Appendix D

Construction Emissions Calculations and Health Risk Assessment Technical Memorandum

D1

Emissions Calculations for
PG&E Sites

Table 1
Project Emissions Summary - Criteria Pollutants
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Annual Construction Emissions (2026-2029)

		Annual Emissions (ton/year)					
	Construction Phase	**ROG**	**CO**	**NOx**	**SOx**	**PM_{10} [b]**	**$PM_{2.5}$ [b]**
PG&E 230 kV Transmission Lines Construction	Construction Year 2026	0.05	0.56	0.51	0.00	0.46	0.05
	Construction Year 2027	0.69	2.90	1.88	0.04	0.92	0.12
	Construction Year 2028	0.00	0.01	0.00	0.00	0.03	0.00
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00
PG&E Lockeford Substation Expansion	Construction Year 2026	0.11	1.10	1.72	0.01	3.15	0.39
	Construction Year 2027	0.08	1.04	0.72	0.00	0.38	0.06
	Construction Year 2028	0.10	1.25	0.91	0.00	0.50	0.07
	Construction Year 2029	0.03	0.41	0.30	0.00	0.16	0.02
PG&E 12 kV Service Line Extension (to PG&E Thurman Switching Station)	Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2027	0.01	0.17	0.12	0.00	0.04	0.01
	Construction Year 2028	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00
PG&E Remote End Substations Construction	Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2027	0.00	0.01	0.00	0.00	0.00	0.00
	Construction Year 2028	0.00	0.04	0.02	0.00	0.01	0.00
	Construction Year 2029	0.00	0.02	0.01	0.00	0.00	0.00
PG&E Thurman Switching Station Construction	Construction Year 2026	0.03	0.29	0.29	0.00	0.11	0.02
	Construction Year 2027	0.12	1.33	1.73	0.01	2.87	0.36
	Construction Year 2028	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00
PG&E Microwave Tower Construction (within Thurman Switching Station)	Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2027	0.02	0.27	0.25	0.00	0.29	0.04
	Construction Year 2028	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00
PG&E 60 kV Power Lines Reconfiguration	Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2027	0.01	0.07	0.05	0.00	0.07	0.00
	Construction Year 2028	0.01	0.08	0.06	0.00	0.10	0.01
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total PG&E Construction Sites	Construction Year 2026	0.19	1.95	2.51	0.01	3.72	0.46
	Construction Year 2027	0.93	5.79	4.74	0.06	4.57	0.58
	Construction Year 2028	0.11	1.37	1.00	0.00	0.63	0.08
	Construction Year 2029	0.03	0.43	0.31	0.00	0.17	0.02
LEU Site (Industrial and Guild substations and 12 kV feeder line)	Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2027	0.20	1.37	1.45	0.01	1.30	0.26
	Construction Year 2028	0.01	0.10	0.12	0.00	0.00	0.00
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00
Total PG&E and LEU Construction	Construction Year 2026	0.19	1.95	2.51	0.01	3.72	0.46
	Construction Year 2027	1.12	7.16	6.19	0.06	5.87	0.84
	Construction Year 2028	0.12	1.46	1.12	0.00	0.64	0.09
	Construction Year 2029	0.03	0.43	0.31	0.00	0.17	0.02
SJVAPCD CEQA Significance Threshold		**10**	**100**	**10**	**27**	**15**	**15**

Note:

Emissions from LEU Construction were obtained from the City of Lodi 2022

Operation and Maintenance Emissions - 2030 and beyond

	Annual Emissions (ton/year)					
Sites	**ROG**	**CO**	**NOx**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
PG&E	0.017	0.035	0.020	0.001	0.005	0.002
LEU	0.530	0.110	0.130	0.001	0.009	0.009
Total	0.547	0.145	0.150	0.002	0.014	0.011
SJVAPCD CEQA Significance Threshold	**10**	**100**	**10**	**27**	**15**	**15**

Note:

Emissions from LEU Construction were obtained from the City of Lodi 2022

Table 2
Project Emissions Summary - Criteria Pollutants
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

PGE Site Onsite Construction Emissions (2026-2029)

Construction Sites	Construction Phase	Onsite Emissions						
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	DPM
		lb/day	lb/day	lb/day	lb/day	lb/day	lb/day	lb/year
PG&E 230 kV Transmission Lines Construction	Construction Year 2026	3.79	36.93	31.67	0.10	3.04	1.30	33.68
	Construction Year 2027	25.62	86.47	55.56	1.59	3.37	2.06	132.37
	Construction Year 2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PG&E Lockeford Substation Expansion	Construction Year 2026	6.95	65.35	62.19	0.14	2.50	2.35	68.78
	Construction Year 2027	2.19	27.43	19.03	0.05	1.33	0.76	49.14
	Construction Year 2028	1.24	14.55	10.87	0.03	1.03	0.47	64.11
	Construction Year 2029	0.87	10.73	7.35	0.02	0.28	0.27	21.16
PG&E 12 kV Service Line Extension (to PG&E Thurman Switching Station)	Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2027	2.31	26.74	19.61	0.06	1.48	0.79	8.40
	Construction Year 2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PG&E Remote End Substations Construction	Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2027	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2028	1.55	19.76	13.57	0.04	0.57	0.53	1.91
	Construction Year 2029	1.55	19.76	13.57	0.04	0.57	0.53	0.96
PG&E Thurman Switching Station Construction [1]	Construction Year 2026	2.87	28.26	26.16	0.05	1.11	1.04	22.15
	Construction Year 2027	3.62	33.69	33.33	0.07	1.34	1.26	74.37
	Construction Year 2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PG&E Microwave Tower Construction (within Thurman Switching Station) [1]	Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2027	0.85	8.90	6.80	0.02	0.26	0.25	13.53
	Construction Year 2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PG&E 60 kV Power Lines Reconfiguration	Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2027	0.95	9.16	8.42	0.03	0.91	0.35	3.41
	Construction Year 2028	0.95	9.16	8.42	0.03	0.91	0.35	3.41
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Combined for areas near Thurman Switching Station (including Thurman Switching Station, Microwave Tower, and 12kV Service Line Extension)	Construction Year 2026	2.87	28.26	26.16	0.05	1.11	1.04	22.15
	Construction Year 2027	4.21	49.04	35.76	0.11	2.10	1.38	96.30
	Construction Year 2028	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worst-case Onsite Emissions from PG&E Sites	Construction Year 2026	6.95	65.35	62.19	0.14	3.04	2.35	68.78
	Construction Year 2027	25.62	86.47	55.56	1.59	3.37	2.06	132.37
	Construction Year 2028	1.55	19.76	13.57	0.04	1.03	0.53	64.11
	Construction Year 2029	1.55	19.76	13.57	0.04	0.57	0.53	21.16
SJVAPCD Air Quality Screening Thresholds		**100**	**100**	**100**	**100**	**100**	**100**	NA

Note:
1. Daily emissions of from Thurman station, the microwave tower, and PG&E 12 kV Service Line Extension construction are combined as from one site when evaluating the maximum daily emissions from each site.

Table 2
Project Emissions Summary - Criteria Pollutants
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

LEU Maximum Onsite Daily Emissions

		Onsite Emissions (lb/day)					
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
LEU Site	Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00
	Construction Year 2027	6.01	41.53	44.35	0.15	9.92	6.06
	Construction Year 2028	1.96	12.10	16.21	0.04	0.62	0.57
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00
Combined Onsite Emissions of LEU Guild Substation, PGE's Thurman Switching Station, PGE's Microwave Tower at Thurman Switching Station, 12kV Service Line Extension)	Construction Year 2026	2.87	28.26	26.16	0.05	1.11	1.04
	Construction Year 2027	6.89	67.93	54.12	0.17	9.92	6.06
	Construction Year 2028	1.96	12.10	16.21	0.04	0.62	0.57
	Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00
SJVAPCD Air Quality Screening Thresholds		**100**	**100**	**100**	**100**	**100**	**100**

Note:

Emissions from LEU Construction were obtained from the City of Lodi 2022

Daily emissions from LEU Guild Substation, PG&E's Thurman Switching Station, and PGE's Microwave Tower at Thurman switching station were combined to compare with the thresholds because these two sites are next to each other.

