ingersoll-Rand	0.0893	0.4	0.4	0.0	0.0	0.0
Welder, Multiquip	0.3168	0.0	19.0	19.0	19.0	4.8
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0121	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1040	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0121	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0121	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1040	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0117	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0121	3.9	5.2	0.0	0.0	0.0
Off-Site Welding Truck	0.1040	0.0	44.9	44.9	44.9	11.2
Off-Site Water Trucks	0.0121	1.3	1.7	1.7	1.7	1.3
Off-Site Bus, MC	0.0121	1.3	3.1	1.7	1.7	0.4
Off-Site Flat Bed Trucks	0.1040	26.2	18.7	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0172	11.2	22.9	14.9	24.2	6.8
Off-Site Construction Worker Commute	0.0172	151.8	249.9	179.7	232.3	65.1
Construction Equipment Total		**58.7**	**200.8**	**168.1**	**184.9**	**48.9**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**195.7**	**346.5**	**243.0**	**304.9**	**84.9**

Note: Totals may not match sum of individual values because of rounding.

Table 11-D
Gas Line Construction Daily Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.0990	4.9	7.4	4.0	5.9	2.0
Loader, CAT	0.1560	0.0	3.1	3.1	5.5	1.6
Dozer, CAT	0.3039	6.1	22.8	18.2	18.2	4.6
Crane 50 Ton, Grove	0.1274	1.3	0.0	0.0	0.0	0.0
Sideboom, CAT	0.1313	3.3	15.8	15.8	15.8	3.9
Air Compressor, Ingersoll-Rand	0.0352	0.2	0.2	0.0	0.0	0.0
Welder, Multiquip	0.1353	0.0	8.1	8.1	8.1	2.0
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0030	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0100	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0030	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0030	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0100	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0030	1.0	1.3	0.0	0.0	0.0
Off-Site Welding Truck	0.0100	0.0	4.3	4.3	4.3	1.1
Off-Site Water Trucks	0.0030	0.3	0.4	0.4	0.4	0.3
Off-Site Bus, MC	0.0030	0.3	0.7	0.4	0.4	0.1
Off-Site Flat Bed Trucks	0.0100	2.5	1.8	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0013	0.8	1.7	1.1	1.8	0.5
Off-Site Construction Worker Commute	0.0013	11.1	18.2	13.1	16.9	4.7
Construction Equipment Total		**15.8**	**57.4**	**49.2**	**53.5**	**14.1**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**16.0**	**28.5**	**19.4**	**23.9**	**6.7**

Note: Totals may not match sum of individual values because of rounding.

Table 11-E
Gas Line Construction Daily Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.6061	30.3	45.5	24.2	36.4	12.1
Loader, CAT	1.2230	0.0	24.5	24.5	42.8	12.2
Dozer, CAT	2.8731	57.5	215.5	172.4	172.4	43.1
Crane 50 Ton, Grove	0.9835	9.8	0.0	0.0	0.0	0.0
Sideboom, CAT	1.3089	32.7	157.1	157.1	157.1	39.3
Air Compressor, Ingersoll-Rand	0.1439	0.7	0.7	0.0	0.0	0.0
Welder, Multiquip	0.2790	0.0	16.7	16.7	16.7	4.2
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0389	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0180	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0389	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0389	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0180	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0017	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0389	12.6	16.8	0.0	0.0	0.0
Off-Site Welding Truck	0.0180	0.0	7.8	7.8	7.8	1.9
Off-Site Water Trucks	0.0389	4.2	5.6	5.6	5.6	4.2
Off-Site Bus, MC	0.0389	4.2	9.8	5.6	5.6	1.4
Off-Site Flat Bed Trucks	0.0180	4.5	3.2	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0017	1.1	2.2	1.4	2.3	0.7
Off-Site Construction Worker Commute	0.0017	14.8	24.3	17.5	22.6	6.3
Construction Equipment Total		**131.0**	**459.9**	**394.9**	**425.4**	**110.9**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**41.4**	**69.8**	**37.9**	**43.9**	**14.5**

Note: Totals may not match sum of individual values because of rounding.

Table 11-F
Gas Line Construction Daily Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.0006	0.0	0.0	0.0	0.0	0.0
Loader, CAT	0.0012	0.0	0.0	0.0	0.0	0.0
Dozer, CAT	0.0025	0.1	0.2	0.2	0.2	0.0
Crane 50 Ton, Grove	0.0009	0.0	0.0	0.0	0.0	0.0
Sideboom, CAT	0.0013	0.0	0.2	0.2	0.2	0.0
Air Compressor, Ingersoll-Rand	0.0002	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0003	0.0	0.0	0.0	0.0	0.0
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Bus, MC	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0	0.0	0.0
Construction Equipment Total		**0.1**	**0.4**	**0.4**	**0.4**	**0.1**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 11-G
Gas Line Construction Daily Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.0553	2.8	4.1	2.2	3.3	1.1
Loader, CAT	0.0697	0.0	1.4	1.4	2.4	0.7
Dozer, CAT	0.1160	2.3	8.7	7.0	7.0	1.7
Crane 50 Ton, Grove	0.0562	0.6	0.0	0.0	0.0	0.0
Sideboom, CAT	0.0501	1.3	6.0	6.0	6.0	1.5
Air Compressor, Ingersoll-Rand	0.0106	0.1	0.1	0.0	0.0	0.0
Welder, Multiquip	0.0308	0.0	1.9	1.9	1.9	0.5
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0015	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0015	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0015	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0015	0.5	0.7	0.0	0.0	0.0
Off-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0015	0.2	0.2	0.2	0.2	0.2
Off-Site Bus, MC	0.0015	0.2	0.4	0.2	0.2	0.1
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.2	0.4	0.3	0.4	0.1
Construction Equipment Total		**7.0**	**22.2**	**18.4**	**20.6**	**5.5**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**1.1**	**1.7**	**0.8**	**0.9**	**0.3**

Note: Totals may not match sum of individual values because of rounding.

Table 11-H
Gas Line Construction Daily Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Construction Equipment						
Backhoe, CAT	0.0509	2.5	3.8	2.0	3.1	1.0
Loader, CAT	0.0641	0.0	1.3	1.3	2.2	0.6
Dozer, CAT	0.1067	2.1	8.0	6.4	6.4	1.6
Crane 50 Ton, Grove	0.0517	0.5	0.0	0.0	0.0	0.0
Sideboom, CAT	0.0461	1.2	5.5	5.5	5.5	1.4
Air Compressor, Ingersoll-Rand	0.0098	0.0	0.0	0.0	0.0	0.0
Welder, Multiquip	0.0284	0.0	1.7	1.7	1.7	0.4
Motor Vehicles						
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.0014	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.0014	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.0014	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.0000	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0014	0.5	0.6	0.0	0.0	0.0
Off-Site Welding Truck	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Water Trucks	0.0014	0.2	0.2	0.2	0.2	0.2
Off-Site Bus, MC	0.0014	0.2	0.4	0.2	0.2	0.1
Off-Site Flat Bed Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.2	0.4	0.3	0.3	0.1
Construction Equipment Total		**6.4**	**20.4**	**17.0**	**18.9**	**5.1**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**1.0**	**1.6**	**0.7**	**0.8**	**0.3**

Note: Totals may not match sum of individual values because of rounding.

Table 11-I
Gas Line Construction Daily Construction Equipment and Motor Vehicle Fugitive PM10 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.7385	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.7384	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.7385	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.7385	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.7384	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.7384	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0010	0.3	0.4	0.0	0.0	0.0
Off-Site Welding Truck	0.0008	0.0	0.4	0.4	0.4	0.1
Off-Site Water Trucks	0.0010	0.1	0.1	0.1	0.1	0.1
Off-Site Bus, MC	0.0010	0.1	0.2	0.1	0.1	0.0
Off-Site Flat Bed Trucks	0.0008	0.2	0.1	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0009	0.6	1.2	0.8	1.2	0.3
Off-Site Construction Worker Commute	0.0009	7.8	12.8	9.2	11.9	3.3
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**9.1**	**15.3**	**10.6**	**13.8**	**3.9**

Note: Totals may not match sum of individual values because of rounding.

Table 11-J
Gas Line Construction Daily Construction Equipment and Motor Vehicle Fugitive PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
On-Site Vehicles						
On-Site Dump Truck, Volvo	0.1566	0.0	0.0	0.0	0.0	0.0
On-Site Welding Truck	0.1565	0.0	0.0	0.0	0.0	0.0
On-Site Water Truck	0.1566	0.0	0.0	0.0	0.0	0.0
On-Site Bus, MC	0.1566	0.0	0.0	0.0	0.0	0.0
On-Site Flatbed Truck, Chevrolet	0.1565	0.0	0.0	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.1566	0.0	0.0	0.0	0.0	0.0
Off-Site Vehicles						
Off-Site Dump Truck, Volvo	0.0002	0.1	0.1	0.0	0.0	0.0
Off-Site Welding Truck	0.0001	0.0	0.1	0.1	0.1	0.0
Off-Site Water Trucks	0.0002	0.0	0.0	0.0	0.0	0.0
Off-Site Bus, MC	0.0002	0.0	0.0	0.0	0.0	0.0
Off-Site Flat Bed Trucks	0.0001	0.0	0.0	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0002	0.1	0.2	0.1	0.2	0.1
Off-Site Construction Worker Commute	0.0002	1.4	2.3	1.7	2.1	0.6
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**1.6**	**2.8**	**1.9**	**2.5**	**0.7**

Note: Totals may not match sum of individual values because of rounding.

Table 11-K
Gas Line Construction Daily Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Day				
		Month 1	Month 2	Month 3	Month 4	Month 5
Excavation[a]	Cu. Yd.	522	784	418	627	209
Storage Pile Wind Erosion[b]	Acres-Days	13.1	13.1	13.1	13.1	13.1
Bulldozing,Scraping and Grading	Hours	20	75	60	60	15

[a] Total excavation is 4 ft. wide x 4 ft. deep x 18 mi. long, apportioned to daily backhoe operating hours each month and divided by 22 working days/month

[b] Based 4 ft. wide x 4 ft. tall x 18 mi. long and assuming 50 percent is stockpiled at any time.

Table 11-L
Gas Line Construction Daily Fugitive PM10 Emissions

Activity	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Excavation	9.94E-04	0.5	0.8	0.4	0.6	0.2
Storage Pile Wind Erosion	2.93	38.3	38.3	38.3	38.3	38.3
Bulldozing,Scraping and Grading	0.348	7.0	26.1	20.9	20.9	5.2
Total		**45.8**	**65.2**	**59.6**	**59.8**	**43.7**

Note: Totals may not match sum of individual values because of rounding.

Table 11-M
Gas Line Construction Daily Fugitive PM2.5 Emissions

Activity	Emission Factor	Daily Emissions (lb/day)				
		Month 1	Month 2	Month 3	Month 4	Month 5
Excavation	2.07E-04	0.1	0.2	0.1	0.1	0.0
Storage Pile Wind Erosion	0.61	8.0	8.0	8.0	8.0	8.0
Bulldozing,Scraping and Grading	0.157	3.1	11.7	9.4	9.4	2.3
Total		**11.2**	**19.9**	**17.4**	**17.5**	**10.4**

Note: Totals may not match sum of individual values because of rounding.

Table 12-A
Transmission Line Construction Equipment and Motor Vehicle Numbers

Equipment/Vehicle Type	Model	Horsepower	Fuel	Hours or Miles/Day	Daily Number		
					Month 1	Month 2	Month 3
					1	2	3
Construction Equipment							
Cable Puller	N/A	385	Diesel	5	0	0	1
Forklift, Cat	3054E	120	Diesel	5	1	1	1
Pole Digger, International	4700	210	Diesel	5	1	2	0
Crane 90 Ton	N/A	275	Diesel	5	1	1	1
Manlift JLG 1350SJP	1350SJP	87	Diesel	5	1	1	2
Motor Vehicles							
On-site Vehicles							
On-Site Water Truck	N/A	N/A	Diesel	8	1	1	1
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	8	3	3	3
On-Site Low Boy Trucks	N/A	N/A	Diesel	8	5	9	0
Off-Site Vehicles							
Off-Site Water Trucks	N/A	N/A	Diesel	5	1	1	1
Off-Site Pickup Trucks	F-250	N/A	Gasoline	10	3	3	3
Off-Site Low Boy Trucks	N/A	N/A	Diesel	100	5	9	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	60	15	20	15

Table 12-B
Transmission Line Construction Monthly Construction Equipment and Motor Vehicle Use

Equipment/Vehicle Type	Model	Horsepower	Fuel	Daily Operating Hours or Miles[a]		
				Month 1	Month 2	Month 3
Construction Equipment						
Cable Puller	N/A	385	Diesel	0	0	5
Forklift, Cat	3054E	120	Diesel	5	5	5
Pole Digger, International	4700	210	Diesel	5	10	0
Crane 90 Ton	N/A	275	Diesel	5	5	5
Manlift JLG 1350SJP	1350SJP	87	Diesel	5	5	10
Motor Vehicles						
On-site Vehicles						
On-Site Water Truck	N/A	N/A	Diesel	8	8	8
On-Site 3/4 Ton Pick-Up, Ford	F-250	N/A	Gasoline	24	24	24
On-Site Low Boy Trucks	N/A	N/A	Diesel	40	72	0
Off-Site Vehicles						
Off-Site Water Trucks	N/A	N/A	Diesel	5	5	5
Off-Site Pickup Trucks	F-250	N/A	Gasoline	30	30	30
Off-Site Low Boy Trucks	N/A	N/A	Diesel	500	900	0
Off-Site Construction Worker Commute	N/A	N/A	Gasoline	900	1,200	900

Table 12-C
Transmission Line Construction Daily Construction Equipment and Motor Vehicle CO Emissions

Equipment/Vehicle Type	Emission Factor (lb/hr or lb/mile)	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	0.6529	0.0	0.0	3.3
Forklift, Cat	0.2288	1.1	1.1	1.1
Pole Digger, International	0.3475	1.7	3.5	0.0
Crane 90 Ton	0.7164	3.6	3.6	3.6
Manlift JLG 1350SJP	0.2540	1.3	1.3	2.5
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0121	0.1	0.1	0.1
On-Site 3/4 Ton Pick-Up, Ford	0.0117	0.3	0.3	0.3
On-Site Low Boy Trucks	0.0121	0.5	0.9	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0121	0.1	0.1	0.1
Off-Site Pickup Trucks	0.0172	0.5	0.5	0.5
Off-Site Low Boy Trucks	0.0121	6.1	10.9	0.0
Off-Site Construction Worker Commute	0.0172	15.5	20.7	15.5
Construction Equipment Total		**7.7**	**9.5**	**10.5**
On-Site Motor Vehicle Total		**0.9**	**1.3**	**0.4**
Off-Site Motor Vehicle Total		**22.1**	**32.2**	**16.1**

Note: Totals may not match sum of individual values because of rounding.

