APPENDIX C

AIR QUALITY CALCULATIONS

Table 1

Peak Day Construction Equipment Exhaust and Fugitive Dust Emissions

Source [1]	Parameter 1 [1]	Parameter 2 [1]	CO Emission Factor	CO Emission (lbs/day)	VOC Emission Factor	VOC Emission (lbs/day)	NO_x Emission Factor	NO_x Emission (lbs/day)	SO_x Emission Factor	SO_x Emission (lbs/day)	PM_{10} Emission Factor	PM_{10} Emission (lbs/day)	$PM_{2.5}$ Emission Factor	$PM_{2.5}$ Emission (lbs/day)	CO_2 Emission Factor	CO_2 Emission (lbs/day)	CH_4 Emission Factor	CH_4 Emission (lbs/day)	Notes
CONSTRUCTION EQUIPMENT:																			
Site Grading and Erecting Poles																			
Bore/Drill Rig	8 hours/day	1 unit	0.520 lb/hr	4.2	0.116 lb/hr	0.9	1.229 lb/hr	9.8	0.002 lb/hr	0.01	0.0541 lb/hr	0.4	0.0481 lb/hr	0.4	164.89 lb/hr	1,319.1	0.0105 lb/hr	0.1	[2,3]
Crane	8 hours/day	1 unit	0.571 lb/hr	4.6	0.168 lb/hr	1.3	1.529 lb/hr	12.2	0.001 lb/hr	0.01	0.068 lb/hr	0.5	0.060 lb/hr	0.5	128.66 lb/hr	1,029.3	0.015 lb/hr	0.1	[2,3]
Cement & Mortar Mixer	8 hours/day	3 unit	0.044 lb/hr	1.1	0.011 lb/hr	0.3	0.063 lb/hr	1.5	0.0001 lb/hr	0.003	0.004 lb/hr	0.1	0.004 lb/hr	0.1	7.25 lb/hr	174.0	0.001 lb/hr	0.02	[2,3]
Water Truck	40 miles/day	2 unit	0.020 lb/mile	1.6	0.003 lb/mile	0.22	0.022 lb/mile	1.8	0.00003 lb/mile	0.0021	0.001 lb/mile	0.06	0.001 lb/mile	0.06	2.723 lb/mile	217.9	0.0001 lb/mile	0.011	[2,3]
Material Delivery Trucks	50 miles/day	8 unit	0.013 lb/mile	5.1	0.003 lb/mile	1.3	0.042 lb/mile	16.7	0.00004 lb/mile	0.02	0.002 lb/mile	0.8	0.002 lb/mile	0.8	4.211 lb/mile	1,684.3	0.0002 lb/mile	0.06	[2,3]
Worker Vehicles	30 employees	50 miles/day	0.010 lb/mile	14.5	0.001 lb/mile	1.5	0.001 lb/mile	1.5	0.00001 lb/mile	0.02	0.0001 lb/mile	0.1	0.0001 lb/mile	0.1	1.098 lb/mile	1,646.3	0.0001 lb/mile	0.1	[2,3]
Substation																			
Scraper	8 hours/day	2 unit	0.775 lb/hr	12.4	0.275 lb/hr	4.4	2.616 lb/hr	41.8	0.002 lb/hr	0.04	0.1065 lb/hr	1.7	0.0948 lb/hr	1.5	209.47 lb/hr	3,351.5	0.0248 lb/hr	0.4	[2,3]
Water Truck	40 miles/day	2 unit	0.020 lb/mile	1.6	0.003 lb/mile	0.22	0.022 lb/mile	1.8	0.00003 lb/mile	0.0021	0.001 lb/mile	0.06	0.001 lb/mile	0.06	2.723 lb/mile	217.9	0.0001 lb/mile	0.011	[2,3]
Worker Vehicles	8 employees	50 miles/day	0.010 lb/mile	3.9	0.001 lb/mile	0.4	0.001 lb/mile	0.4	0.00001 lb/mile	0.004	0.0001 lb/mile	0.0	0.0001 lb/mile	0.03	1.098 lb/mile	439.0	0.0001 lb/mile	0.04	[2,3]
Access Road Construction																			
Grader	8 hours/day	1 unit	0.552 lb/hr	4.4	0.166 lb/hr	1.3	0.982 lb/hr	7.9	0.001 lb/hr	0.01	0.0898 lb/hr	0.7	0.0800 lb/hr	0.6	74.96 lb/hr	599.7	0.0150 lb/hr	0.1	[2,3]
Water Truck	40 miles/day	2 unit	0.020 lb/mile	1.6	0.003 lb/mile	0.22	0.022 lb/mile	1.8	0.00003 lb/mile	0.0021	0.001 lb/mile	0.06	0.001 lb/mile	0.06	2.723 lb/mile	217.9	0.0001 lb/mile	0.011	[2,3]
Worker Vehicles	6 employees	50 miles/day	0.010 lb/mile	2.9	0.001 lb/mile	0.3	0.001 lb/mile	0.3	0.00001 lb/mile	0.003	0.0001 lb/mile	0.03	0.0001 lb/mile	0.03	1.098 lb/mile	329.3	0.0001 lb/mile	0.03	[2,3]
<SUBTOTAL>				57.9		12.4		97.6		0.1		4.7		4.3		11,226.1		1.0	
Fugitive Dust		10 acre/day									0.11 ton/acre-month	100	0.02 ton/acre-month	21.0					[4]
TOTAL (lbs/day)				57.9		12.4		97.6		0.1		104.7		25.3		11,226.1		1.0	
TOTAL (tons/year)				5.1		1.1		8.6		0.01		9.21		2.2		987.9		0.1	[5]
ICAPCD Daily Construction Thresholds (lbs/day)				150		75		100		- -		150		- -					
Exceed ICAPCD Thresholds (Yes/No)?				**No**		**No**		**No**		**No**		**No**		**No**		**No Thresholds**		**No Thresholds**	
GCR DeMinimis Level - SSAB (tons/year)				- -		50		100		- -		70		- -					
Exceed GCR - SSAB DeMinimis Thresholds (Yes/No)?				**No**		**No**		**No**		**No**		**No**		**No**		**No Thresholds**		**No Thresholds**	

NOTES:
[1] Hours of operation, type and number of construction equipment, number of employees, distances travel, and disturbed area are assumed. It is assumed only one substation will be developed at a time.
[2] Heavy-duty diesel vehicle and worker's vehicle composite emission factors are derived from SCAQMD's web site - http://www.aqmd.gov/ceqa/hdbk.html
[3] PM2.5 emissions were estimated using data provided in the SCAQMD document, Final Methodology to Calculation PM2.5 and PM2.5 Significance Thresholds, SCAQMD, October 2006.
[4] Fugitive dust emission factor based on EPA's AP-42 document for SCAQMD region. It is assumed crew works on average 22 days/month.
[5] Assumes all 55 - 66 power pole locations will be completed within eight months at 22 days per month.