Operation and Maintenance Emissions - 2030 and beyond

	Daily Emissions (lb/day)					
Sites	**ROG**	**CO**	**NOx**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
PGE	32.53	46.98	18.57	2.34	1.19	0.71
LEU	3.15	2.16	2.10	0.01	0.10	0.10
SJVAPCD Air Quality Screening Thresholds	**100**	**100**	**100**	**100**	**100**	**100**

Note:
Emissions from LEU Construction were obtained from the City of Lodi 2022

Table 3
Project Emissions Summary - GHG
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Construction Emissions (2026-2029)

	Construction Phase	Annual Emissions (metric ton/year CO2e
PG&E 230 kV Transmission Lines Construction	Construction Year 2026	209.64
	Construction Year 2027	566.73
	Construction Year 2028	2.17
	Construction Year 2029	0.00
PG&E Lockeford Substation Expansion	Construction Year 2026	976.71
	Construction Year 2027	234.79
	Construction Year 2028	299.75
	Construction Year 2029	0.05
PG&E 12 kV Service Line Extension (to PG&E Thurman Switching Station)	Construction Year 2026	0.00
	Construction Year 2027	38.50
	Construction Year 2028	0.00
	Construction Year 2029	0.00
PG&E Remote End Substations Construction	Construction Year 2026	0.00
	Construction Year 2027	3.30
	Construction Year 2028	6.93
	Construction Year 2029	3.77
PG&E Thurman Switching Station Construction	Construction Year 2026	69.27
	Construction Year 2027	934.13
	Construction Year 2028	0.00
	Construction Year 2029	0.00
PG&E Microwave Tower Construction (within Thurman Switching Station)	Construction Year 2026	0.00
	Construction Year 2027	116.23
	Construction Year 2028	0.00
	Construction Year 2029	0.00
PG&E 60 kV Power Lines Reconfiguration	Construction Year 2026	0.00
	Construction Year 2027	24.65
	Construction Year 2028	32.90
	Construction Year 2029	0.00
Sub Total PGE Construction	Construction Year 2026	1,255.63
	Construction Year 2027	1,918.33
	Construction Year 2028	341.75
	Construction Year 2029	3.82
LEU Construction	Construction Year 2026	0.00
	Construction Year 2027	471.55
	Construction Year 2028	31.00
	Construction Year 2029	0.00
Total PG&E and LEU Construction	Construction Year 2026	1,255.63
	Construction Year 2027	2,389.88
	Construction Year 2028	372.75
	Construction Year 2029	3.82
Total Construction		4,022.07

Note:

Emissions from LEU Construction were obtained from the City of Lodi 2022

Table 3
Project Emissions Summary - GHG
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Operation and Maintenance Emissions (2030 and beyond)

Location	Activity	Annual Emissions (metric ton/year) CO2e
PG&E Operation	Operation and Maintenance Emissions	11.97
	SF6 Leakage	80.17
LEU Operation	Operation and Maintenance Emissions	455.63
	SF6 Leakage	28.86
Total		**576.64**

Note:
Emissions from LEU Construction were obtained from the Air Quality and Greenhouse Gas Emissions Technical Analysis (City of Lodi Electric Utility 2022). SF6 Leakage was recalculated with updated data from Burns & McDonnell in Table 13.

Total GHG Emissions

	Annual Emissions (metric ton/year)
PG&E Construction (Amortized)	117.32
PG&E Operation	92.15
LEU Construction (Amortized)	16.75
LEU Operation	484.49
Total GHG Emissions	**710.71**

Table 4

Preliminary Construction Schedule [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Typical Outage Windows

Construction Phase	2026						2027											
	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
PG&E 230 kV Transmission Lines																		
General Construction NTP by CPUC																		
Mobilization																		
Survey (Construction Staking)																		
Soil Borings																		
ROW Clearing																		
Roads and Access																		
Guard Structures (in parallel with Roads improvements)																		
Foundations (East to West)																		
Structure Assembly / Erection																		
Conductor Installation / Clipping / OPGW installation																		
Restoration and Removal of Guard Structures																		
Truck Drivers (material haul)																		
Inspectors (Civil, Foundation and Electrical)																		
PG&E Lockeford Substation																		
General Construction NTP by CPUC																		
(Phase 1) 20 days Civil Site Preparation + (Phase 1a) 20 day for Exterior fencing, paving, final grade surface																		
(Phase 1b) Foundations, Excavation, and Installation																		
(Phase 2) Equipment Installation (New Bays first, then existing Bays)																		
(Phase 3) Dress/Test/Wire Equipment (New Bays then Existing Bays)																		
(Phase 3) Transmission Line re-arrangement inside the substation																		
(Phase 3) Cleaning and Restoration / Landscaping																		
New 230 kV Lines In-Service Date																		
(Phase 4A) Foundation (tower & Xfrmr) work (Rio Oso-Lockeford 230 kV)																		
(Phase 4B) Foundation work (Lockeford-Bellota #1 230 kV)																		
(Phase 4C) Re-energize Lockeford & Foundation curing (no crews)																		
(Phase 4D) 230kV Bus #1 Reconfiguration (Rio Oso-Lockeford)																		
(Phase 4E & 4F) 230kV Bus #1 Reconfiguration (Lockeford-Bellota #1)																		
(Phase 5A) 230kV Bus #2 Reconfiguration / Installation / Demo																		
(Phase 5B) Bus Reconfiguration																		
(Phase 5C) Energize & Complete Lockeford Work																		
Cleaning and Landscaping																		
Truck Drivers																		
Inspectors																		
PG&E 12 kV Service Line Extension to PG&E Thurman Switching Station																		
General Construction: Average commute from Hotels to job site.																		
Mobilization: Thurman Yard or Staging Area																		
PG&E Remote End Substations																		
System Construction for New 230 kV Lines at Brighton and Rio Oso																		
System Construction for New 230 kV Lines at Bellota																		
General Construction for Existing 230 kV Lines																		
Communication Modification at Clayton Hill Repeater Station																		

Table 4

Preliminary Construction Schedule [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Typical Outage Windows

Construction Phase	2028												2029			
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
PG&E 230 kV Transmission Lines																
General Construction NTP by CPUC																
Mobilization																
Survey (Construction Staking)																
Soil Borings																
ROW Clearing																
Roads and Access																
Guard Structures (in parallel with Roads improvements)																
Foundations (East to West)																
Structure Assembly / Erection																
Conductor Installation / Clipping / OPGW installation																
Restoration and Removal of Guard Structures																
Truck Drivers (material haul)																
Inspectors (Civil, Foundation and Electrical)																
PG&E Lockeford Substation																
General Construction NTP by CPUC																
(Phase 1) 20 days Civil Site Preparation + (Phase 1a) 20 day for Exterior fencing, paving, final grade surface																
(Phase 1b) Foundations, Excavation, and Installation																
(Phase 2) Equipment Installation (New Bays first, then existing Bays)																
(Phase 3) Dress/Test/Wire Equipment (New Bays then Existing Bays)																
(Phase 3) Transmission Line re-arrangement inside the substation																
(Phase 3) Cleaning and Restoration / Landscaping																
New 230 kV Lines In-Service Date																
(Phase 4A) Foundation (tower & Xfrmr) work (Rio Oso-Lockeford 230 kV)																
(Phase 4B) Foundation work (Lockeford-Bellota #1 230 kV)																
(Phase 4C) Re-energize Lockeford & Foundation curing (no crews)																
(Phase 4D) 230kV Bus #1 Reconfiguration (Rio Oso-Lockeford)																
(Phase 4E & 4F) 230kV Bus #1 Reconfiguration (Lockeford-Bellota #1)																
(Phase 5A) 230kV Bus #2 Reconfiguration / Installation / Demo																
(Phase 5B) Bus Reconfiguration																
(Phase 5C) Energize & Complete Lockeford Work																
Cleaning and Landscaping																
Truck Drivers																
Inspectors																
PG&E 12 kV Service Line Extension to PG&E Thurman Switching Station																
General Construction: Average commute from Hotels to job site.																
Mobilization: Thurman Yard or Staging Area																
PG&E Remote End Substations																
System Construction for New 230 kV Lines at Brighton and Rio Oso																
System Construction for New 230 kV Lines at Bellota																
General Construction for Existing 230 kV Lines																
Communication Modification at Clayton Hill Repeater Station																

Table 4

Preliminary Construction Schedule [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Typical Outage Windows