Table 12-D
Transmission Line Construction Daily Construction Equipment and Motor Vehicle VOC Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	0.1813	0.0	0.0	0.9
Forklift, Cat	0.0684	0.3	0.3	0.3
Pole Digger, International	0.0997	0.5	1.0	0.0
Crane 90 Ton	0.1912	1.0	1.0	1.0
Manlift JLG 1350SJP	0.0772	0.4	0.4	0.8
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0030	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0009	0.0	0.0	0.0
On-Site Low Boy Trucks	0.0030	0.1	0.2	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0030	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0013	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0030	1.5	2.7	0.0
Off-Site Construction Worker Commute	0.0013	1.1	1.5	1.1
Construction Equipment Total		**5.0**	**7.2**	**4.2**
On-Site Motor Vehicle Total		**0.2**	**0.3**	**0.1**
Off-Site Motor Vehicle Total		**1.1**	**1.5**	**1.1**

Note: Totals may not match sum of individual values because of rounding.

Table 12-E
Transmission Line Construction Daily Construction Equipment and Motor Vehicle NOx Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	2.1202	0.0	0.0	10.6
Forklift, Cat	0.3828	1.9	1.9	1.9
Pole Digger, International	1.3088	6.5	13.1	0.0
Crane 90 Ton	1.8761	9.4	9.4	9.4
Manlift JLG 1350SJP	0.4815	2.4	2.4	4.8
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0389	0.3	0.3	0.3
On-Site 3/4 Ton Pick-Up, Ford	0.0017	0.0	0.0	0.0
On-Site Low Boy Trucks	0.0389	1.6	2.8	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0389	0.2	0.2	0.2
Off-Site Pickup Trucks	0.0017	0.1	0.1	0.1
Off-Site Low Boy Trucks	0.0389	19.4	35.0	0.0
Off-Site Construction Worker Commute	0.0017	1.5	2.0	1.5
Construction Equipment Total		**20.2**	**26.8**	**26.7**
On-Site Motor Vehicle Total		**1.9**	**3.2**	**0.4**
Off-Site Motor Vehicle Total		**21.2**	**37.3**	**1.8**

Note: Totals may not match sum of individual values because of rounding.

Table 12-F
Transmission Line Construction Daily Construction Equipment and Motor Vehicle SOx Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	0.0025	0.0	0.0	0.0
Forklift, Cat	0.0004	0.0	0.0	0.0
Pole Digger, International	0.0021	0.0	0.0	0.0
Crane 90 Ton	0.0018	0.0	0.0	0.0
Manlift JLG 1350SJP	0.0004	0.0	0.0	0.0
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0000	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0000	0.0	0.0	0.0
On-Site Low Boy Trucks	0.0000	0.0	0.0	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0000	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0000	0.0	0.0	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0
Construction Equipment Total		**0.0**	**0.0**	**0.0**
On-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicle Total		**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 12-G
Transmission Line Construction Daily Construction Equipment and Motor Vehicle Exhaust PM10 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	0.0721	0.0	0.0	0.4
Forklift, Cat	0.0385	0.2	0.2	0.2
Pole Digger, International	0.0395	0.2	0.4	0.0
Crane 90 Ton	0.0727	0.4	0.4	0.4
Manlift JLG 1350SJP	0.0386	0.2	0.2	0.4
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0015	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0
On-Site Low Boy Trucks	0.0015	0.1	0.1	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0015	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0015	0.8	1.4	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0
Construction Equipment Total		**0.9**	**1.1**	**1.3**
On-Site Motor Vehicle Total		**0.1**	**0.1**	**0.0**
Off-Site Motor Vehicle Total		**0.8**	**1.4**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 12-H
Transmission Line Construction Daily Construction Equipment and Motor Vehicle Exhaust PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Construction Equipment				
Cable Puller	0.0663	0.0	0.0	0.3
Forklift, Cat	0.0354	0.2	0.2	0.2
Pole Digger, International	0.0363	0.2	0.4	0.0
Crane 90 Ton	0.0669	0.3	0.3	0.3
Manlift JLG 1350SJP	0.0355	0.2	0.2	0.4
Motor Vehicles				
On-site Vehicles				
On-Site Water Truck	0.0014	0.0	0.0	0.0
On-Site 3/4 Ton Pick-Up, Ford	0.0001	0.0	0.0	0.0
On-Site Low Boy Trucks	0.0014	0.1	0.1	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0014	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0000	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0014	0.7	1.3	0.0
Off-Site Construction Worker Commute	0.0000	0.0	0.0	0.0
Construction Equipment Total		**0.9**	**1.1**	**1.2**
On-Site Motor Vehicle Total		**0.1**	**0.1**	**0.0**
Off-Site Motor Vehicle Total		**0.7**	**1.3**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 12-l

Transmission Line Construction Daily Construction Equipment and Motor Vehicle Fugitive PM10 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
On-site Vehicles				
On-Site Water Truck	0.7385	5.9	5.9	5.9
On-Site 3/4 Ton Pick-Up, Ford	0.7384	17.7	17.7	17.7
On-Site Low Boy Trucks	0.7385	29.5	53.2	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0010	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0009	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0010	0.5	0.9	0.0
Off-Site Construction Worker Commute	0.0009	0.8	1.1	0.8
On-Site Motor Vehicle Total		**53.2**	**76.8**	**23.6**
Off-Site Motor Vehicle Total		**1.3**	**2.0**	**0.8**

Note: Totals may not match sum of individual values because of rounding.

Table 12-J
Transmission Line Construction Daily Construction Equipment and Motor Vehicle Fugitive PM2.5 Emissions

Equipment/Vehicle Type	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
On-site Vehicles				
On-Site Water Truck	0.1566	1.3	1.3	1.3
On-Site 3/4 Ton Pick-Up, Ford	0.1566	3.8	3.8	3.8
On-Site Low Boy Trucks	0.1566	6.3	11.3	0.0
Off-Site Vehicles				
Off-Site Water Trucks	0.0002	0.0	0.0	0.0
Off-Site Pickup Trucks	0.0002	0.0	0.0	0.0
Off-Site Low Boy Trucks	0.0002	0.1	0.2	0.0
Off-Site Construction Worker Commute	0.0002	0.1	0.2	0.1
On-Site Motor Vehicle Total		**11.3**	**16.3**	**5.0**
Off-Site Motor Vehicle Total		**0.2**	**0.4**	**0.1**

Note: Totals may not match sum of individual values because of rounding.

Table 12-K
Transmission Line Construction Daily Fugitive PM10 and PM2.5 Activities

Activity	Units	Quantity per Day		
		Month 1	Month 2	Month 3
Excavation[a]	Cu. Yd.	3	6	0
Storage Pile Wind Erosion[b]	Acres-Days	0.0	0.0	0.0
Bulldozing,Scraping and Grading	Hours	0	0	0

[a] Based on 115 cu. ft./pole, 14 poles month 1, 29 poles month 2, divided by 22 working days/month

[b] Negligible surface area, based on small volume excavated

Table 12-L
Transmission Line Construction Daily Fugitive PM10 Emissions

Activity	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Excavation	9.94E-04	0.0	0.0	0.0
Storage Pile Wind Erosion	2.93	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.348	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 12-M
Transmission Line Construction Daily Fugitive PM2.5 Emissions

Activity	Emission Factor	Daily Emissions (lb/day)		
		Month 1	Month 2	Month 3
Excavation	2.07E-04	0.0	0.0	0.0
Storage Pile Wind Erosion	0.61	0.0	0.0	0.0
Bulldozing,Scraping and Grading	0.157	0.0	0.0	0.0
Total		**0.0**	**0.0**	**0.0**

Note: Totals may not match sum of individual values because of rounding.

Table 13-A
Gas Line Construction Daily CO Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	58.7	200.8	168.1	184.9	48.9
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
On-Site Total	**58.7**	**200.8**	**168.1**	**184.9**	**48.9**
Off-Site Motor Vehicles	**195.7**	**346.5**	**243.0**	**304.9**	**84.9**
Daily Total	**254.4**	**547.3**	**411.1**	**489.9**	**133.7**
Maximum Daily Total (lb/day)	**547.3**				

Table 13-B
Gas Line Construction Daily VOC Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	15.8	57.4	49.2	53.5	14.1
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
On-Site Total	**15.8**	**57.4**	**49.2**	**53.5**	**14.1**
Off-Site Motor Vehicles	**16.0**	**28.5**	**19.4**	**23.9**	**6.7**
Daily Total	**31.8**	**85.9**	**68.6**	**77.4**	**20.8**
Maximum Daily Total (lb/day)	**85.9**				

Table 13-C
Gas Line Construction Daily NOx Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	131.0	459.9	394.9	425.4	110.9
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
On-Site Total	**131.0**	**459.9**	**394.9**	**425.4**	**110.9**
Off-Site Motor Vehicles	**41.4**	**69.8**	**37.9**	**43.9**	**14.5**
Daily Total	**172.4**	**529.7**	**432.8**	**469.3**	**125.4**
Maximum Daily Total (lb/day)	**529.7**				

Table 13-D
Gas Line Construction Daily SOx Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	0.1	0.4	0.4	0.4	0.1
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
On-Site Total	**0.1**	**0.4**	**0.4**	**0.4**	**0.1**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
Daily Total	**0.1**	**0.5**	**0.4**	**0.4**	**0.1**
Maximum Daily Total (lb/day)	**0.5**				

Table 13-E
Gas Line Construction Daily PM10 Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	6.4	20.4	17.0	18.9	5.1
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
Fugitive	45.8	65.2	59.6	59.8	43.7
On-Site Total	**52.2**	**85.5**	**76.5**	**78.7**	**48.8**
Off-Site Motor Vehicle Exhaust a	**10.2**	**17.0**	**11.4**	**14.6**	**4.2**
Daily Total	**62.4**	**102.5**	**87.9**	**93.4**	**53.0**
Maximum Daily Total (lb/day)	**102.5**				

Table 13-F
Gas Line Construction Daily PM2.5 Emissions Summary

	Month 1	Month 2	Month 3	Month 4	Month 5
	1	2	3	4	5
On-Site					
Equipment	6.4	20.4	17.0	18.9	5.1
Motor Vehicles	0.0	0.0	0.0	0.0	0.0
Fugitive	11.2	19.9	17.4	17.5	10.4
On-Site Total	**17.6**	**40.3**	**34.4**	**36.4**	**15.4**
Off-Site Motor Vehicle Exhaust a	**2.6**	**4.3**	**2.6**	**3.3**	**1.0**
Daily Total	**20.2**	**44.6**	**37.0**	**39.7**	**16.4**
Maximum Daily Total (lb/day)	**44.6**				

Table 14-A
Transmission Line Construction Daily CO Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	7.7	9.5	10.5
Motor Vehicles	0.9	1.3	0.4
On-Site Total	**8.6**	**10.7**	**10.9**
Off-Site Motor Vehicles	**22.1**	**32.2**	**16.1**
Daily Total	**30.7**	**42.9**	**27.0**
Maximum Daily Total (lb/day)	**42.9**		

Table 14-B
Transmission Line Construction Daily VOC Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	5.0	7.2	4.2
Motor Vehicles	0.2	0.0	0.0
On-Site Total	**5.2**	**7.2**	**4.2**
Off-Site Motor Vehicles	**1.1**	**1.5**	**1.1**
Daily Total	**6.3**	**8.7**	**5.3**
Maximum Daily Total (lb/day)	**8.7**		

Table 14-C
Transmission Line Construction Daily NOx Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	20.2	26.8	26.7
Motor Vehicles	1.9	3.2	0.4
On-Site Total	**22.2**	**29.9**	**27.1**
Off-Site Motor Vehicles	**21.2**	**37.3**	**1.8**
Daily Total	**43.4**	**67.2**	**28.8**
Maximum Daily Total (lb/day)	**67.2**		

Table 14-D
Transmission Line Construction Daily SOx Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	0.0	0.0	0.0
Motor Vehicles	0.0	0.0	0.0
On-Site Total	**0.0**	**0.0**	**0.0**
Off-Site Motor Vehicles	**0.0**	**0.0**	**0.0**
Daily Total	**0.0**	**0.1**	**0.0**
Maximum Daily Total (lb/day)	**0.1**		

Table 14-E
Transmission Line Construction Daily PM10 Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	0.9	1.1	1.2
Motor Vehicles	0.1	0.1	0.0
Fugitive	53.2	76.8	23.6
On-Site Total	**54.1**	**78.0**	**24.8**
Off-Site Motor Vehicle Exhaust and Fugitive	**2.1**	**3.4**	**0.9**
Daily Total	**56.2**	**81.4**	**25.7**
Maximum Daily Total (lb/day)	**81.4**		

Table 14-F
Transmission Line Construction Daily PM2.5 Emissions Summary

	Month 1	Month 2	Month 3
	1	2	3
On-Site			
Equipment	0.9	1.1	1.2
Motor Vehicles	0.1	0.1	0.0
Fugitive	11.3	16.3	5.0
On-Site Total	**12.2**	**17.5**	**6.2**
Off-Site Motor Vehicle Exhaust and Fugitive	**1.0**	**1.7**	**0.2**
Daily Total	**13.2**	**19.1**	**6.4**
Maximum Daily Total (lb/day)	**19.1**		

Operation Criteria Pollutant Emissions

Boiler Criteria Pollutant Emission Calculations

Table 15-A Reference Data		
Parameter	**Value**	**Units**
Heater Capacity	30	MMBtu/hr
Daily Operating Hours	14	hrs/day
Annual Operating Hours	1,000	hrs/yr
Conversion lb to tons	2,000	lbs/ton
Conversion lb to metric tons	2,205	lbs/ metric ton
Heating Value N.G.	1,050	Btu/scf
F-factor	8,710	scf/MMBtu
Conversion grains to lbs	7,000	gr/lb
Molecular Weight NOx	46	lbs/mol
Molecular Weight CO	28	lbs/mol
Molecular Volume	379	scf/mol

Table 15-B Emissions for the One Natural Gas Fired HTF Boiler						
Pollutant	**Emission Factor**	**Units**	**Emission Factor (lb/MMBtu)**	**Emissions**		
				lbs/hr	**lbs/day**	**tons/yr**
NOx	9.0	ppm @ 3% O_2	1.11E-02	0.33	4.67	0.17
VOC	5.5	lbs/MMscf	5.24E-03	0.16	2.20	0.08
CO	50	ppm @ 3% O_2	3.76E-02	1.13	15.78	0.56
SOx	0.2	gr/100 scf	2.72E-04	0.008	0.11	0.004
PM10	0.005	lbs/MMBtu	5.00E-03	0.15	2.10	0.075

Notes:

1 - Assumes 0.2 grains Sulfur/100 scf natural gas

2 - From AP42 - Table 1.4-1 and Table 1.4-2

For NOx and CO, EF = (ppm/10^6) * f-factor * MW/ MV

Emergency Engine Criteria Pollutant Emission Calculations

Table 16-A Diesel ICE Emission Factors	
	Emission Factors (gm/bhp-hr)
	John Deere Model 6125H
Pollutant	EPA Tier 3[1]
NOx[2]	2.85
NMHC (VOC)[2]	0.15
CO	2.6
PM10	0.15

Table 16-B Engine Data			
Source	Horsepower	Daily Hours	Annual Hours
Emergency Fire Pump Engine	300	1	50

Table 16-C Reference Data		
Parameter	Value	Units
Fuel Consumption	7,000	Btu/hp-hr
Sulfur Content	15	ppm
Heating Value Diesel	137,000	Btu/gal
Density Diesel	7.2	lbs/gal
Conversion kg to lbs	0.454	kg/lb
Conversion gr to lbs	454	gr/lb
Conversion lb to tons	2,000	lbs/ton
Conversion lb to metric tons	2,205	lbs/metric ton
Molecular Weight S	32	lbs/mol
Molecular Weight SO2	64	lbs/mol
Fuel Use (hourly)	15.33	gal/hr
Fuel Use (annual)	766.42	gal/yr

Table 16-D Emergency Fire Pump Engine Emissions				
Pollutant	Emission Factor g/bhp-hr	lbs/hr	lbs/day	tons/yr
NOx	2.85	1.88	1.88	0.05
VOC	0.15	0.10	0.10	0.00
CO	2.6	1.72	1.72	0.04
PM10	0.15	0.10	0.10	0.00
SOx	---	0.0033	0.0033	0.00

Notes:

[1]Table 4 to Subpart III of 40 CFR Part 60 - Certification Requirements for Stationary Fire Pump Engines for model year 2009 and later

[2]Emission limit for NMHC+NOx assuming 95% NOx

Cooling Tower Particulate Emission Calculations

Table 17- A Reference Data		
Parameter	**Value**	**Units**
Daily Operating Hours	16	hrs/day
Annual Operating Hours	5,840	hrs/yr
Conversion lb to tons	2,000	lbs/ton
Density Water	8.3453	lbs/gal
Conversion min to hours	60	min/hr
PM10 Fraction of TSP	100	%
PM2.5 Fraction of PM10	100	%

Table 17-B Cooling Tower Emissions		
Parameter	Units	Value
Water Circulation Rate	gpm	149,000
Total Liquid Drift	(%)	0.00050
Maximum TDS of Circulated Water	(ppmw)	1,600
Cooling Tower Emissions		
TSP	lb/hr	0.60
	lb/day	9.55
	ton/yr	1.74
PM10	lb/hr	0.60
	lb/day	9.55
	ton/yr	1.74
PM2.5	lb/hr	0.60
	lb/day	9.55
	ton/yr	1.74

Notes:

TSP Emission Rate = based on USEPA AP-42, Section 13.4 Wet Cooling Towers, Table 13.4-1, modified to design

Rates calculated as follows:

E lb/hr = Water Circulation Rate gpm * 60 min/hr * (Drift % / 100) * 8.3453 lb/gal * TDS lb PM / 1,000,000 lb water

E lb/day = E lb/hr * hrs/day
E ton/yr = E lb/hr * hr/yr * ton/2,000 lb
PM10 calculated from TSP, assumes 50% of TSP

HTF Tank Vent and Waste Loadout Emissions

Table 18-A Reference Data			
Parameter	**Value**	**Units**	**Reference**
Annual Operating Hours	730	hrs/yr	Assumed
Daily Operating Hours	2.00	hrs/day	Assumed
Conversion lbs to tons	2,000	lbs/ton	Constant
HTF Vent Uncontrolled Emissions	17	tons/yr	WorleyParsons
Control Efficiency Air Pollution Control Device	99.50%	%	Assumed
Waste Loadout Emissions	169.74	lbs/yr	*Tanks 4.09*
Duration of Pump Out	2	hour/event	Assumed
Number of Waste Hauls	12	per year	Assumed

Table 18-B HTF Vent VOC Emissions			
Source	**Emissions**		
	Lbs/hr	**Lbs/day**	**Tons/yr**
HTF Vent	0.23	0.47	0.09
Waste Loadout	7.07	14.15	0.08

Table 19-A Motor Vehicle Combustion Criteria Pollutant Emissions												
	Distance		Speed	CO	VOC	NOx	SOx	Exh. PM10	Fug. PM10	Diesel PM	Exh. PM2.5	Fug. PM2.5
Vehicle	Miles/yr	Miles/day	Miles/hr	lb/hr								
Mirror Wash Truck	3000	24	5	0.06	0.01	0.19	2.08E-04	0.008	0.74	0.008	0.007	0.16
Maintenance Vehicles	96000	384	20	0.23	0.02	0.03	0.000	0.001	2.95	0.000	0.001	0.63
Weed Abatement	340	40	5	0.06	0.01	0.19	2.08E-04	0.008	0.74	0.008	0.007	0.16
Soil Stabilizer Application	340	40	5	0.06	0.01	0.19	2.08E-04	0.008	0.74	0.008	0.007	0.16
Total				0.42	0.06	0.62	6.24E-04	0.024	5.17	0.023	0.022	1.10
	Distance		Speed	CO	VOC	NOx	SOx	Exh. PM10	Fug. PM10	Diesel PM	Exh. PM2.5	Fug. PM2.5
Vehicle	Miles/yr	Miles/day	Miles/hr	lb/day								
Mirror Wash Truck	3000	24	5	0.29	0.07	0.93	9.98E-04	0.037	3.55	0.037	0.034	0.75
Maintenance Vehicles	96000	384	20	4.51	0.33	0.66	0.000	0.024	56.71	0.000	0.023	12.02
Weed Abatement	340	40	5	0.49	0.12	1.56	1.66E-03	0.062	5.91	0.062	0.057	1.25
Soil Stabilizer Application	340	40	5	0.49	0.12	1.56	1.66E-03	0.062	5.91	0.062	0.057	1.25
Total				5.77	0.64	4.70	4.32E-03	0.18	72.07	0.16	0.17	15.28
	Distance		Speed	CO	VOC	NOx	SOx	Exh. PM10	Fug. PM10	Diesel PM	Exh. PM2.5	Fug. PM2.5
Vehicle	Miles/yr	Miles/day	Miles/hr	lb/yr								
Mirror Wash Truck	3000	24	5	0.0182	0.0044	0.0583	0.0001	0.0023	0.2216	0.0023	0.0021	0.0470
Maintenance Vehicles	96000	384	20	0.5828	0.1417	1.8671	0.0020	0.0738	7.0900	0.0738	0.0679	1.5032
Weed Abatement	340	40	5	0.0021	0.0005	0.0066	0.0000	0.0003	0.0251	0.0003	0.0002	0.0053
Soil Stabilizer Application	340	40	5	0.0021	0.0005	0.0066	0.0000	0.0003	0.1256	0.0003	0.0002	0.0266
Total				0.6051	0.1471	1.9387	0.0021	0.0767	7.4623	0.0767	0.0705	1.5822

Table 19-B 2009 Motor Vehicle Emission Factors

Vehicle Use	Vehicle Type	Vehicle Class	Emission Factors								
			CO (lb/mi)	VOC (lb/mi)	NOx (lb/mi)	SOx (lb/mi)	Exh. PM10 (lb/mi)	Fug. PM10 (lb/mi)	Diesel PM (lb/mi)	Exh. PM2.5 (lb/mi)	Fug. PM2.5 (lb/mi)
Mirror Wash Truck	Water Trucks, Freightliner 4000 gallon	HHDT-DSL	1.21E-02	2.95E-03	3.89E-02	4.16E-05	1.54E-03	1.48E-01	1.54E-03	1.42E-03	3.13E-02
Weed Abatement	Water Trucks, Freightliner 4000 gallon	HHDT-DSL	1.21E-02	2.95E-03	3.89E-02	4.16E-05	1.54E-03	1.48E-01	1.54E-03	1.42E-03	3.13E-02
Soil Stabilizer Application	Water Trucks, Freightliner 4000 gallon	HHDT-DSL	1.21E-02	2.95E-03	3.89E-02	4.16E-05	1.54E-03	1.48E-01	1.54E-03	1.42E-03	3.13E-02
Maintenance Vehicles	On-Site 3/4 Ton Pick-Up, Ford	LDT2-CAT	1.17E-02	8.68E-04	1.71E-03	0.00E+00	6.35E-05	1.48E-01	0.00E+00	5.89E-05	3.13E-02

Notes:

The emission factors, except fugitive emissions from entrained road dust, were compiled by running the California Air Resources Board's EMFAC (version 2.3) Burden Model and dividing calculated daily emissions by daily vehicle-miles-traveled.
Welding trucks, fuel/lube trucks and flatbed trucks are assumed to be Medium-Duty Catalyst Equipped Vehicles.
Pickup trucks and construction worker commuting vehicles are assumed to be Light-Duty Trucks 1.
All other vehicles are assumed to be heavy heavy-duty diesel vehicles.
All the emission factors account for the emissions from start, running and idling exhaust. In addition, the VOC emission factors take into account diurnal, hot soak, running and resting emissions, and fugitive PM10 and PM2.5 emission factors take into account tire and brake wear and entrained paved or unpaved road dust.

Emissions [pounds/day] = Emission factor [pounds/mile] x Vehicle miles traveled [miles/day]
Control Efficiency of Dust Suppressant = 80.00%

Summary of Criteria Pollutant Emissions

Table 20-A Summary of Hourly Emissions (Lbs/Hr)						
Source	**NOx**	**SOx**	**CO**	**VOC**	**PM10**	**PM2.5**
Boiler No. 1	0.33	0.01	1.13	0.16	0.15	0.15
Boiler No. 2	0.33	0.01	1.13	0.16	0.15	0.15
Cooling Tower	0.00	0.00	0.00	0.00	0.60	0.60
Emergency Fire Pump Engine	1.88	0.00	1.72	0.10	0.10	0.10
HTF Vent	0.00	0.00	0.00	0.23	0.00	0.00
Waste Loadout	0.00	0.00	0.00	7.07	0.00	0.00
Maintenance Vehicles	0.62	0.00	0.42	0.06	5.19	1.12
Total	**3.17**	**0.02**	**4.39**	**7.78**	**6.19**	**2.11**

Table 20-B Summary of Daily Emissions (Lbs/Day)						
Boiler No. 1	4.67	0.11	15.78	2.20	2.10	2.10
Boiler No. 2	4.67	0.11	15.78	2.20	2.10	2.10
Cooling Tower	0.00	0.00	0.00	0.00	9.55	9.55
Emergency Fire Pump Engine	1.88	0.00	1.72	0.10	0.10	0.10
HTF Vent	0.00	0.00	0.00	0.47	0.00	0.00
Waste Loadout	0.00	0.00	0.00	14.15	0.00	0.00
Maintenance Vehicles	4.70	0.00	5.77	0.64	72.26	15.45
Total	**15.92**	**0.24**	**39.05**	**19.75**	**86.11**	**29.30**

Table 20-C Summary of Annual Emissions (Tons/Yr)						
Boiler No. 1	0.17	0.00	0.56	0.08	0.08	0.08
Boiler No. 2	0.17	0.00	0.56	0.08	0.08	0.08
Cooling Tower	0.00	0.00	0.00	0.00	1.74	1.74
Emergency Fire Pump Engine	0.05	0.00	0.04	0.00	0.00	0.00
HTF Vent	0.00	0.00	0.00	0.09	0.00	0.00
Waste Loadout	0.00	0.00	0.00	0.08	0.00	0.00
Maintenance Vehicles	1.94	0.00	0.61	0.15	7.54	1.65
Total	**2.32**	**0.01**	**1.78**	**0.48**	**9.43**	**3.55**