Construction Phase	2026						2027											
	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
PG&E 230 kV Transmission Lines																		
PG&E Thurman Switching Station																		
General Construction NTP by CPUC																		
Civil Site Preparation																		
Structure Foundations, Excavation, and Installation																		
Equipment Foundations																		
Structure Delivery and Setup																		
Equipment Installation																		
Dress/Test/Wire Equipment																		
Exterior Walls, Final Grading, and Paving																		
Cleaning and Landscaping																		
Truck Drivers																		
Inspectors																		
PG&E Microwave Tower within Thurman Switching Station																		
General Construction																		
Tower Foundation Installation																		
Structure Delivery and Set Up																		
Tower Installation																		
Communication Equipment Installation & Testing																		
Cleaning and Landscaping																		
Truck Drivers																		
Inspectors																		
LEU Construction																		
Survey																		
Access Roads																		
Site Preparation																		
Underground 12 kV Line Installation																		
Fence and Gate Installation																		
Foundation																		
Ground/Grid Circuit Installation																		
Transformer Installation																		
Steel/Bus Erection																		
Yard Rock Installation																		
Cleaning and Restoration 1																		
Remaining Deliveries, Installations, Testing and Commissioning 1																		
Cleaning and Restoration 2																		
Remaining Deliveries, Installations, Testing and Commissioning 2																		

Table 4

Preliminary Construction Schedule [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Typical Outage Windows

Construction Phase	2028												2029			
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4
PG&E 230 kV Transmission Lines																
PG&E Thurman Switching Station																
General Construction NTP by CPUC																
Civil Site Preparation																
Structure Foundations, Excavation, and Installation																
Equipment Foundations																
Structure Delivery and Setup																
Equipment Installation																
Dress/Test/Wire Equipment																
Exterior Walls, Final Grading, and Paving																
Cleaning and Landscaping																
Truck Drivers																
Inspectors																
PG&E Microwave Tower within Thurman Switching Station																
General Construction																
Tower Foundation Installation																
Structure Delivery and Set Up																
Tower Installation																
Communication Equipment Installation & Testing																
Cleaning and Landscaping																
Truck Drivers																
Inspectors																
LEU Construction																
Survey																
Access Roads																
Site Preparation																
Underground 12 kV Line Installation																
Fence and Gate Installation																
Foundation																
Ground/Grid Circuit Installation																
Transformer Installation																
Steel/Bus Erection																
Yard Rock Installation																
Cleaning and Restoration 1																
Remaining Deliveries, Installations, Testing and Commissioning 1																
Cleaning and Restoration 2																
Remaining Deliveries, Installations, Testing and Commissioning 2																

Table 4

Preliminary Construction Schedule [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Construction Phase	2026						2027											
	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Typical Outage Windows																		
PG&E 230 kV Transmission Lines																		
PG&E 60 kV Lines Reconfiguration																		
Typical Outage Windows																		
General																		
Lockeford-Industrial Western End Removal and Restoration																		
Industrial Tap and **Lodi-Industrial** Reconfiguration / Restoration																		
Remote end - Terminal testing																		
Inspectors																		

[a] This schedule depicts the periods during which construction activities could occur. It is expected that construction activities will actually occur intermittently within the identified periods. The final project construction schedule can only be determined once the Commission's staff issue a full Notice to Proceed, all environmental protection measures and any other environmental mitigation measures have been taken into account, materials needed for construction have been delivered and are ready for installation, and PG&E's contractors and LEU's contractors have mobilized and are ready to initiate construction.

Table 4

Preliminary Construction Schedule [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

	2028												2029			
Typical Outage Windows																
Construction Phase	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**1**	**2**	**3**	**4**
PG&E 230 kV Transmission Lines																
PG&E 60 kV Lines Reconfiguration																
Typical Outage Windows																
General																
Lockeford-Industrial Western End Removal and Restoration																
Industrial Tap and **Lodi-Industrial** Reconfiguration / Restoration																
Remote end - Terminal testing																
Inspectors																

[a] This schedule depicts the periods during which construction activities could occur
construction schedule can only be determined once the Commission's staff issue a
into account, materials needed for construction have been delivered and are ready

Table 5

PG&E 230 kV Transmission Lines Construction Emissions [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Daily Equipment Quantity/Vehicle Trips	Number of Days Used	Hours per Day	Miles per day/ vehicles [b]	Number of Months with Activities				Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								2026	2027	2028	2029	ROG	CO	NOx	SOx	PM_{10} [d]	$PM_{2.5}$ [d]	CO_2
General Construction																		
street sweeper	Heavy-duty Diesel	NA	NA	1	300	NA	50	6	8	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Jet A Fuel Truck	Heavy-duty Diesel	NA	NA	1	50	NA	50	6	8	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Mobilization: Thurman/Lodi yard and Lockeford yards.																		
10-Cu Dump Truck	Heavy-duty Diesel	NA	NA	2	10	NA	60	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Water Truck	Heavy-duty Diesel	NA	NA	2	10	NA	60	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Backhoe/Front Loader	Tractors/Loaders/Backhoe	97	0.37	2	10	8	NA	1	0	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Road Grader	Graders	187	0.41	1	10	8	NA	1	0	0	0	0.227	1.173	2.182	0.005	0.070	0.066	495.591
Drum Type Compactor	Plate Compactors	8	0.43	1	10	8	NA	1	0	0	0	0.661	3.469	4.142	0.008	0.161	0.161	569.774
10k LB Forklift	Forklifts	89	0.2	2	150	5	NA	6	8	0	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
30 Ton Crane	Cranes	231	0.29	2	150	5	NA	6	8	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	2	10	NA	15	1	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Crew Cab Flatbed, 4 × 4	Light-duty Truck	NA	NA	1	300	NA	15	6	8	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Lowboy Truck/Trailer	Heavy-duty Diesel	NA	NA	1	10	NA	2	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	8	300	NA	25	6	8	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Survey (Construction Staking) 72 locations (3 person crew) x 2 PreConstruction 1 month.																		
Pick-up Truck	Light-duty Truck	NA	NA	2	24	NA	25	1	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Worker Commutes	Light-duty Auto/Truck	NA	NA	6	24	NA	25	1	0	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Soil Borings: 30 locations (3 person crew) - PreConstruction 1 month.		NA	NA															
Pick-up Truck	Light-duty Truck	NA	NA	1	24	NA	25	1	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Drill Rig	Bore/Drill Rigs	221	0.5	1	24	8	NA	1	0	0	0	0.111	1.043	0.821	0.005	0.027	0.025	493.278
Worker Commutes	Light-duty Auto/Truck	NA	NA	3	24	NA	25	1	0	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
ROW Clearing: (rock construction entrances - shaker plates, vegetation, tree trimming. SWPPP.																		
10-Cu Dump Truck	Heavy-duty Diesel	NA	NA	1	15	NA	45	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Backhoe/Front Loader	Tractors/Loaders/Backhoe	97	0.37	1	15	8	NA	1	0	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Road Grader	Graders	187	0.41	1	15	5	NA	1	0	0	0	0.227	1.173	2.182	0.005	0.070	0.066	495.591
Boom truck	Cranes	231	0.29	1	15	5	NA	1	0	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	2	15	NA	30	1	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Lowboy Truck/Trailer	Heavy-duty Diesel	NA	NA	1	15	NA	30	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	6	15	NA	25	1	0	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Roads and Access: Construction Areas, Pulling Sites, Light Road Improvements for 3 of 12 miles																		
10-Cu Dump Truck	Heavy-duty Diesel	NA	NA	1	15	NA	45	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Water Truck	Heavy-duty Diesel	NA	NA	1	300	NA	60	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Backhoe/Front Loader	Tractors/Loaders/Backhoe	97	0.37	1	15	8	NA	1	0	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Road Grader	Graders	187	0.41	1	15	5	NA	1	0	0	0	0.227	1.173	2.182	0.005	0.070	0.066	495.591
Drum Type Compactor	Plate Compactors	8	0.43	1	15	5	NA	1	0	0	0	0.661	3.469	4.142	0.008	0.161	0.161	569.774
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	2	15	NA	30	1	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Lowboy Truck/Trailer	Heavy-duty Diesel	NA	NA	1	15	NA	30	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	6	15	NA	25	1	0	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Guard Structures 15 (Double side wood pole H frames)																		
Auger Truck	Bore/Drill Rigs	221	0.5	1	25	8	NA	1	1	0	0	0.111	1.043	0.821	0.005	0.027	0.025	493.278
Backhoe/Front Loader	Tractors/Loaders/Backhoe	97	0.37	1	25	8	NA	1	1	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
boom truck	Cranes	231	0.29	1	25	8	NA	1	1	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
bucket truck	Heavy-duty Diesel	NA	NA	1	25	NA	1	1	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	2	25	NA	20	1	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Lowboy Truck/Trailer Pole Truck	Heavy-duty Diesel	NA	NA	1	25	NA	15	1	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	5	25	NA	25	1	1	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Foundations: Tangents 49 (Hole Digging, Foundation Setup/Cage, Pour Concrete, Finish/Removal of set up) - assumes parallel crews																		
10-Cu Dump Truck	Heavy-duty Diesel	NA	NA	2	60	NA	50	3	4	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Backhoe - Front Loader	Tractors/Loaders/Backhoe	97	0.37	2	60	5	NA	3	4	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Drill Rig/Auger Truck	Bore/Drill Rigs	221	0.5	2	60	5	NA	3	4	0	0	0.111	1.043	0.821	0.005	0.027	0.025	493.278
Truck Cranes - 20 - 30 Ton	Cranes	231	0.29	2	60	5	NA	3	4	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Truck - 40 'flat trailer	Heavy-duty Diesel	NA	NA	2	60	NA	25	3	4	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
F250 4X4 Crewcab (3/4 T) Foreman	Light-duty Truck	NA	NA	2	60	NA	25	3	4	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
10 Cu Concrete Mixer Truck	Heavy-duty Diesel	NA	NA	2	60	NA	25	3	4	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	2	60	NA	25	3	4	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Worker Commutes	Light-duty Auto/Truck	NA	NA	7	60	NA	25	3	4	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621