Table 20-D Summary of Project Criteria Pollutant Emissions						
Period	**NOx**	**SOx**	**CO**	**VOC**	**PM10**	**PM2.5**
Hourly Emissions (Lbs/Hr)	3.17	0.02	4.39	7.78	6.19	2.11
Daily Emissions (Lbs/Day)	15.92	0.24	39.05	19.75	86.11	29.30
Annual Emissions (Tons/Yr)	2.32	0.01	1.78	0.48	9.43	3.55

Operation Toxic Air Contaminant Emissions

Table 21 Boiler HAP Emission Calculations					
	Emission Factor	Boiler No. 1		Boiler No. 2	
Pollutant	lbs/MMscf	lbs/hr	lbs/yr	lbs/hr	lbs/yr
7,12-Dimethylbenz(a)anthracene	1.60E-05	4.57E-07	4.57E-04	4.57E-07	4.57E-04
Acenaphthene	1.80E-06	5.14E-08	5.14E-05	5.14E-08	5.14E-05
Acenaphthylene	1.80E-06	5.14E-08	5.14E-05	5.14E-08	5.14E-05
Anthracene	2.40E-06	6.86E-08	6.86E-05	6.86E-08	6.86E-05
Benz(a)anthracene	1.80E-06	5.14E-08	5.14E-05	5.14E-08	5.14E-05
Benzene	2.10E-03	6.00E-05	6.00E-02	6.00E-05	6.00E-02
Benzo(a)pyrene	1.20E-06	3.43E-08	3.43E-05	3.43E-08	3.43E-05
Benzo(b)fluoranthene	1.80E-06	5.14E-08	5.14E-05	5.14E-08	5.14E-05
Benzo(g,h,i)perylene	1.20E-06	3.43E-08	3.43E-05	3.43E-08	3.43E-05
Benzo(k)fluoranthene	1.80E-06	5.14E-08	5.14E-05	5.14E-08	5.14E-05
Chrysene	1.80E-06	5.14E-08	5.14E-05	5.14E-08	5.14E-05
Dibenz(a,h)anthracene	1.20E-06	3.43E-08	3.43E-05	3.43E-08	3.43E-05
Dichlorobenzene	1.20E-03	3.43E-05	3.43E-02	3.43E-05	3.43E-02
Fluoranthene	3.00E-06	8.57E-08	8.57E-05	8.57E-08	8.57E-05
Formaldehyde	7.50E-02	2.14E-03	2.14E+00	2.14E-03	2.14E+00
Hexane	1.80E+00	5.14E-02	5.14E+01	5.14E-02	5.14E+01
Indeno(1,2,3-cd)pyrene	1.80E-06	5.14E-08	5.14E-05	5.14E-08	5.14E-05
Naphthalene	6.10E-04	1.74E-05	1.74E-02	1.74E-05	1.74E-02
Phenanthrene	1.70E-05	4.86E-07	4.86E-04	4.86E-07	4.86E-04
Pyrene	5.00E-06	1.43E-07	1.43E-04	1.43E-07	1.43E-04
Toluene	3.40E-03	9.71E-05	9.71E-02	9.71E-05	9.71E-02
Total		**5.38E-02**	**5.38E+01**	**5.38E-02**	**5.38E+01**

Chloroform Annual Total Emissions Calculation

Table 22 Cooling Tower TAC Emissions	
Item	**Value**
Emission Factor (lb chloroform/lb chlorine added)[a]	0.0034
Sodium Hypochlorite Solution Use (gal/month)	2,865
Sodium Hypochlorite Density (lb/gal)	10
Sodium Hypochlorite Solution Concentration (%)	12.5%
lb Chlorine Equivalent/lb Sodium Hypochlorite	0.95
Chloroform Emissions (lb/yr)	138.8
Operating Hours (hrs/yr)	5,840
Chloroform Emissions (lbs/hr)	0.024

Notes:

[a] From: Michael B. Rogozen, Harvey E. Ritch, Michael A. Guttman, Daniel Grosjean and Edwin L. Williams II, Sources and Concentrations of Chloroform Emissions in the South Coast Air Basin, Final Report, prepared by Science Applications International Corporation, Manhattan Beach, CA, for the California Air Resources Board, Sacramento, CA, April 8, 1988. Downloaded from http://www.arb.ca.gov/research/apr/past/statnry.htm#Toxic%20Air%20Contaminants.

Emissions [lb/yr] = Emission factor [lb chloroform/lb chlorine] x
Sodium hypochlorite use [gal/month] x Sodium hypochlorite density [lb/gal] x
Sodium hypochlorite concentration [percent] / 100 x
lb Chlorine equivalent/lb Sodium hypochlorite x 12 [months/yr]

Table 23 HTF Vent HAP Emissions				
	HTF Vent		Waste Loadout	
Pollutant	lbs/hr	lbs/yr	lbs/hr	lbs/yr
Benzene	2.33E-01	169.983	7.07	169.72
Phenol	0.00	0.00	0.00	0.00
Biphenyl	2.33E-05	0.017	7.07E-04	1.70E-02

Notes:

From Tanks 4.09, benzene is 99.99% of total emissions from waste loadout; biphenyl makes up 0.01% and phenol is negligable. The same ratios are assumed for the HTF drain vessel vent.

Table 24 Summary of TAC Emissions														
	Boiler No. 1		Boiler No. 2		Fire Pump Engine		HTF Vent		Waste Loadout		Cooling Tower		Total	
Pollutant	Lbs/Hr	Lbs/Yr	Lbs/Hr	Lbs/Yr	Lbs/Hr	Lbs/Yr	Lbs/Hr	Lbs/Yr	Lbs/Hr	Lbs/Yr	Lbs/Hr	Lbs/Yr	Lbs/Hr	Lbs/Yr
7,12-Dimethylbenz(a)anthracene	4.57E-07	4.57E-04	4.57E-07	4.57E-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	9.14E-07	9.14E-04
Acenaphthene	5.14E-08	5.14E-05	5.14E-08	5.14E-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	1.03E-07	1.03E-04
Acenaphthylene	5.14E-08	5.14E-05	5.14E-08	5.14E-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	1.03E-07	1.03E-04
Acetaldehyde	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Acrolein	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Anthracene	6.86E-08	6.86E-05	6.86E-08	6.86E-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	1.37E-07	1.37E-04
Benz(a)anthracene	5.14E-08	5.14E-05	5.14E-08	5.14E-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	1.03E-07	1.03E-04
Benzene	6.00E-05	6.00E-02	6.00E-05	6.00E-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	1.20E-04	1.20E-01
Benzo(a)pyrene	3.43E-08	3.43E-05	3.43E-08	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	6.86E-08	6.86E-05
Benzo(b)fluoranthene	5.14E-08	5.14E-05	5.14E-08	5.14E-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	1.03E-07	1.03E-04
Benzo(g,h,i)perylene	3.43E-08	3.43E-05	3.43E-08	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	6.86E-08	6.86E-05
Benzo(k)fluoranthene	5.14E-08	5.14E-05	5.14E-08	5.14E-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	1.03E-07	1.03E-04
Biphenyl	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Chrysene	5.14E-08	5.14E-05	5.14E-08	5.14E-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	1.03E-07	1.03E-04
Chloroform	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.38E-02	1.39E+02	2.38E-02	1.39E+02
Dibenz(a,h)anthracene	3.43E-08	3.43E-05	3.43E-08	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	6.86E-08	6.86E-05
Dichlorobenzene	3.43E-05	3.43E-02	3.43E-05	3.43E-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	6.86E-05	6.86E-02
Fluoranthene	8.57E-08	8.57E-05	8.57E-08	8.57E-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	1.71E-07	1.71E-04
Fluorene	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	2.14E-03	2.14E+00	2.14E-03	2.14E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.29E-03	4.29E+00
Hexane	5.14E-02	5.14E+01	5.14E-02	5.14E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.03E-01	1.03E+02
Indeno(1,2,3-cd)pyrene	5.14E-08	5.14E-05	5.14E-08	5.14E-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	1.03E-07	1.03E-04
Naphthalene	1.74E-05	1.74E-02	1.74E-05	1.74E-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	3.49E-05	3.49E-02
Phenanthrene	4.86E-07	4.86E-04	4.86E-07	4.86E-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	9.71E-07	9.71E-04
Phenol	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Pyrene	1.43E-07	1.43E-04	1.43E-07	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	2.86E-07	2.86E-04
Toluene	9.71E-05	9.71E-02	9.71E-05	9.71E-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	1.94E-04	1.94E-01
Total PAH	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Xylenes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Diesel Particulate Matter	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.91E-02	4.96E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.91E-02	4.96E+00
Total													2.30E-01	2.51E+02

Operation Greenhouse Gas Emissions

Boiler GHG Pollutant Emission Calculations

Table 25-A Reference Data		
Parameter	**Value**	**Units**
Heater Capacity	30	MMBtu/hr
Annual Operating Hours	1,000	hrs/yr
Conversion kg to metric tons	1,000	kg/metric ton

Table 25-B GHG Emissions for One Natural Gas Fired HTF Boiler		
Pollutant	**Emission Factor Kg/MMBtu**	**Emissions metric tons/yr**
CO_2	5.28E+01	1,583
CH_4	5.90E-03	0.177
N_2O	1.00E-04	0.003
CO_2e		1,588

Notes:

$CO_2e = CO_2$ emisions + 21 x CH_4 emissions + 310 x N_20 emissions

Emergency Engine GHG Emission Calculations

Table 26-A Engine Data			
Source	**Horsepower**	**Daily Hours**	**Annual Hours**
Emergency Fire Pump Engine	300	1	50

Table 26-B Reference Data		
Parameter	**Value**	**Units**
Fuel Consumption	7,000	Btu/hp-hr
Heating Value Diesel	137,000	Btu/gal
Conversion kg to metric tons	1,000	kg/metric ton
Fuel Use (hourly)	15.33	gal/hr
Fuel Use (annual)	766.42	gal/yr

Table 26-C Emergency Fire Pump Engine GHG Emissions		
Pollutant	**Emission Factor kg/gallon**	**Emissions metric tons/yr**
CO_2	10.15	7.78
CH_4 (Industrial)	0.0003	2.30E-04
N_2O	0.0001	7.66E-05
CO_2e		7.81

Notes:

$CO_2e = CO_2$ emisions + 21 x CH_4 emissions + 310 x N_2O emissions

Table 27 GHG Emission Summary	
Source	**GHG Emissions MT CO2e**
Boiler No. 1	1,588
Boiler No. 1	1,588
Fire Pump Engine	7.81
Project Total	3,184

APPENDIX E.3

Class II Area Dispersion Modeling Protocol

Prepared for:
Beacon Solar, LLC

Air Quality Dispersion Modeling Protocol for the Proposed Beacon Solar Energy Project

ENSR Corporation
March 2008
Document No.: 10065-014-030MPA

ENSR | AECOM

Prepared for:
Beacon Solar, LLC

Air Quality Dispersion Modeling Protocol for the Proposed Beacon Solar Energy Project

Prepared By: Matthew Stresing

Reviewed By: Sara J. Head

ENSR Corporation
March 2008
Document No.: 10065-014-030MPA

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1.0 Introduction

Beacon Solar, LLC is proposing to build a solar-thermal power plant to the northwest of the California City area near Cheyenne Boulevard off Route 14. The site will feature an approximately 2,000-acre solar thermal collection field and other facilities capable of producing 250 megawatts (MW) of electric power. The solar power plant will be owned and operated by Beacon Solar, LLC and will be known as the Beacon Solar Energy Project (BSEP or Project). The facility will include ancillary combustion equipment including two natural gas-fired auxiliary boilers and a diesel-fired fire water pump engine. The facility will also include a wet mechanical draft cooling tower.

The proposed facility will be located in an area that is designated federal and California non-attainment for ozone (O_3), California non-attainment for respirable particulate matter (PM10), and attainment or unclassified for sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), and fine particulate matter (PM2.5).

Air quality modeling will be performed in accordance with U.S. Environmental Protection Agency (EPA) modeling guidelines (EPA, 2005) to assess the impacts relative to the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) in the vicinity of the Project for both the construction and operating emissions. Modeling will be conducted with the EPA's AERMOD dispersion model.

Construction-related air emissions will include exhaust and fugitive dust from vehicles and construction equipment, and windblown fugitive dust. These sources will be modeled as area sources to determine maximum air quality impacts for the criteria pollutants. Operational emissions will include emissions from two auxiliary boilers, one diesel-fueled fire-water pump engine and one wet cooling tower. These sources will be modeled as point sources to determine maximum air quality impacts for the criteria pollutants. Emissions from Project commissioning are not expected to differ from operational emissions, so commissioning will not be modeled as a separate activity.

As the Project is a minor source and not subject to Prevention of Significant Deterioration (PSD) regulations, dispersion modeling will not be required to assess potential impacts at PSD Class I Areas. This modeling protocol also does not address the procedures or methodology that will be used in evaluating potential health risks from air toxics emissions. The proposed approach for conducting a health risk assessment (HRA) will be provided in Section 5.10, Public Health, of the Application for Certification (AFC).

2.0 Dispersion Modeling Analysis

This section presents the modeling analysis that will be conducted to assess ambient air quality impacts which will ultimately demonstrate compliance with applicable State and Federal ambient air quality standards. The analyses will be conducted in accordance with the EPA Guideline on Air Quality Models (GAQM; as incorporated in Appendix W of 40 CFR Part 51 Revised November 9, 2005). The revised version of GAQM adopts AERMOD as a preferred general purpose dispersion model for both flat and complex terrain.

2.1 Model Selection Criteria

The suitability of an air quality dispersion model for a particular application is dependent upon several factors. For this study, the following selection criteria have been evaluated:

- Stack heights relative to nearby buildings/structures;
- Dispersion environment;
- Local terrain; and
- Availability of representative meteorological data.

2.1.1 Good Engineering Practice Stack Height Analysis

The EPA modeling guidelines require the evaluation of the potential for physical structures to affect the dispersion of emissions from stack sources. The exhaust from stacks that are located within specified distances of buildings, and whose physical heights are below specified levels, may be subject to "aerodynamic building downwash" under certain meteorological conditions. If this is the case, a model capable of simulating this effect must be employed.

The analysis used to evaluate the potential for building downwash is referred to as a Good Engineering Practice (GEP) stack height analysis. Stacks with heights below physical GEP are considered to be subject to building downwash. In the absence of structural effects, EPA has established a default GEP height of 213 feet (65 meters). Any portion of a stack above the maximum of the physical or default GEP height cannot be used in the dispersion modeling analysis for purposes of comparison to ambient impact criteria.

A GEP stack height analysis will be performed for the proposed ancillary equipment stacks in accordance with EPA's GEP stack height guidelines (EPA, 1985). Per the guidelines, the physical GEP height, HGEP, is determined from the dimensions of all buildings which are within the region of influence using the following equation:

$$H_{GEP} = H + 1.5L$$

Where:

H = height of the structure within 5L of the stack which maximizes Hg, and

L = lesser dimension (height or projected width) of the structure.

For a squat structure, i.e., height less than projected width, the formula reduces to:

$$H_{GEP} = 2.5H$$

In the absence of influencing structures, a default GEP stack height is credited up to 213 feet (65 m).

The GEP stack height for all proposed stacks will be determined using the EPA Building Profile Input Program (BPIP) that performs the GEP calculation for a multi-building complex on a stack-by-stack basis. The stack heights of the ancillary equipment have not been determined at this time but it is anticipated that these stacks will be less than their respective GEP formula heights and, therefore, subject to building downwash. Therefore, building dimensions developed by BPIP for all stacks will be input to the dispersion model as necessary.

The results of the GEP analysis will be documented in the AFC and the BPIP input and output files will be provided in the modeling archive submitted with the AFC (Appendix E.4).

2.1.2 Dispersion Environment

The application of the dispersion model requires characterization of the local dispersion environment (within three kilometers [km]) as either urban or rural, based on an EPA-recommended procedure (Auer, 1978) that characterizes an area by prevalent land use. This land use approach classifies an area according to 12 land use types. In this scheme, areas of industrial, commercial, and compact residential land use are designated urban. According to the GAQM, if more than 50 percent of an area within a three-km radius of the proposed facility is classified as rural, then rural dispersion assumptions are to be used in the dispersion modeling analysis. Conversely, if more than 50 percent of the area is urban, urban dispersion is assumed.

As shown in Figure 2-1, the land-use within three km of the proposed facility is characterized as rural based on the EPA-recommended procedure. AERMOD does not require any specification for rural applications since rural dispersion is the default dispersion mode.

2.1.3 Local Terrain

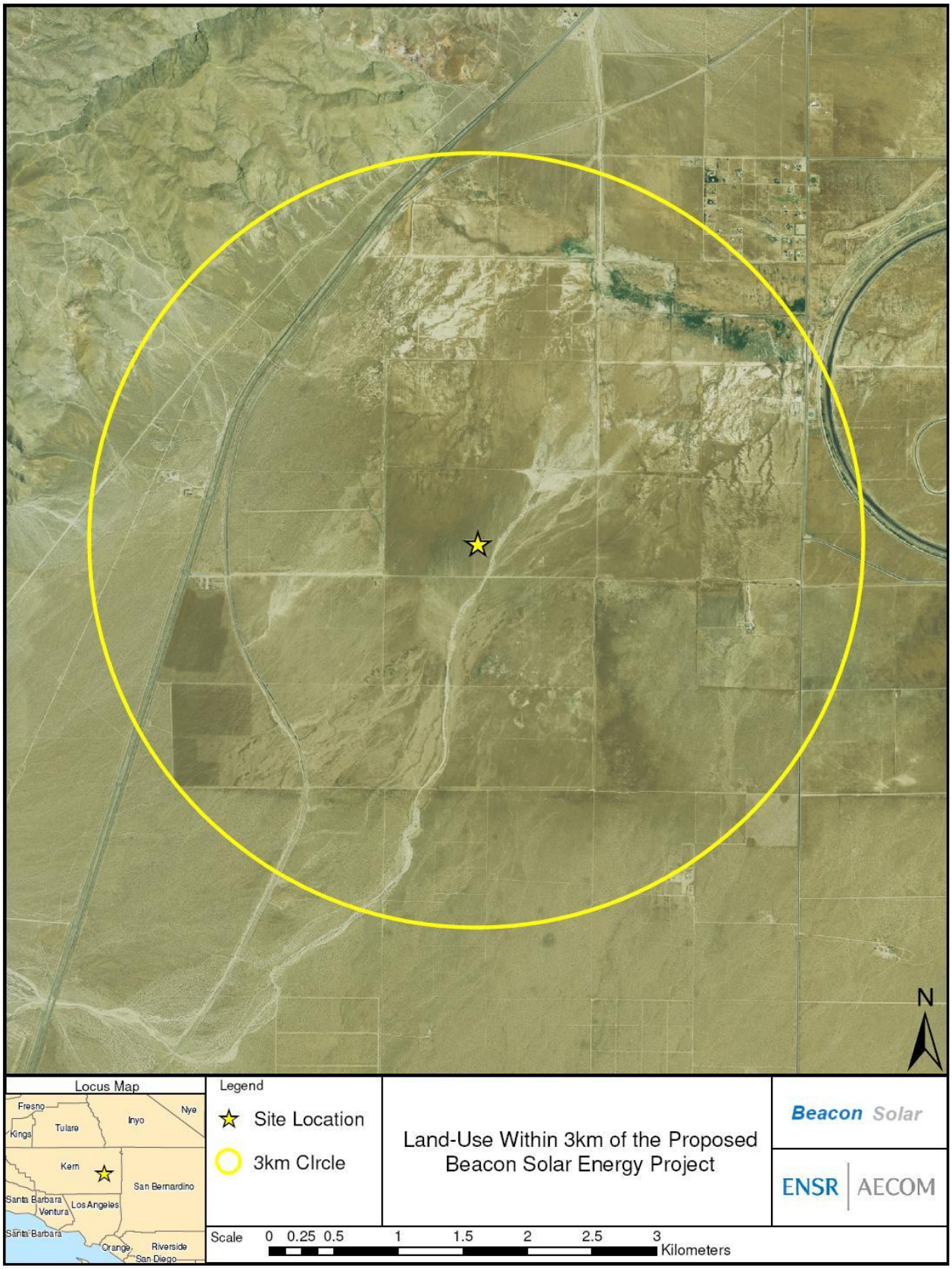
The EPA modeling guidelines require that the differences in terrain elevations between the stack base and model receptor locations be considered in the modeling analyses. For dispersion modeling purposes, there are three types of terrain:

- Simple terrain – locations where the terrain elevation is at or below the exhaust height of the stacks to be modeled;
- Intermediate terrain – locations where the terrain is between the top of the stack and the modeled exhaust “plume” centerline (this varies as a function of plume rise, which in turn, varies as a function of meteorological condition); and
- Complex terrain – locations where the terrain is above the plume centerline.

Prior to the introduction of AERMOD, these terrain types had to be modeled in different ways that were not necessarily consistent. One advantage of using AERMOD is that there is a seamless and consistent approach to all terrain types.

The terrain immediately surrounding the proposed site location is primarily flat, desert scrubland. The terrain to the north and west of the Project site is mountainous with elevations exceeding 6,000 feet (compared to the Project base elevation of 2,116 feet). The terrain gradually slopes upward to the south and east to elevations in the 3,000-4,000 foot range.

Figure 2-1 Land-Use and Topography in the Vicinity of the Proposed Beacon Solar Energy Project



2.1.4 Representative Meteorological Data

The Project modeling will use a three-year sequential hourly meteorological data set, consistent with Appendix B of the California Energy Commission's Rules of Practice and Procedure & Power Plant Site Certification Regulations (2000). Three years (2002-2004) of wind speed, wind direction and temperature data are available from the nearby Mojave meteorological site and are proposed for this application. These data have been obtained from the EPA Air Quality System (AQS) (http://www.epa.gov/ttn/airs/airsaqs/aqsweb/). The location of the Mojave site relative to the proposed facility location is shown in Figure 2-2. Figure 2-3 shows a photograph of the meteorological tower which has an anemometer height of 10 meters. The tower data will be supplemented with National Weather Service (NWS) data from General Williams J. Fox Field in Lancaster, California to fill in missing gaps and to provide cloud cover and cloud ceiling height data also required for the modeling. Concurrent upper air data from Mercury Desert Rock Airport in Mercury, Nevada will also be used as required for the dispersion modeling. Use of 2005 and 2006 data is not proposed because of the poor data recovery of the upper air data at Mercury Desert Rock Airport during these years.

2.2 Dispersion Model Selection and Application

The EPA GAQM prescribes a set of approved models for regulatory applications for a wide range of source types and dispersion environments. Based on a review of the factors discussed above, the AERMOD model is proposed to assess air quality impacts for the Project. AERMOD is a state-of-the-art dispersion model that incorporates modeling improvements especially for applications involving building downwash and complex terrain. AERMOD has become the recommended model by the EPA for general use to replace the Industrial Source Complex - Short Term 3 model. The latest version of AERMOD (07026), the AERMET (06341) meteorological preprocessor, and the AERMAP (06341) terrain preprocessor will be used in this application.

AERMOD will be applied with the three years of meteorological data discussed above for all receptors (simple and complex terrain) in the modeling domain (see Section 2.3.1) to assess air quality impacts from the Project. AERMOD will be applied to assess the maximum criteria pollutant concentrations including 1-hour and annual NO_2, 24-hour and annual PM10/PM2.5, 1-hour and 8-hour CO, and 1-hour, 3-hour, 24-hour and annual SO_2. The proposed meteorological data processing with AERMET and development of the receptor grid with AERMAP are discussed below.

2.2.1 Terrain and Receptor Data Processing with AERMAP

A comprehensive Cartesian receptor grid extending to approximately 10 km from the center of the power block will be used in the AERMOD modeling to assess maximum ground-level pollutant concentrations. Based on preliminary modeling, the 10-km receptor grid will be sufficient to resolve the maximum impacts and any significant impact area(s).

The Cartesian receptor grid will consist of the following receptor spacing:

- 0 to 3,000 meters at 100-meter increments;
- Beyond 3,000 meters to 5,000 meters at 200-meter increments; and
- Beyond 5 km to 10 km at 500-meter increments.

Discrete receptors will be placed approximately every 50 meters along the plant fenceline for increased resolution of impacts along this boundary.

Figure 2-2 Location of the Mojave Monitoring Site

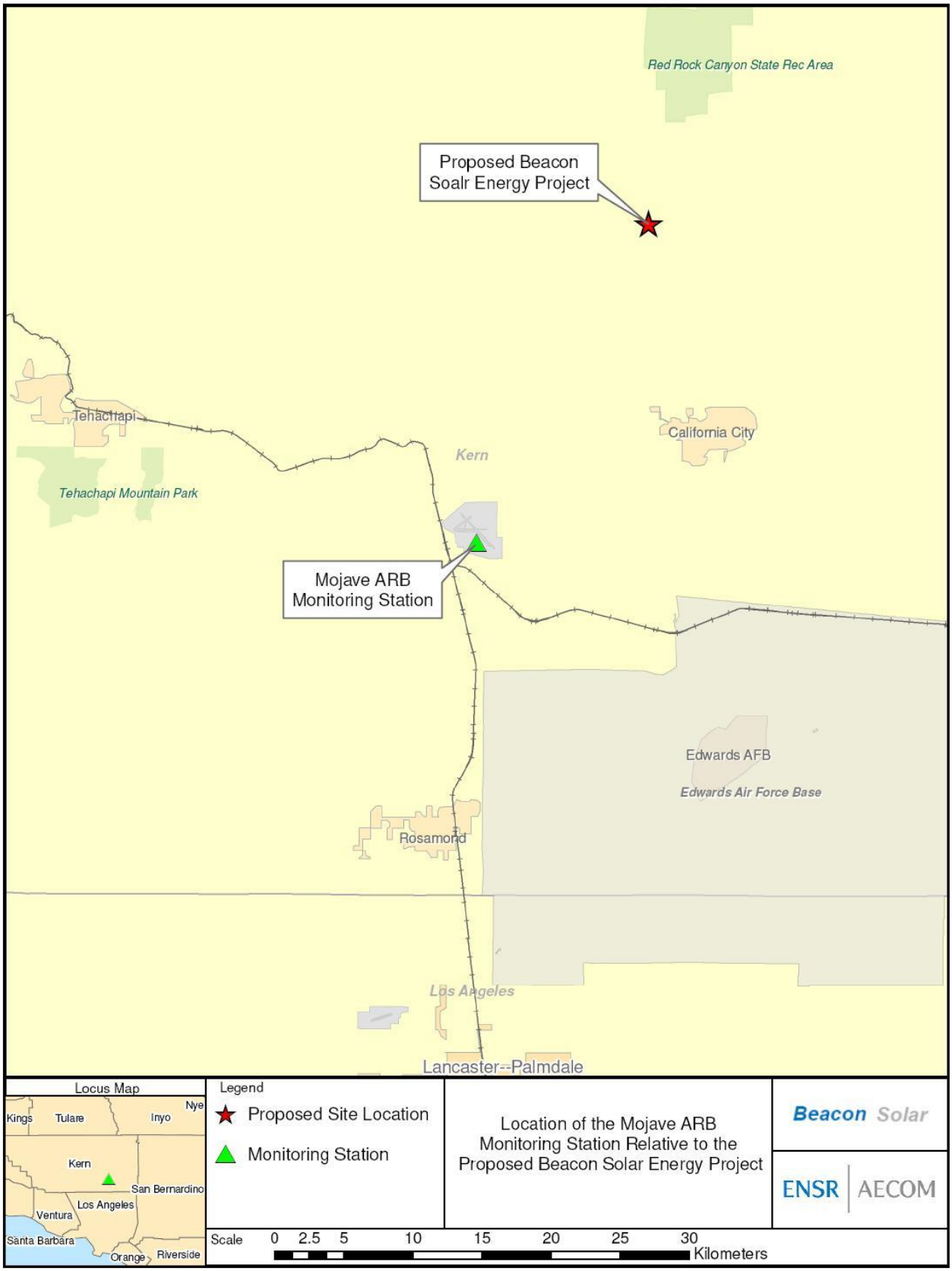


Figure 2-3 Photograph of the Mojave Meteorological Tower

The AERMAP receptor locations and the proposed AERMAP domain are shown in Figure 2-4 (near-field portion of the receptor grid) and Figure 2-5 (far-field receptors and AERMAP domain). An additional five km was added to the AERMAP domain beyond the 10 km receptor grid shown in Figure 2-5. This additional area is included in order to provide sufficient resolution of the hill height scale required for each receptor. Terrain elevations from Digital Elevation Model (DEM) data acquired from United States Geological Service (USGS) will be processed with AERMAP to develop the receptor terrain elevations and corresponding hill height scale required by AERMOD. All of the DEM files will be from Universal Transverse Mercator (UTM) Zone 11 and referenced to North American Datum (NAD) 27 (Note that the receptors shown in Figures 2-4 and 2-5 are referenced to NAD83). The DEM files will also be included in the modeling archive that will be submitted along with the AFC.