Table 5

PG&E 230 kV Transmission Lines Construction Emissions [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	Emissions (lbs/phase) [c]						Emissions (metric tons/phase) [c]	DPM Emission Factors, (g/hp/hr) for equipment,	Onsite DPM Emissions (lb/phase)	Activity	Onsite Emissions (lbs/day)					
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	DPM	DPM		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
General Construction																	
street sweeper	Heavy-duty Diesel	0.447	2.024	52.138	0.476	185.331	21.580	23.856	0.029	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Jet A Fuel Truck	Heavy-duty Diesel	0.075	0.337	8.690	0.079	30.889	3.597	3.976	0.029	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Mobilization: Thurman/Lodi yard and Lockeford yards.																	
10-Cu Dump Truck	Heavy-duty Diesel	0.036	0.162	4.171	0.038	14.827	1.726	1.909	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Water Truck	Heavy-duty Diesel	0.036	0.162	4.171	0.038	14.827	1.726	1.909	0.029	0.076	2	0.004	0.016	0.417	0.004	1.483	0.173
Backhoe/Front Loader	Tractors/Loaders/Backhoe	2.805	45.055	25.473	0.066	0.937	0.876	2.863	0.074	0.937	2	0.281	4.505	2.547	0.007	0.094	0.088
Road Grader	Graders	3.072	15.857	29.503	0.070	0.952	0.887	3.040	0.070	0.952	2	0.307	1.586	2.950	0.007	0.095	0.089
Drum Type Compactor	Plate Compactors	0.401	2.105	2.513	0.005	0.098	0.098	0.157	0.161	0.098	2	0.040	0.210	0.251	0.000	0.010	0.010
10k LB Forklift	Forklifts	16.376	214.783	141.085	0.306	6.840	6.275	13.192	0.116	6.840	2	0.109	1.432	0.941	0.002	0.046	0.042
30 Ton Crane	Cranes	48.470	373.253	412.660	1.108	16.615	15.374	49.679	0.075	16.615	2	0.323	2.488	2.751	0.007	0.111	0.102
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.019	0.702	0.137	0.003	3.635	0.058	0.132	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Crew Cab Flatbed, 4 × 4	Light-duty Truck	0.285	10.530	2.059	0.043	54.528	0.877	1.982	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Lowboy Truck/Trailer	Heavy-duty Diesel	0.001	0.003	0.070	0.001	0.247	0.029	0.032	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	1.742	98.825	11.360	0.388	42.481	10.949	17.977	0.002	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Survey (Construction Staking) 72 locations (3 person crew) x 2 PreCo																	
Pick-up Truck	Light-duty Truck	0.076	2.808	0.549	0.011	14.541	0.234	0.529	0.004	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.105	5.929	0.682	0.023	2.549	0.657	1.079	0.002	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Soil Borings: 30 locations (3 person crew) - PreConstruction 1 month.																	
Pick-up Truck	Light-duty Truck	0.038	1.404	0.275	0.006	7.270	0.117	0.264	0.004	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
Drill Rig	Bore/Drill Rigs	5.192	48.778	38.379	0.243	1.254	1.179	10.465	0.027	1.254	4	0.216	2.032	1.599	0.010	0.052	0.049
Worker Commutes	Light-duty Auto/Truck	0.052	2.965	0.341	0.012	1.274	0.328	0.539	0.002	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
ROW Clearing: (rock construction entrances - shaker plates, vegetatior																	
10-Cu Dump Truck	Heavy-duty Diesel	0.020	0.091	2.346	0.021	8.340	0.971	1.074	0.029	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Backhoe/Front Loader	Tractors/Loaders/Backhoe	2.104	33.791	19.105	0.049	0.703	0.657	2.147	0.074	0.703	5	0.140	2.253	1.274	0.003	0.047	0.044
Road Grader	Graders	2.880	14.866	27.659	0.066	0.892	0.832	2.850	0.070	0.892	5	0.192	0.991	1.844	0.004	0.059	0.055
Boom truck	Cranes	2.424	18.663	20.633	0.055	0.831	0.769	2.484	0.075	0.831	5	0.162	1.244	1.376	0.004	0.055	0.051
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.057	2.106	0.412	0.009	10.906	0.175	0.396	0.004	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Lowboy Truck/Trailer	Heavy-duty Diesel	0.013	0.061	1.564	0.014	5.560	0.647	0.716	0.029	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.065	3.706	0.426	0.015	1.593	0.411	0.674	0.002	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Roads and Access: Construction Areas, Pulling Sites, Light Road Impro																	
10-Cu Dump Truck	Heavy-duty Diesel	0.020	0.091	2.346	0.021	8.340	0.971	1.074	0.029	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Water Truck	Heavy-duty Diesel	0.536	2.429	62.566	0.571	222.398	25.896	28.628	0.029	1.136	6	0.002	0.008	0.209	0.002	0.741	0.086
Backhoe/Front Loader	Tractors/Loaders/Backhoe	2.104	33.791	19.105	0.049	0.703	0.657	2.147	0.074	0.703	6	0.140	2.253	1.274	0.003	0.047	0.044
Road Grader	Graders	2.880	14.866	27.659	0.066	0.892	0.832	2.850	0.070	0.892	6	0.192	0.991	1.844	0.004	0.059	0.055
Drum Type Compactor	Plate Compactors	0.376	1.973	2.356	0.005	0.092	0.092	0.147	0.161	0.092	6	0.025	0.132	0.157	0.000	0.006	0.006
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.057	2.106	0.412	0.009	10.906	0.175	0.396	0.004	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Lowboy Truck/Trailer	Heavy-duty Diesel	0.013	0.061	1.564	0.014	5.560	0.647	0.716	0.029	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.065	3.706	0.426	0.015	1.593	0.411	0.674	0.002	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Guard Structures 15 (Double side wood pole H frames)																	
Auger Truck	Bore/Drill Rigs	5.408	50.810	39.978	0.253	1.306	1.228	10.901	0.027	1.306	7	0.216	2.032	1.599	0.010	0.052	0.049
Backhoe/Front Loader	Tractors/Loaders/Backhoe	3.507	56.318	31.841	0.082	1.171	1.095	3.579	0.074	1.171	7	0.140	2.253	1.274	0.003	0.047	0.044
boom truck	Cranes	6.463	49.767	55.021	0.148	2.215	2.050	6.624	0.075	2.215	7	0.259	1.991	2.201	0.006	0.089	0.082
bucket truck	Heavy-duty Diesel	0.001	0.003	0.087	0.001	0.309	0.036	0.040	0.029	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.063	2.340	0.458	0.009	12.117	0.195	0.440	0.004	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Lowboy Truck/Trailer Pole Truck	Heavy-duty Diesel	0.011	0.051	1.303	0.012	4.633	0.540	0.596	0.029	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.091	5.147	0.592	0.020	2.213	0.570	0.936	0.002	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Foundations: Tangents 49 (Hole Digging, Foundation Setup/Cage, Pou																	
10-Cu Dump Truck	Heavy-duty Diesel	0.179	0.810	20.855	0.190	74.133	8.632	9.543	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Backhoe - Front Loader	Tractors/Loaders/Backhoe	10.520	168.955	95.524	0.247	3.513	3.285	10.737	0.074	3.513	8	0.175	2.816	1.592	0.004	0.059	0.055
Drill Rig/Auger Truck	Bore/Drill Rigs	16.224	152.430	119.933	0.760	3.917	3.683	32.704	0.027	3.917	8	0.270	2.541	1.999	0.013	0.065	0.061
Truck Cranes - 20 - 30 Ton	Cranes	19.388	149.301	165.064	0.443	6.646	6.150	19.872	0.075	6.646	8	0.323	2.488	2.751	0.007	0.111	0.102
Truck - 40 'flat trailer	Heavy-duty Diesel	0.089	0.405	10.428	0.095	37.066	4.316	4.771	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
F250 4X4 Crewcab (3/4 T) Foreman	Light-duty Truck	0.190	7.020	1.373	0.028	36.352	0.585	1.321	0.004	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
10 Cu Concrete Mixer Truck	Heavy-duty Diesel	0.089	0.405	10.428	0.095	37.066	4.316	4.771	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.190	7.020	1.373	0.028	36.352	0.585	1.321	0.004	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.305	17.294	1.988	0.068	7.434	1.916	3.146	0.002	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000

Table 5

PG&E 230 kV Transmission Lines Construction Emissions [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Daily Equipment Quantity/Vehicle Trips	Number of Days Used	Hours per Day	Miles per day/ vehicles [b]	Number of Months with Activities				Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								2026	2027	2028	2029	ROG	CO	NOx	SOx	PM_{10} [d]	$PM_{2.5}$ [d]	CO_2
Foundations: Dead Ends 24 (Hole Digging, Foundation Setup/Cage, Pour Concrete, Finish/Removal of set up) assumes parallel crews																		
10-Cu Dump Truck	Heavy-duty Diesel	NA	NA	1	40	NA	75	3	4	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Backhoe - Front Loader	Tractors/Loaders/Backhoe	97	0.37	2	40	5	NA	3	4	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Drill Rig/Auger Truck	Bore/Drill Rigs	221	0.5	2	40	5	NA	3	4	0	0	0.111	1.043	0.821	0.005	0.027	0.025	493.278
Truck Cranes - 20 - 30 Ton	Cranes	231	0.29	2	40	5	NA	3	4	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Truck - Framer (Crew Pick Up)	Light-duty Truck	NA	NA	2	40	NA	25	3	4	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
F250 4X4 Crewcab (3/4 T) Foreman	Light-duty Truck	NA	NA	2	40	NA	25	3	4	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
10 Cu Concrete Mixer Truck	Heavy-duty Diesel	NA	NA	2	40	NA	75	3	4	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	2	40	NA	25	3	4	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Worker Commutes	Light-duty Auto/Truck	NA	NA	6	40	NA	25	3	4	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Structure Assembly / Erection: Steel Pole Hauling, Assembly, Erection Tangents 49																		
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	2	50	NA	25	1	6	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
F250 4X4 Crewcab (3/4 T) Foreman	Light-duty Truck	NA	NA	2	50	NA	25	1	6	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Compressor Trailer	air compressors	78	0.48	2	50	5	NA	1	6	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
All Terrain Crane - 180 Ton	Cranes	231	0.29	2	50	5	NA	1	6	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Truck - 40 'flat trailer	Heavy-duty Diesel	NA	NA	2	50	NA	25	1	6	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	7	50	NA	25	1	6	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Structure Assembly / Erection: Steel Pole Hauling, Assembly & Erection Dead-Ends 24																		
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	2	50	NA	25	1	6	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
F250 4X4 Crewcab (3/4 T) Foreman	Light-duty Truck	NA	NA	2	50	NA	25	1	6	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Compressor Trailer	air compressors	78	0.48	2	50	5	NA	1	6	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
All Terrain Crane - 180 Ton	Cranes	231	0.29	2	50	5	NA	1	6	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Truck - 40 'flat trailer	Heavy-duty Diesel	NA	NA	2	50	NA	25	1	6	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	8	50	NA	25	1	6	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Conductor (1113 AAC) Installation + OPGW, pull and sag and tension (per Pull) Assume 12 miles of Circuit feet)																		
F250 4X4 Crewcab (3/4 T) Foreman	Light-duty Truck	NA	NA	3	100	NA	25	0	7	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
reel trailer	Heavy-duty Diesel	NA	NA	2	100	NA	25	0	7	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
1 Ton Crew Cab Flat Bed	Light-duty Truck	NA	NA	3	100	NA	25	0	7	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
30 Ton Manitex	Cranes	231	0.29	4	100	5	NA	0	7	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
22 Ton Manitex	Cranes	231	0.29	1	100	5	NA	0	7	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
20,000 lbs, Fork Lift	Forklifts	89	0.2	2	100	5	NA	0	7	0	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
580 Case Backhoe	Tractors/Loaders/Backhoe	97	0.37	2	100	5	NA	0	7	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
sock line puller	Other Construction Equipm	172	0.42	2	100	5	NA	0	7	0	0	0.220	3.135	1.826	0.005	0.093	0.086	492.644
4 Drum rope Puller	Other Construction Equipm	172	0.42	1	100	5	NA	0	7	0	0	0.220	3.135	1.826	0.005	0.093	0.086	492.644
60,000 lbs Puller	Other Construction Equipm	172	0.42	2	100	5	NA	0	7	0	0	0.220	3.135	1.826	0.005	0.093	0.086	492.644
Sag Cat Winch	Other Construction Equipm	172	0.42	1	100	5	NA	0	7	0	0	0.220	3.135	1.826	0.005	0.093	0.086	492.644
D8 Cat	Tractors/Loaders/Backhoe	97	0.37	1	100	5	NA	0	7	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Hughes 500 Helicopter	Helicopter	Heli	NA	1	50	5	NA	0	7	0	0	4.010	5.330	1.950	0.290	0.060	0.060	424.200
Fuel Helicopter Support	Heavy-duty Diesel	NA	NA	1	100	NA	50	0	7	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Low boy Truck and Trailer	Heavy-duty Diesel	NA	NA	1	100	NA	25	0	7	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	18	100	NA	25	0	7	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Restoration: 6 of 12 miles of dirt road (Crew size of 4)											0							
Light-duty Truck	Light-duty Truck	NA	NA	2	15	NA	25	0	2	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Road Grader	Graders	187	0.41	1	15	6	NA	0	2	0	0	0.227	1.173	2.182	0.005	0.070	0.066	495.591
Backhoe and Trailer	Tractors/Loaders/Backhoe	97	0.37	1	15	6	NA	0	2	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Other																		
Material Haul Trucks (10 trucks, used first 60	Light-duty Truck	NA	NA	10	60	NA	75	3	12	1	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Inspector Vehicles (Civil, Structural, Wire)	Light-duty Truck	NA	NA	3	150	NA	75	3	12	1	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471