Figure 2-4 Near Field Cartesian Receptor Field Used as Input to AERMOD

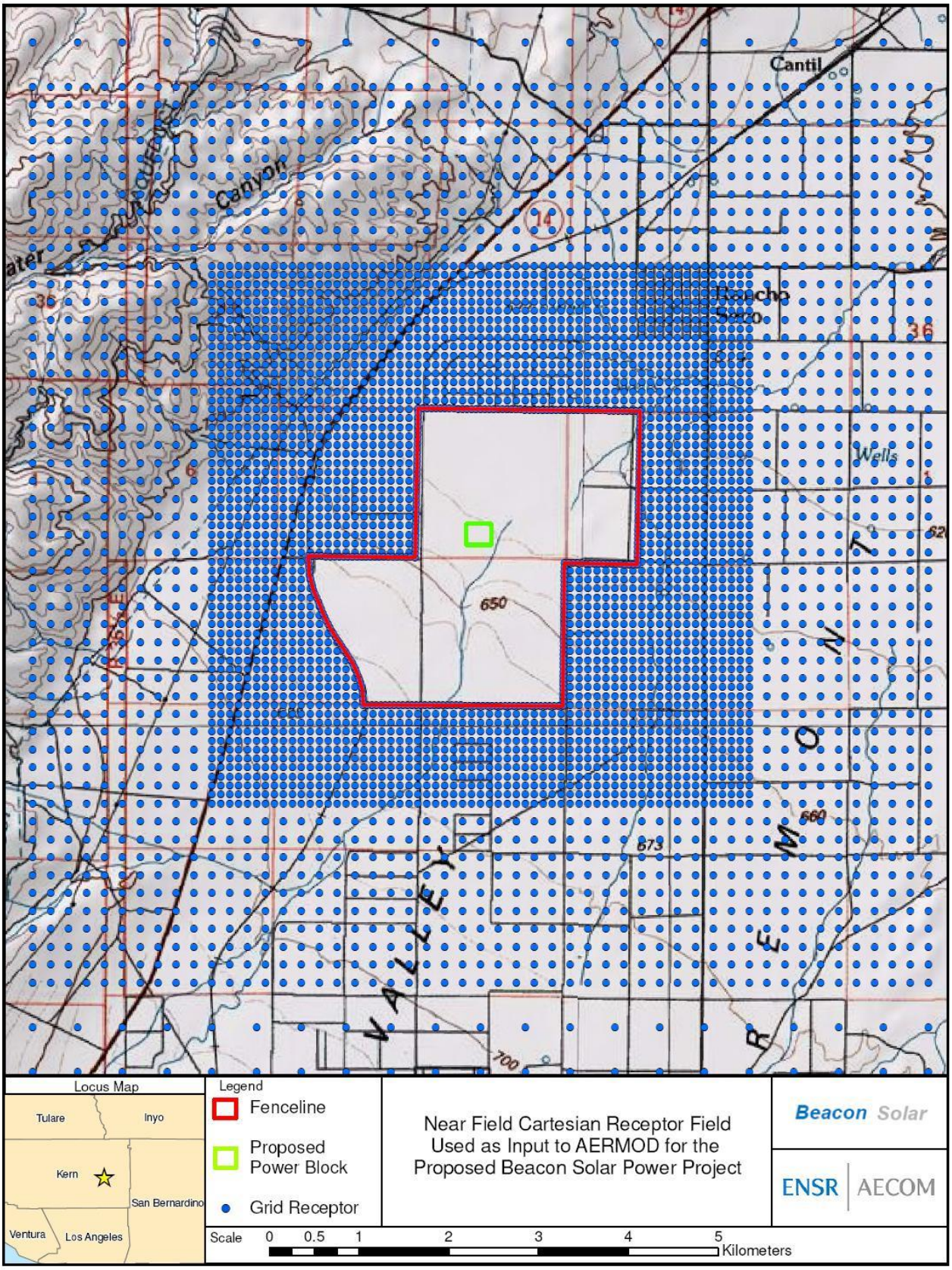
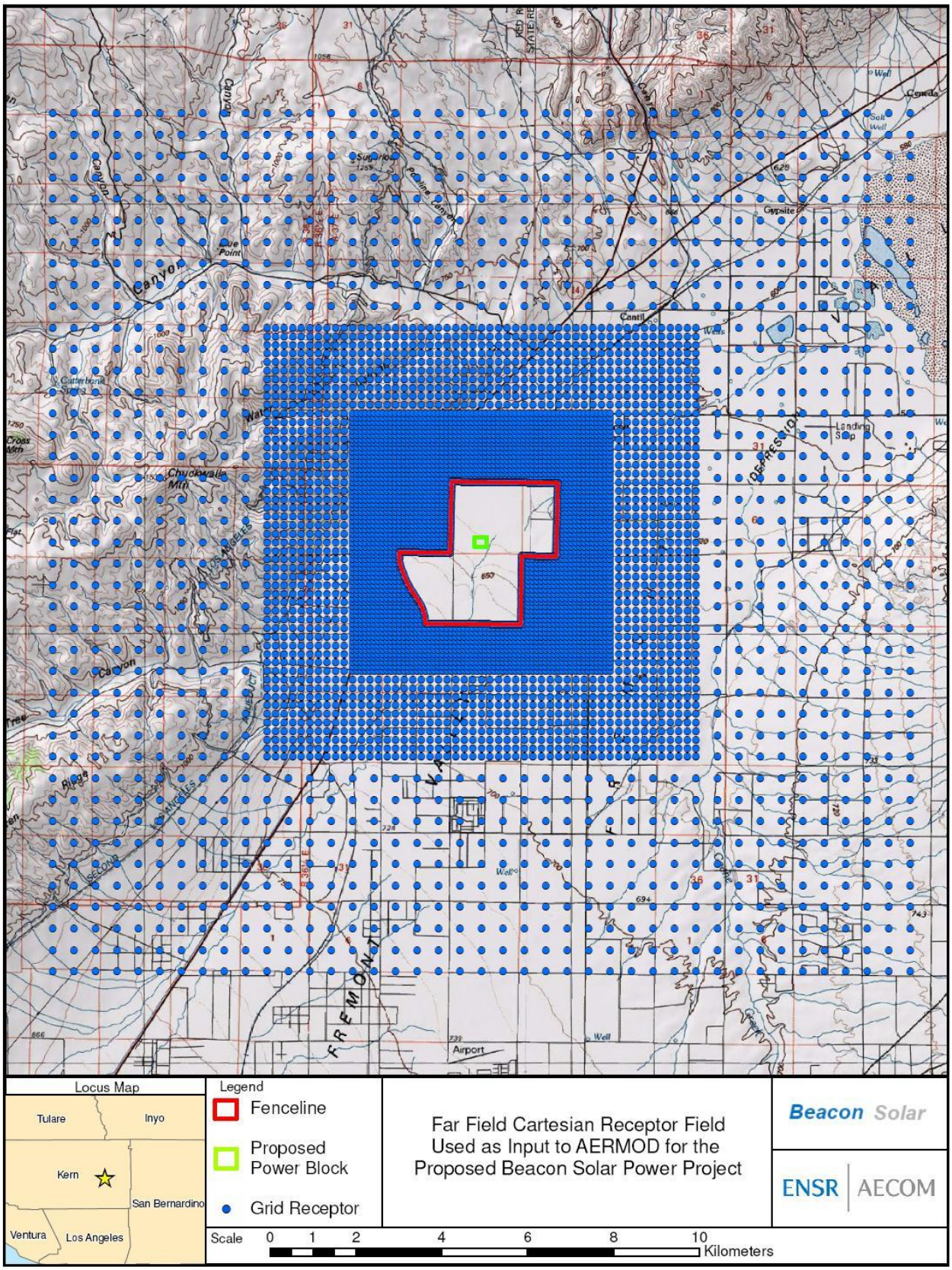


Figure 2-5 Far Field Cartesian Receptors Field Used as Input to AERMOD



2.2.2 Meteorological Data Processing with AERMET

Three years (2002-2004) of wind speed, wind direction and temperature data from the Mojave meteorological tower, NWS cloud data from General Williams J. Fox Field in Lancaster, and concurrent upper air data from Mercury Desert Rock Airport in Mercury will be processed with AERMET, the meteorological preprocessor for AERMOD.

AERMET will be applied to create two meteorological data files required for input to AERMOD:

- SURFACE: a file with boundary layer parameters such as sensible heat flux, surface friction velocity, convective velocity scale, vertical potential temperature gradient in the 500-meter layer above the planetary boundary layer, and convective and mechanical mixing heights. Also provided are values of Monin-Obukhov length, surface roughness, albedo, Bowen ratio, wind speed, wind direction, temperature, and heights at which measurements were taken.
- PROFILE: a file containing multi-level meteorological data with wind speed, wind direction, temperature, sigma-theta (σ_θ) and sigma-w (σ_w) when such data are available. For this application involving the Mojave tower data, the profile file will contain a single level of wind data (10 meters) and the temperature data only.

AERMET requires specification of site characteristics including surface roughness (z_o), albedo (r), and Bowen ratio (B_o). These parameters were developed according to the guidance provided by EPA in the recently revised AERMOD Implementation Guide (AIG) (EPA, 2008a).

The revised AIG provides the following recommendations for determining the site characteristics:

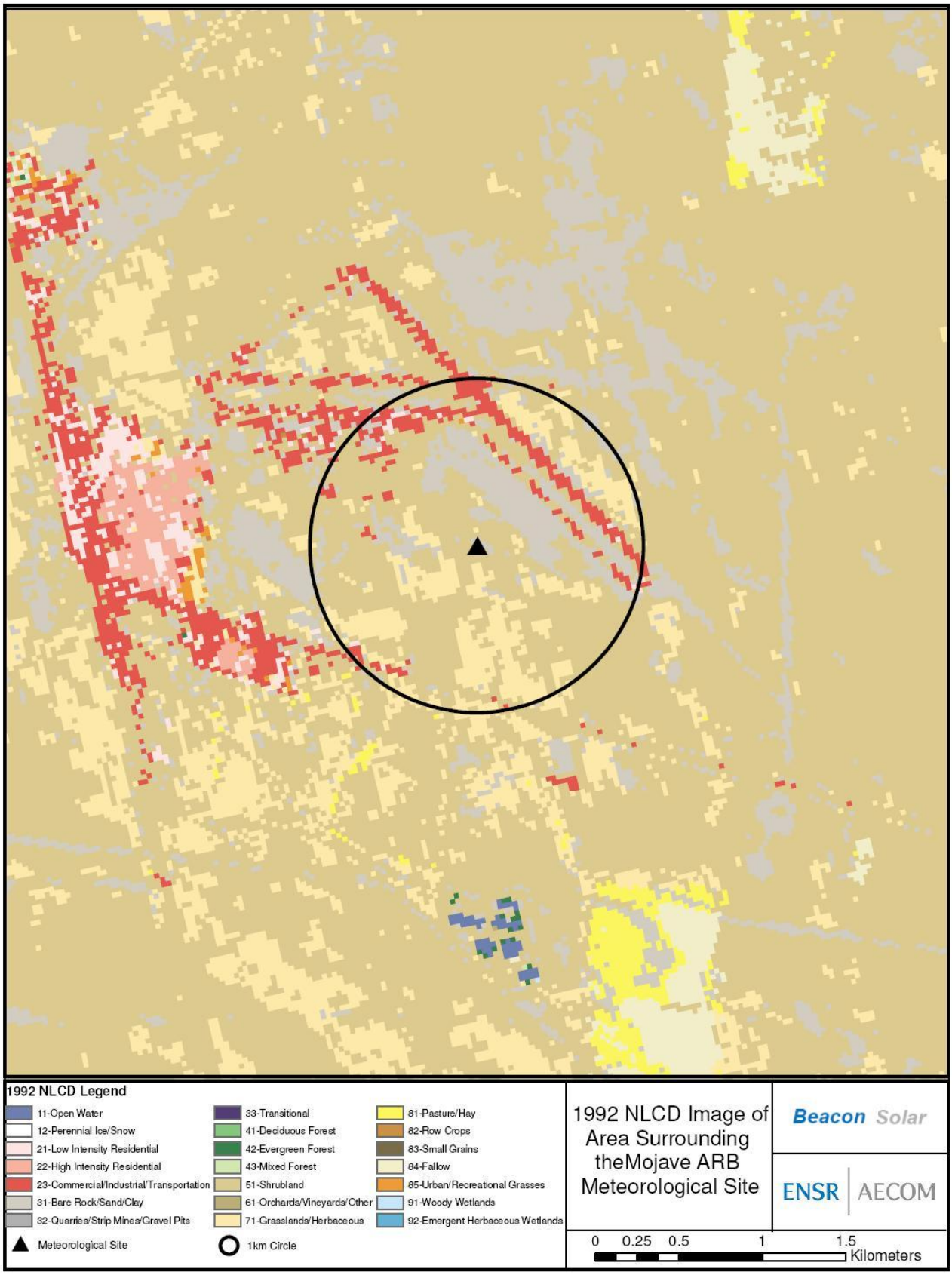
1. The determination of the surface roughness length should be based on an inverse distance weighted geometric mean for a default upwind distance of one km relative to the measurement site. Surface roughness length may be varied by sector to account for variations in land cover near the measurement site; however, the sector widths should be no smaller than 30 degrees. As discussed further below, three sectors were used in this application.
2. The determination of the Bowen ratio will be based on a simple unweighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 10 km by 10 km region centered on the measurement site.
3. The determination of the albedo should be based on a simple unweighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 10 km by 10 km region centered on the measurement site.

The AIG recommends that the surface characteristics be determined based on digitized l and cover data. EPA has developed the AERSURFACE tool that will be used to determine the site characteristics based on digitized land cover data in accordance with the recommendations from the AIG discussed above. AERSURFACE incorporates look-up tables of representative surface characteristic values by land cover category and seasonal category. AERSURFACE will be applied with the instructions provided in the *AERSURFACE User's Guide* (EPA, 2008b).

The current version of AERSURFACE (Version 08009) supports the use of land cover data from the USGS National Land Cover Data 1992 archives (NLCD92) (http://edcftp.cr.usgs.gov/pub/data/landcover/states/). The NLCD92 archive provides data at a spatial resolution of 30 meter based on a 21-category classification scheme applied over the continental U.S. Visual inspection of recent satellite images (2005) in the area of the measurement site (see Figure 2-6), compared to the 1992 land cover images (Figure 2-7) indicate that there have been no significant changes in land use cover confirming the use of the 1992 data will be reasonable.

Figure 2-6 Satellite Image of the Region Surrounding the Mojave Meteorological Site

Figure 2-7 1992 NLCD Data Image of the Region Surrounding the Mojave Meteorological Site



As recommended in the AIG for surface roughness, the one km area was broken down into sectors for the analysis. Three sectors were identified for this analysis based upon visual observation of the land-use about the airport as shown on aerial photographs (see Figure 2-8).

In AERSURFACE, the various land cover categories are linked to a set of seasonal surface characteristics. As such, AERSURFACE requires specification of the seasonal category for each month of the year. The following five seasonal categories are offered by AERSURFACE:

1. Midsummer with lush vegetation;
2. Autumn with unharvested cropland;
3. Late autumn after frost and harvest, or winter with no snow;
4. Winter with continuous snow on ground; and
5. Transitional spring with partial green coverage or short annuals.

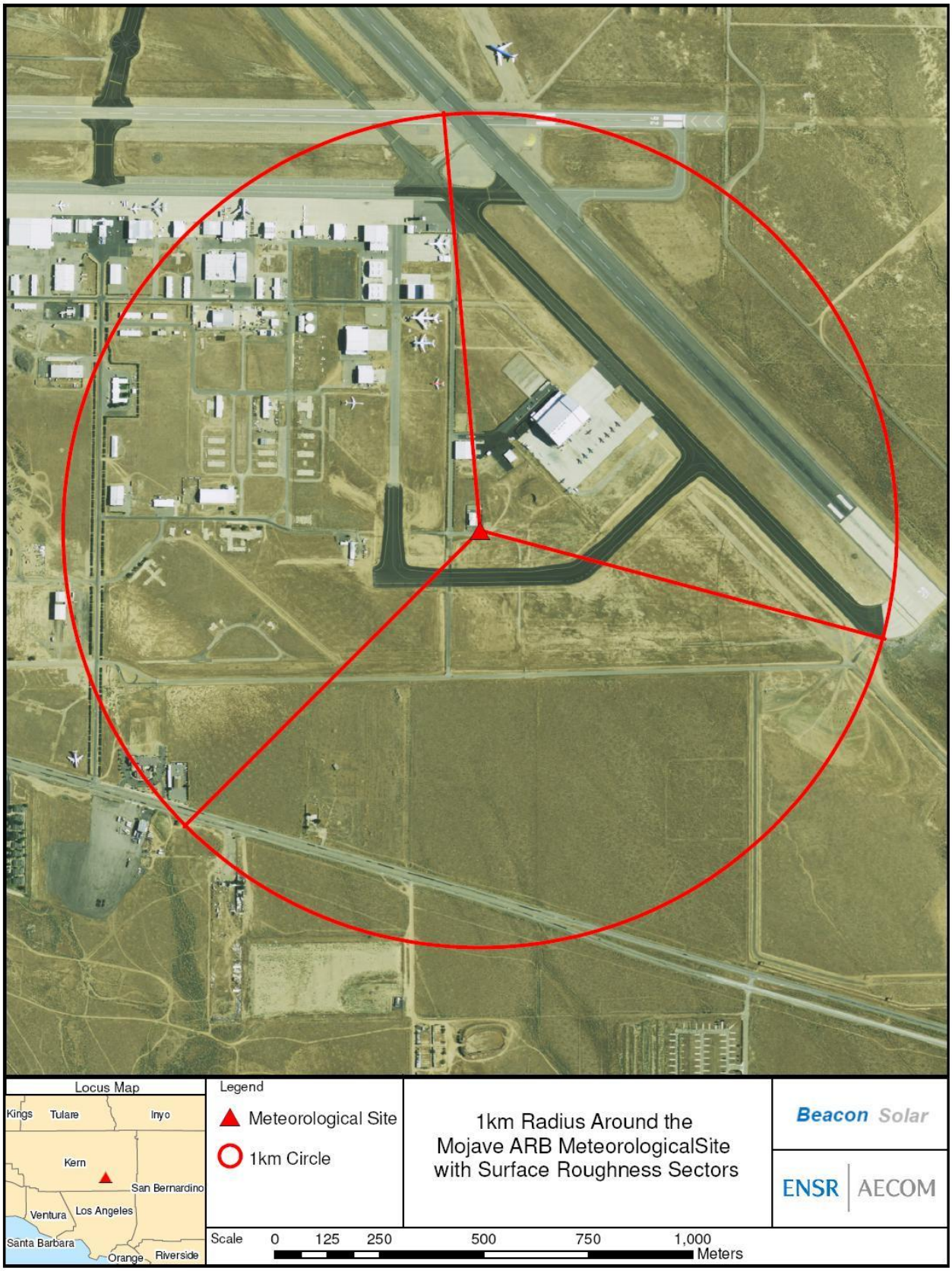
The designations used in this application are summarized in Table 2-1.

Table 2-1 AERSURFACE Season and Bowen Ratio Condition Designations

Month	Season	Bowen Ratio Category		
	2002-2004	2002	2003	2004
January	Autumn	Average	Dry	Dry
February	Autumn	Dry	Dry	Wet
March	Autumn	Average	Average	Average
April	Autumn	Average	Wet	Average
May	Summer	Average	Wet	Average
June	Summer	Average	Average	Average
July	Summer	Average	Average	Average
August	Summer	Average	Wet	Average
September	Summer	Average	Wet	Average
October	Summer	Average	Average	Wet
November	Autumn	Average	Average	Average
December	Autumn	Wet	Average	Wet

In addition, for Bowen ratio, the land use values are linked to three categories of surface moisture corresponding to average, wet and dry conditions. The surface moisture condition for the site may vary depending on the meteorological data period for which the surface characteristics will be applied. AERSURFACE applies the surface moisture condition for the entire data period. Therefore, if the surface moisture condition varies significantly across the data period, then AERSURFACE can be applied multiple times to account for those variations. As recommended in the AERSURFACE User's Guide, the surface moisture condition for each month will be determined by comparing precipitation for the period of data to be processed to the 30-year climatological record, selecting "wet" conditions if precipitation was in the upper 30th-percentile, "dry" conditions if precipitation was in the lower 30th-percentile, and "average" conditions if precipitation was in the middle 40th-percentile. The monthly designations of surface moisture input to AERSURFACE are also summarized in Table 2-1.

Figure 2-8 One km Radius Circle Around the Mojave Meteorological Site, with Surface Roughness Sectors Shown



The base elevation used for the Mojave site will be 845 meters (2,772 feet) above sea level. A three-year wind rose is provided as Figure 2-9.

2.2.3 Model Options

AERMOD will be applied with the EPA recommended default options. Model iterations will be conducted for each year of meteorological data to identify the maximum impacts over all three years for the pertinent averaging periods.

2.3 Characterization of Sources to be Modeled

2.3.1 Operation Sources

Modeling of Project operation will include air emissions from the following sources:

- Two auxiliary boilers;
- Fire-water pump engine; and
- Cooling tower.

A preliminary plot plan of this equipment is shown in Figure 2-10. Calculation of emissions, including proposed control technology, will be provided in the AFC.

As noted, emissions from Project commissioning are not expected to differ from normal operations and, therefore, commissioning is not modeled as a separate activity.

2.3.1.1 Ancillary Combustion Units

The Project will include two auxiliary boilers and a fire-water pump engine with each having a dedicated stack. The modeling of these sources will be based on maximum (short-term and annual) emissions of the criteria pollutants and appropriate stack parameters based on the size of the units proposed. The stack parameters and air emissions of all the units will be documented in the AFC.

2.3.1.2 Cooling Towers

The Project will include a wet mechanical draft cooling tower. Drift eliminators will be utilized to minimize cooling tower drift. Cooling tower drift consists of water droplets containing dissolved solids which are entrained in the airflow through the tower and carried out to the atmosphere. As such, the cooling tower will be a source of particulate matter emissions and will be included in the modeling analysis to assess Project PM10 and PM2.5 air quality impacts.

The BSEP cooling tower will consist of 11 cells. Each cell will be modeled as an individual point source. The AFC will document the source parameters including the fan stack height, inside diameter, exhaust temperature and velocity.

2.3.2 Construction Sources

Construction-related air emissions will include exhaust and fugitive dust from vehicles and construction equipment, and windblown fugitive dust. These sources will be modeled as area sources to determine maximum air quality impacts for the criteria pollutants.