Table 5

PG&E 230 kV Transmission Lines Construction Emissions [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	Emissions (lbs/phase) [c]						Emissions (metric tons/phase) [c]	DPM Emission Factors, (g/hp/hr) for equipment,	Onsite DPM Emissions (lb/phase)	Activity	Onsite Emissions (lbs/day)					
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	DPM	DPM		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Foundations: Dead Ends 24 (Hole Digging,	**Foundation Setup/Cage, P**																
10-Cu Dump Truck	Heavy-duty Diesel	0.089	0.405	10.428	0.095	37.066	4.316	4.771	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Backhoe - Front Loader	Tractors/Loaders/Backhoe	7.013	112.637	63.682	0.165	2.342	2.190	7.158	0.074	2.342	8	0.175	2.816	1.592	0.004	0.059	0.055
Drill Rig/Auger Truck	Bore/Drill Rigs	10.816	101.620	79.955	0.507	2.611	2.456	21.803	0.027	2.611	8	0.270	2.541	1.999	0.013	0.065	0.061
Truck Cranes - 20 - 30 Ton	Cranes	12.925	99.534	110.043	0.295	4.431	4.100	13.248	0.075	4.431	8	0.323	2.488	2.751	0.007	0.111	0.102
Truck - Framer (Crew Pick Up)	Light-duty Truck	0.127	4.680	0.915	0.019	24.235	0.390	0.881	0.004	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
F250 4X4 Crewcab (3/4 T) Foreman	Light-duty Truck	0.127	4.680	0.915	0.019	24.235	0.390	0.881	0.004	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
10 Cu Concrete Mixer Truck	Heavy-duty Diesel	0.179	0.810	20.855	0.190	74.133	8.632	9.543	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.127	4.680	0.915	0.019	24.235	0.390	0.881	0.004	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.174	9.882	1.136	0.039	4.248	1.095	1.798	0.002	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Structure Assembly / Erection: Steel Pole Hauling, Assembly, Erection																	
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.158	5.850	1.144	0.024	30.293	0.487	1.101	0.004	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
F250 4X4 Crewcab (3/4 T) Foreman	Light-duty Truck	0.158	5.850	1.144	0.024	30.293	0.487	1.101	0.004	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Compressor Trailer	air compressors	13.570	150.569	90.637	0.248	3.772	3.772	10.652	0.091	3.772	9	0.271	3.011	1.813	0.005	0.075	0.075
All Terrain Crane - 180 Ton	Cranes	16.157	124.418	137.553	0.369	5.538	5.125	16.560	0.075	5.538	9	0.323	2.488	2.751	0.007	0.111	0.102
Truck - 40 'flat trailer	Heavy-duty Diesel	0.075	0.337	8.690	0.079	30.889	3.597	3.976	0.029	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.254	14.412	1.657	0.057	6.195	1.597	2.622	0.002	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Structure Assembly / Erection: Steel Pole Hauling, Assembly & Erectio																	
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.158	5.850	1.144	0.024	30.293	0.487	1.101	0.004	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
F250 4X4 Crewcab (3/4 T) Foreman	Light-duty Truck	0.158	5.850	1.144	0.024	30.293	0.487	1.101	0.004	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Compressor Trailer	air compressors	13.570	150.569	90.637	0.248	3.772	3.772	10.652	0.091	3.772	9	0.271	3.011	1.813	0.005	0.075	0.075
All Terrain Crane - 180 Ton	Cranes	16.157	124.418	137.553	0.369	5.538	5.125	16.560	0.075	5.538	9	0.323	2.488	2.751	0.007	0.111	0.102
Truck - 40 'flat trailer	Heavy-duty Diesel	0.075	0.337	8.690	0.079	30.889	3.597	3.976	0.029	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.290	16.471	1.893	0.065	7.080	1.825	2.996	0.002	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Conductor (1113 AAC) Installation + OPGW, pull and sag and tension (																	
F250 4X4 Crewcab (3/4 T) Foreman	Light-duty Truck	0.475	17.550	3.432	0.071	90.880	1.461	3.304	0.004	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000
reel trailer	Heavy-duty Diesel	0.149	0.675	17.379	0.159	61.777	7.193	7.952	0.029	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000
1 Ton Crew Cab Flat Bed	Light-duty Truck	0.475	17.550	3.432	0.071	90.880	1.461	3.304	0.004	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000
30 Ton Manitex	Cranes	64.627	497.671	550.214	1.477	22.153	20.499	66.239	0.075	22.153	10	0.646	4.977	5.502	0.015	0.222	0.205
22 Ton Manitex	Cranes	16.157	124.418	137.553	0.369	5.538	5.125	16.560	0.075	5.538	10	0.162	1.244	1.376	0.004	0.055	0.051
20,000 lbs, Fork Lift	Forklifts	10.917	143.189	94.057	0.204	4.560	4.183	8.794	0.116	4.560	10	0.109	1.432	0.941	0.002	0.046	0.042
580 Case Backhoe	Tractors/Loaders/Backhoe	17.534	281.592	159.206	0.411	5.855	5.475	17.895	0.074	5.855	10	0.175	2.816	1.592	0.004	0.059	0.055
sock line puller	Other Construction Equipm	35.069	499.210	290.765	0.828	14.875	13.728	35.589	0.093	14.875	10	0.351	4.992	2.908	0.008	0.149	0.137
4 Drum rope Puller	Other Construction Equipm	17.534	249.605	145.383	0.414	7.437	6.864	17.794	0.093	7.437	10	0.175	2.496	1.454	0.004	0.074	0.069
60,000 lbs Puller	Other Construction Equipm	35.069	499.210	290.765	0.828	14.875	13.728	35.589	0.093	14.875	10	0.351	4.992	2.908	0.008	0.149	0.137
Sag Cat Winch	Other Construction Equipm	17.534	249.605	145.383	0.414	7.437	6.864	17.794	0.093	7.437	10	0.175	2.496	1.454	0.004	0.074	0.069
D8 Cat	Tractors/Loaders/Backhoe	8.767	140.796	79.603	0.206	2.928	2.738	8.948	0.074	2.928	10	0.088	1.408	0.796	0.002	0.029	0.027
Hughes 500 Helicopter	Helicopter	1002.500	1332.500	487.500	72.500	15.000	15.000	48.104	NA	NA	10	20.050	26.650	9.750	1.450	0.300	0.300
Fuel Helicopter Support	Heavy-duty Diesel	0.149	0.675	17.379	0.159	61.777	7.193	7.952	0.029	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000
Low boy Truck and Trailer	Heavy-duty Diesel	0.075	0.337	8.690	0.079	30.889	3.597	3.976	0.029	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	1.307	74.119	8.520	0.291	31.861	8.212	13.483	0.002	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000
Restoration: 6 of 12 miles of dirt road (Crew size of 4)																	
Light-duty Truck	Light-duty Truck	0.048	1.755	0.343	0.007	9.088	0.146	0.330	0.004	0.000	11	0.000	0.000	0.000	0.000	0.000	0.000
Road Grader	Graders	3.456	17.840	33.191	0.079	1.071	0.998	3.420	0.070	1.071	11	0.230	1.189	2.213	0.005	0.071	0.067
Backhoe and Trailer	Tractors/Loaders/Backhoe	1.578	25.343	14.329	0.037	0.527	0.493	1.611	0.074	0.527	11	0.105	1.690	0.955	0.002	0.035	0.033
Other																	
Material Haul Trucks (10 trucks, used first 60	Light-duty Truck	2.852	105.298	20.592	0.426	545.282	8.769	19.821	0.004	0.000	12	0.000	0.000	0.000	0.000	0.000	0.000
Inspector Vehicles (Civil, Structural, Wire)	Light-duty Truck	2.139	78.973	15.444	0.320	408.961	6.577	14.866	0.004	0.000	13	0.000	0.000	0.000	0.000	0.000	0.000

Table 5

PG&E 230 kV Transmission Lines Construction Emissions [a]

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Overlapping Emissions	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2026						
Activities 1,2,3,4	1.280	12.271	11.457	0.037	1.890	0.552
Activities 1,2,5,6,7	2.532	24.385	22.908	0.068	3.041	1.020
Activities 1,2,8,9,12,13	3.791	36.927	31.669	0.100	2.679	1.296
2027						
Activities 1,2,8,9,12,13	3.791	36.927	31.669	0.100	2.679	1.296
Activities 1,2, 9,10,12,13	24.535	74.741	47.665	1.554	3.367	1.951
Activities 1,2,11,12,13	1.399	13.117	13.026	0.035	1.944	0.602
Activities 7,8,9,10,12,13	25.624	86.468	55.565	1.594	2.186	2.060
Activities 8,9,10,11,12,13	25.344	83.071	53.659	1.582	2.105	1.985
2028						
Activities 12,13	0.000	0.000	0.000	0.000	0.000	0.000
Worst-Case Daily						
2026	3.791	36.927	31.669	0.100	3.041	1.296
2027	25.624	86.468	55.565	1.594	3.367	2.060
2028	0.000	0.000	0.000	0.000	0.000	0.000
2029	0	0	0	0	0	0

Notes:

NA = Parameter not required for computing emissions.

[a] Unless otherwise noted, equipment/vehicle list and daily use provided by PG&E.

[b] Helicopter operation assumes 1 LTO/hr, medium lift helicopters

[c] The following conversion factors were used to estimate emissions:

1 lb =	453.6	g
1 metric ton =	1,000,000	g
1 ton =	2,000	lbs
1 yd^3 =	1.2641662	tons
Blade width of grading equipment =	12	ft
1 acre =	43,560	ft^2
1 mile =	5,280	ft

[d] PM_{10} and $PM_{2.5}$ emissions include paved road fugitive dust emissions associated with onroad travel.

Earthmoving Emissions

Fugitive Dust emissions from Truck Dumping/Loading activities:

Activity	Year	olume (yd	Weight (tor	Emission Factors (lb/tor		Emissions (lb/phase	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Soil Loaded/Unloaded	2026	5,605	7,086	0.000041	#######	0.3	0.0
Soil Loaded/Unloaded	2027	0	0	0.000041	#######	0.0	0.0
Soil Loaded/Unloaded	2028	0	0	0.000041	#######	0.0	0.0
Soil Loaded/Unloaded	2029	0	0	0.000041	#######	0.0	0.0

Note:

Material density (CalEEMod default) 1.264 ton/CY

Total amount of soil loaded/unloaded (cy): 5,605

Fugitive Dust emissions from Grading

Activity	Year	Area (acre	Grader VMT	Emission Factors		Emissions (lb/phase	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Grading	2026	22.5	15.47	1.543	0.167	23.9	2.6
Grading	2027	0	0.00	0.000	0.000	0.0	0.0
Grading	2028	0	0.00	0.000	0.000	0.0	0.0
Grading	2029	0	0.00	0.000	0.000	0.0	0.0

Note:

VMT = As / Wb X 43,560 (sqft/acre) /5280 (ft/mile)

VMT: vehicle miles traveled

As: the acreage of the grading site (0.5 acres per grader, 1 acre for scraper, CalEEMod defaults)

Wb: blade width of the grader. CalEEMod default Wb = 12 ft.

Total acres to be graded (acres): 22.5

Annual Emissions Summary

Year	Emissions (ton/year)						Emissions (metric tons/year)	Onsite DPM (lb/year)
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2	
2026	0.053	0.561	0.505	0.002	0.460	0.052	209.643	33.676
2027	0.690	2.897	1.880	0.042	0.918	0.116	566.731	132.371
2028	0.000	0.006	0.001	0.000	0.030	0.000	2.168	0.000
2029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 6
PG&E Lockeford Substation Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Quantity	Number of Days Used	Hours per Day	Miles per day/vehicle	Months with Activities				Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								2026	2027	2028	2029	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2
General Construction: General construction schedule for Lockeford is now at 24-36 months. The project will be constructed in various phases. Phases 1 -5																		
Water Truck	Heavy-duty Diesel	NA	NA	1	450	NA	50	5	12	7	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Street Sweeper	Heavy-duty Diesel	NA	NA	1	450	NA	50	5	12	7	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Phase 1: Civil Site Preparation (10 people for 4 weeks, and work schedule 5-10)																		
Pick-up Truck	Light-duty Truck	NA	NA	3	20	NA	25	2	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	2	20	NA	25	2	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	20	8	NA	2	0	0	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
Crawler Backhoe	Tractors/Loaders/Backhoes	97	0.37	2	20	8	NA	2	0	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Bulldozer	rubber tired dozers	247	0.4	2	20	8	NA	2	0	0	0	0.365	1.641	3.410	0.005	0.147	0.136	496.529
Front Loader	Tractors/Loaders/Backhoes	97	0.37	2	20	8	NA	2	0	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Dump Truck	Heavy-duty Diesel	NA	NA	6	20	NA	90	2	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Compactor / Roller	Rollers	80	0.38	4	20	4	NA	2	0	0	0	0.264	3.483	2.543	0.005	0.121	0.113	495.936
Air Compressor	air compressors	78	0.48	2	20	4	NA	2	0	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	2	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	20	NA	25	2	0	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Phase 1a: Exterior Fence, Final Grading, and Paving (10 people for 4 weeks, and work schedule 5-10)																		
Concrete Truck	heavy-duty diesel	NA	NA	80	20	NA	90	2	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Pick-up Truck	Light-duty Truck	NA	NA	3	20	NA	25	2	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	2	20	NA	25	2	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	20	8	NA	2	0	0	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
Crawler Backhoe	Tractors/Loaders/Backhoes	97	0.37	2	20	8	NA	2	0	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Bulldozer	rubber tired dozers	247	0.4	2	20	8	NA	2	0	0	0	0.365	1.641	3.410	0.005	0.147	0.136	496.529
Front Loader	Tractors/Loaders/Backhoes	97	0.37	2	20	8	NA	2	0	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Dump Truck	Heavy-duty Diesel	NA	NA	6	20	NA	90	2	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Compactor / Roller	Rollers	80	0.38	4	20	4	NA	2	0	0	0	0.264	3.483	2.543	0.005	0.121	0.113	495.936
Air Compressor	air compressors	78	0.48	2	20	4	NA	2	0	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	2	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Grader	Graders	187	0.41	2	20	8	NA	2	0	0	0	0.227	1.173	2.182	0.005	0.070	0.066	495.591
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	20	NA	25	2	0	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Phase 1b: All Foundations, Excavation, and Installation for new control enclosure, 2 bay BAAH, 10 people for 8 weeks, and work schedule 5-10)																		
Pick-up Truck	Light-duty Truck	NA	NA	3	40	NA	25	3	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	2	40	NA	25	3	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	40	8	NA	3	0	0	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
22 Ton Crane	Cranes	231	0.29	1	40	8	NA	3	0	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Concrete Truck	heavy-duty diesel	NA	NA	80	40	NA	90	3	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Front Loader	Tractors/Loaders/Backhoes	97	0.37	1	40	8	NA	3	0	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Dump Truck	Heavy-duty Diesel	NA	NA	1	40	NA	90	3	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Compactor	plate compactors	8	0.43	2	40	4	NA	3	0	0	0	0.661	3.469	4.142	0.008	0.161	0.161	569.774
Air Compressor	air compressors	78	0.48	2	40	4	NA	3	0	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Forklift	Forklifts	89	0.2	1	40	4	NA	3	0	0	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Foundation Drill Rig	Bore/Drill Rigs	221	0.5	1	40	8	NA	3	0	0	0	0.111	1.043	0.821	0.005	0.027	0.025	493.278
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	3	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	40	NA	25	3	0	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Structure Delivery and Setup (disconnect switches, H-frame deadend structure, station service, single phase CCVT, high bus, and bay low bus)																		
Flat Bed Truck	Heavy-duty Diesel	NA	NA	12	4	NA	150	3	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Phase 2: Equipment Installation (10 people for 30 weeks, and work schedule 5-10). Greenfield construction next to existing 230kV substation equipment																		
Pick-up Truck	Light-duty Truck	NA	NA	3	150	NA	25	1	3	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	2	150	NA	25	1	3	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	150	8	NA	1	3	0	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
30 Ton Crane	Cranes	231	0.29	1	150	4	NA	1	3	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Front Loader	Tractors/Loaders/Backhoes	97	0.37	2	150	4	NA	1	3	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
80' Aerial Lifts	Aerial lifts	63	0.31	2	150	4	NA	1	3	0	0	0.117	3.204	1.540	0.005	0.028	0.026	494.496
40' Aerial Lifts	Aerial lifts	63	0.31	2	150	4	NA	1	3	0	0	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Dump Truck	Heavy-duty Diesel	NA	NA	1	150	NA	90	1	3	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Compactor	plate compactors	8	0.43	2	150	4	NA	1	3	0	0	0.661	3.469	4.142	0.008	0.161	0.161	569.774
Air Compressor	air compressors	78	0.48	2	150	4	NA	1	3	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Forklift	Forklifts	89	0.2	2	150	4	NA	1	3	0	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	1	3	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	150	NA	25	1	3	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621