Figure 2-9 Mojave Monitoring Station 2002-2004 Wind Rose

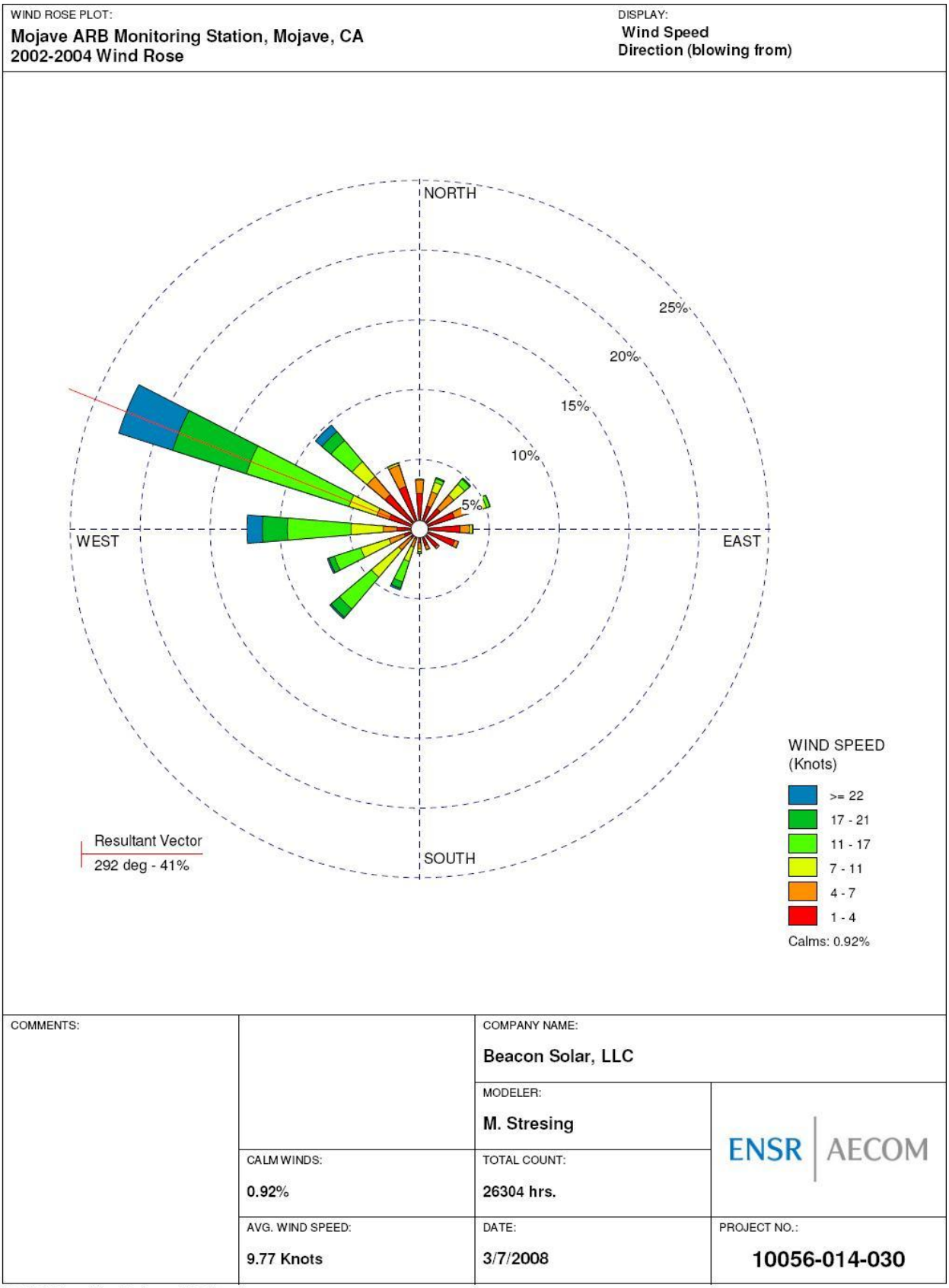
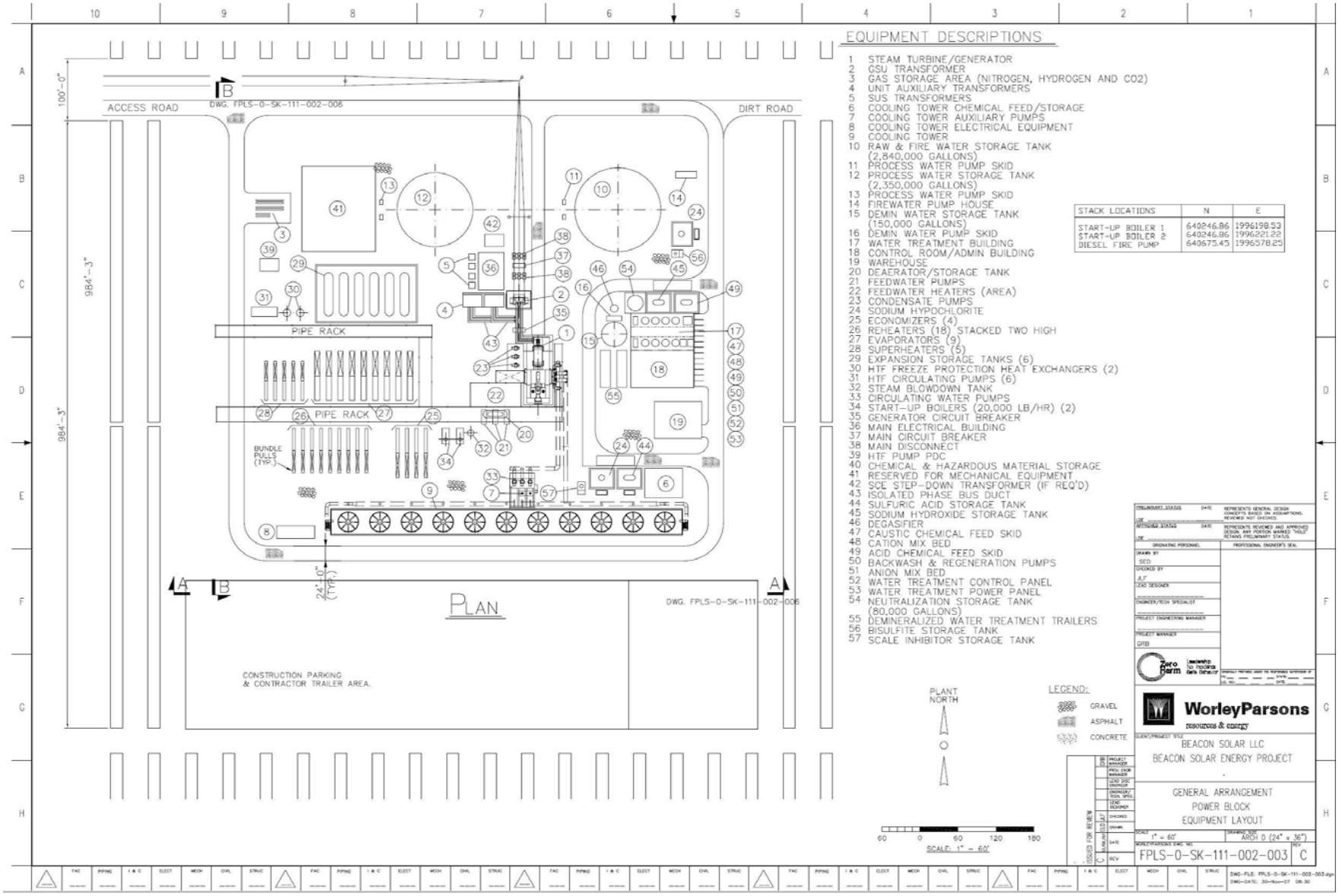


Figure 2-10 Preliminary Facility Plot Plan of the Power Block for the Proposed Beacon Solar Power Project



2.4 Evaluation of Air Quality Impacts

2.4.1 Project Operation Impacts

Criteria pollutant emissions during Project operation will be modeled to determine maximum air quality impacts. The maximum modeled concentrations will then be added to background concentrations and compared to the more stringent of the CAAQS or NAAQS, listed in Table 2-2. As discussed in Section 5.1.1 of the AFC, no other planned projects that will emit air pollutants within six miles of the BSEP have been identified. Therefore, cumulative impacts will not be modeled.

Table 2-2 Ambient Air Impact Criteria (μg/m^3)

Pollutant	Averaging Period	CAAQS	NAAQS	
			Primary	Secondary
NO_2	1-hour	338[1]	--	--
	Annual	56	100	100
CO	1-hour	23,000	40,000	--
	8-hour	10,000	10,000	--
PM10	24-hour	50	150	150
	Annual	20	--	--
PM2.5	24-hour	--	35	35
	Annual	12	15	15
SO_2	1-hour	655	--	--
	3-hour	--	--	1,300
	24-hour	105	365	--
	Annual	--	80	--

[1] The California Office of Administrative Law (OAL) approved the rulemaking on February 19, and the revised NO_2 standard will become effective March 20, 2008.

2.4.2 Construction Impacts

Construction of the BSEP is anticipated to take 25 months. Construction-related air emissions will include exhaust and fugitive dust from vehicle and construction equipment, and windblown fugitive dust from grading and other soil disturbing activities. Criteria pollutant emissions will be modeled to determine maximum air quality impacts. The maximum modeled concentrations will then be added to background concentrations and compared to the applicable standards.

Construction-related emissions will be modeled using the AERMOD model (version 07026). Emissions of criteria pollutants for the construction sources will be modeled as layered area sources. Buoyancy and

mechanical turbulence from the hot exhaust and mobility of the construction equipment will be included as an initial vertical dimension in the area source algorithm. Fugitive dust emissions and onsite motor vehicles will be modeled as a single low-level area source since these emissions would almost all occur near ground level.

For the emission source associated with construction activity, a rectangular area polygon source with a total area of 60,701 square meters (m^2) will be used. The modeled area represents the largest area that will be under construction during any given 24-hour period and the construction emission flux will be calculated based on this area. The emission source for construction, shown in Figure 2-11, will have two overlaid area sources, one for the windblown fugitive dust and onsite vehicle emissions, and a second for the construction equipment with vertical exhaust pipes.

A release height of 2.0 meters will be assumed for the fugitive / onsite vehicles sources, with an initial plume height of 15 feet (4.57 m). Following EPA AERMOD guidance (EPA, 2004), the initial area source vertical standard deviation for construction combustion emissions is estimated as the plume depth divided by 2.15, or 2.13 m.

The large construction equipment will be assumed to have a release height of 3.7 m. The initial vertical depth of the diesel exhaust plume for construction activities will be estimated as four times the release (exhaust) height. This height (14.8 m) takes into account the plume rise of the hot diesel exhaust, mechanical mixing on the site introduced by the movement of heavy equipment, and structure wake turbulence introduced by buildings and structures on the Project site. The initial area source vertical standard deviation for the construction equipment is calculated by taking this vertical depth and dividing by 2.15 for an initial sigma-z of 6.88 meters.

2.4.3 Ambient Background Concentrations

An ambient regional background component representing non-modeled source contributions will be added to the modeled concentrations to demonstrate compliance with the CAAQS/NAAQS. Regional background concentrations from available ambient monitoring data most representative of current air quality in the proposed Project impact area are shown in Table 2-3. These data represent the three most recent years of data (2005-2007) obtained from the EPA AirData website (http://www.epa.gov/air/data/index.html).

The Kern County Air Pollution Control District (KCAPCD), as well as other agencies, was contacted to determine if there would be other existing or planned emissions sources within six miles of the BSEP that might not be fully reflected in the background values. These inquiries did not identify any cumulative sources in this area. Therefore, the data from monitoring stations in the vicinity were considered sufficient to define background concentrations.

2.4.4 NO_2 Modeling

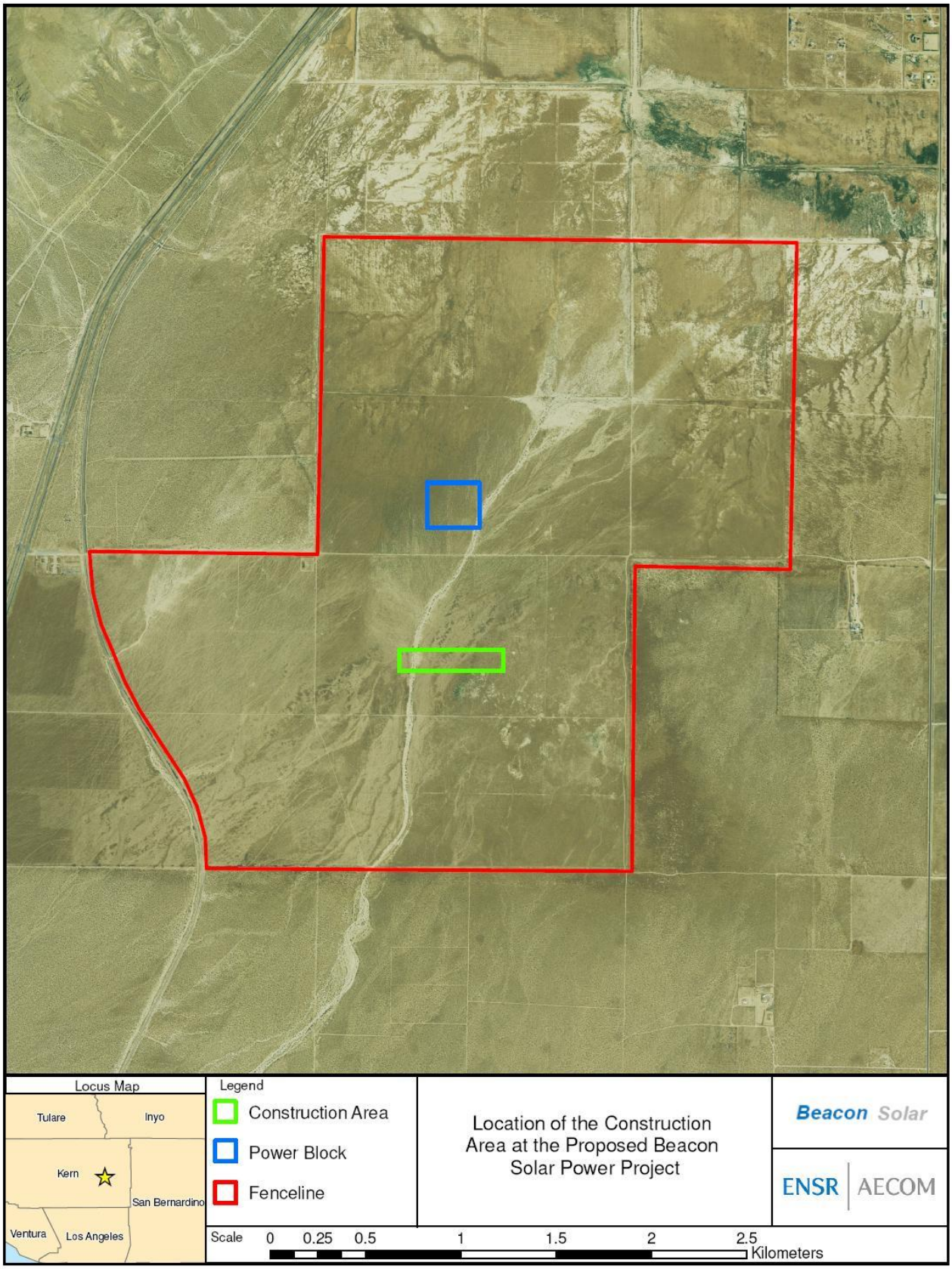
To complete the Ambient Air Quality Impacts Analysis (AQIA) for NO_2, the modeled ground-level concentrations resulting from NOx emissions must be converted to NO_2. For the BSEP AQIA, initially the EPA national default conversion factor of 75 percent will be applied to the modeled NOx concentrations to estimate NO_2. If further refinement of the NO_2 concentrations is necessary, the ozone limiting method (OLM) will be applied as implemented in AERMOD with the use of hourly ozone concentrations from the most representative monitor. In using the OLM in AERMOD, conversion of NOx emissions to NO_2 concentrations are limited based on the availability of ozone as determined by the ambient background levels. If necessary, background ozone levels will be obtained from the EPA AirData website for the Mojave monitoring station.

Table 2-3 Background Concentrations

Pollutant	Averaging Period	Maximum Concentration (µg/m^3)		
		2005	2006	2007
NO_2	1-hour	139	124	120
	Annual	28	28	26
CO	1-hour	3,321	3,664	2,863
	8-hour	1,718	1,832	1,489
PM10	24-hour	42	65	73
	Annual	19	21	22
PM2.5	24-hour[1]	16	13	17
	Annual	5.8	5.4	5.7
SO_2	1-hour	47	86	37
	3-hour	29	45	24
	24-hour	10	10	13
	Annual	3	3	3

[1] Concentrations represent the 98th percentile

Figure 2-11 Location of Emission Sources Used In Construction Modeling



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APPENDIX E.4

Air Quality Modeling Files (CD-ROM)

Air Modeling Files (CD-ROM)

Provided on a Separate CD
by Request Only