Table 6
PG&E Lockeford Substation Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Quantity	Number of Days Used	Hours per Day	Miles per day/vehicle	Months with Activities				Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								2026	2027	2028	2029	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2
Phase 3: Dress/Test/Wire Equipment (10 people for 8 weeks, and work schedule 5-10).																		
Rigging Truck	Heavy-duty Diesel	NA	NA	2	40	NA	25	0	7	1	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Forklift	Forklifts	89	0.2	2	40	8	NA	0	7	1	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Manlift	Aerial lifts	63	0.31	2	40	8	NA	0	7	1	0	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Boom Truck	Cranes	231	0.29	2	40	8	NA	0	7	1	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
1-Ton Truck	Light-duty Truck	NA	NA	2	40	NA	25	0	7	1	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Pick-up Truck	Light-duty Truck	NA	NA	3	40	NA	25	0	7	1	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	40	8	NA	0	7	1	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	0	7	1	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Dump Truck	Heavy-duty Diesel	NA	NA	1	20	NA	90	0	7	1	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Air Compressor	air compressors	78	0.48	2	40	4	NA	0	7	1	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	40	NA	25	0	7	1	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Phase 4A-4C: Rebuild existing Substation. Install foundations for bay reconfiguation and RO1 TSP foundation.																	#N/A	
Rigging Truck	Heavy-duty Diesel	NA	NA	2	21	NA	25	0	0	2	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Forklift	Forklifts	89	0.2	2	21	8	NA	0	0	2	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Manlift	Aerial lifts	63	0.31	2	21	8	NA	0	0	2	0	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Boom Truck	Cranes	231	0.29	2	21	8	NA	0	0	2	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
1-Ton Truck	Light-duty Truck	NA	NA	2	21	NA	25	0	0	2	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Pick-up Truck	Light-duty Truck	NA	NA	3	21	NA	25	0	0	2	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	21	8	--	0	0	2	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	0	0	2	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Dump Truck	Heavy-duty Diesel	NA	NA	1	21	NA	90	0	0	2	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Air Compressor	air compressors	78	0.48	2	21	4	NA	0	0	2	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	21	NA	25	0	0	2	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Phase 4D - 4F: Rebuild existing Substation. Replace or remove replaced equipment. Re-energize.																		
Rigging Truck	Heavy-duty Diesel	NA	NA	2	171	NA	25	0	0	8	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Forklift	Forklifts	89	0.2	2	171	4	NA	0	0	8	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Manlift	Aerial lifts	63	0.31	2	171	4	NA	0	0	8	0	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Boom Truck	Cranes	231	0.29	2	171	4	NA	0	0	8	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
1-Ton Truck	Light-duty Truck	NA	NA	2	171	NA	25	0	0	8	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Pick-up Truck	Light-duty Truck	NA	NA	3	171	NA	25	0	0	8	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	171	8	NA	0	0	8	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	0	0	8	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Dump Truck	Heavy-duty Diesel	NA	NA	1	171	NA	90	0	0	8	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Air Compressor	air compressors	78	0.48	2	171	4	NA	0	0	8	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	171	NA	25	0	0	8	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Phase 5A -5C: Rebuild existing Substation - Total of 34 weeks worth of work.																		
Rigging Truck	Heavy-duty Diesel	NA	NA	2	111	NA	25	0	0	1	4	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Forklift	Forklifts	89	0.2	2	111	4	NA	0	0	1	4	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Manlift	Aerial lifts	63	0.31	2	111	4	NA	0	0	1	4	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Boom Truck	Cranes	231	0.29	2	111	4	NA	0	0	1	4	0.219	1.685	1.863	0.005	0.075	0.069	494.393
1-Ton Truck	Light-duty Truck	NA	NA	2	111	NA	25	0	0	1	4	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Pick-up Truck	Light-duty Truck	NA	NA	3	111	NA	25	0	0	1	4	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	111	4	NA	0	0	1	4	0.230	3.334	2.077	0.006	0.076	0.076	568.799
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	0	0	1	4	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Dump Truck	Heavy-duty Diesel	NA	NA	1	111	NA	90	0	0	1	4	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Air Compressor	air compressors	78	0.48	2	111	4	NA	0	0	1	4	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	111	NA	25	0	0	1	4	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Cleaning and Landscaping (Assume 4 people for 1 week and work schedule 5-10)																		
Flat Bed Truck	Heavy-duty Diesel	NA	NA	1	2	NA	150	0	1	0	1	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Pick-up Truck	Light-duty Truck	NA	NA	1	5	NA	25	0	1	0	1	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	1	5	NA	25	0	1	0	1	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Small Backhoe	Tractors/Loaders/Backhoes	97	0.37	1	5	8	NA	0	1	0	1	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Dump Truck	Heavy-duty Diesel	NA	NA	1	5	NA	90	0	1	0	1	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	4	5	NA	25	0	1	0	1	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Other																		
Inspectors	light-duty auto/truck	NA	NA	1	450	NA	25	5	12	12	4	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Material Haul Trucks	Heavy-duty Diesel	NA	NA	27	2	NA	150	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419

Table 6
PG&E Lockeford Substation Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	Emissions (lbs/phase)						Emissions (metric tons/phase)	DPM Emission Factors, (g/hp/hr) for equipment, g/mile for vehicles,	Onsite DPM Emissions (lb/phase)	Activity	Onsite Emissions (lbs/day)					
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	DPM	DPM		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
General Construction: General construction schedule for Lock																	
Water Truck	Heavy-duty Diesel	0.671	3.036	78.207	0.714	277.997	32.370	35.784	0.029	1.419	1	0.001	0.007	0.174	0.002	0.618	0.072
Street Sweeper	Heavy-duty Diesel	0.671	3.036	78.207	0.714	277.997	32.370	35.784	0.029	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Phase 1: Civil Site Preparation (10 people for 4 weeks, and wo																	
Pick-up Truck	Light-duty Truck	0.095	3.510	0.686	0.014	18.176	0.292	0.661	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.063	2.340	0.458	0.009	12.117	0.195	0.440	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	5.043	73.092	45.540	0.132	1.675	1.675	5.657	0.076	1.675	2	0.252	3.655	2.277	0.007	0.084	0.084
Crawler Backhoe	Tractors/Loaders/Backhoes	5.611	90.109	50.946	0.132	1.874	1.752	5.726	0.074	1.874	2	0.281	4.505	2.547	0.007	0.094	0.088
Bulldozer	rubber tired dozers	25.413	114.354	237.676	0.362	10.274	9.493	15.698	0.147	10.274	2	1.271	5.718	11.884	0.018	0.514	0.475
Front Loader	Tractors/Loaders/Backhoes	5.611	90.109	50.946	0.132	1.874	1.752	5.726	0.074	1.874	2	0.281	4.505	2.547	0.007	0.094	0.088
Dump Truck	Heavy-duty Diesel	0.322	1.457	37.539	0.342	133.439	15.538	17.177	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Compactor / Roller	Rollers	5.658	74.703	54.540	0.112	2.599	2.428	4.824	0.121	2.599	2	0.283	3.735	2.727	0.006	0.130	0.121
Air Compressor	air compressors	4.342	48.182	29.004	0.079	1.207	1.207	3.409	0.091	1.207	2	0.217	2.409	1.450	0.004	0.060	0.060
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.145	8.235	0.947	0.032	3.540	0.912	1.498	0.002	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Phase 1a: Exterior Fence, Final Grading, and Paving (10 peopl																	
Concrete Truck	heavy-duty diesel	4.292	19.430	500.526	4.567	1779.182	207.169	229.020	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.095	3.510	0.686	0.014	18.176	0.292	0.661	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.063	2.340	0.458	0.009	12.117	0.195	0.440	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	5.043	73.092	45.540	0.132	1.675	1.675	5.657	0.076	1.675	2	0.252	3.655	2.277	0.007	0.084	0.084
Crawler Backhoe	Tractors/Loaders/Backhoes	5.611	90.109	50.946	0.132	1.874	1.752	5.726	0.074	1.874	2	0.281	4.505	2.547	0.007	0.094	0.088
Bulldozer	rubber tired dozers	25.413	114.354	237.676	0.362	10.274	9.493	15.698	0.147	10.274	2	1.271	5.718	11.884	0.018	0.514	0.475
Front Loader	Tractors/Loaders/Backhoes	5.611	90.109	50.946	0.132	1.874	1.752	5.726	0.074	1.874	2	0.281	4.505	2.547	0.007	0.094	0.088
Dump Truck	Heavy-duty Diesel	0.322	1.457	37.539	0.342	133.439	15.538	17.177	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Compactor / Roller	Rollers	5.658	74.703	54.540	0.112	2.599	2.428	4.824	0.121	2.599	2	0.283	3.735	2.727	0.006	0.130	0.121
Air Compressor	air compressors	4.342	48.182	29.004	0.079	1.207	1.207	3.409	0.091	1.207	2	0.217	2.409	1.450	0.004	0.060	0.060
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Grader	Graders	12.289	63.429	118.011	0.281	3.808	3.548	12.159	0.070	3.808	2	0.614	3.171	5.901	0.014	0.190	0.177
Worker Commutes	Light-duty Auto/Truck	0.145	8.235	0.947	0.032	3.540	0.912	1.498	0.002	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Phase 1b: All Foundations, Excavation, and Installation for ne																	
Pick-up Truck	Light-duty Truck	0.190	7.020	1.373	0.028	36.352	0.585	1.321	0.004	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.127	4.680	0.915	0.019	24.235	0.390	0.881	0.004	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	10.086	146.185	91.080	0.263	3.350	3.350	11.314	0.076	3.350	3	0.252	3.655	2.277	0.007	0.084	0.084
22 Ton Crane	Cranes	10.340	79.627	88.034	0.236	3.544	3.280	10.598	0.075	3.544	3	0.259	1.991	2.201	0.006	0.089	0.082
Concrete Truck	heavy-duty diesel	8.584	38.860	1001.053	9.133	3558.365	414.339	458.041	0.029	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Front Loader	Tractors/Loaders/Backhoes	5.611	90.109	50.946	0.132	1.874	1.752	5.726	0.074	1.874	3	0.140	2.253	1.274	0.003	0.047	0.044
Dump Truck	Heavy-duty Diesel	0.107	0.486	12.513	0.114	44.480	5.179	5.726	0.029	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Compactor	plate compactors	1.604	8.419	10.052	0.019	0.391	0.391	0.627	0.161	0.391	3	0.040	0.210	0.251	0.000	0.010	0.010
Air Compressor	air compressors	8.684	96.364	58.008	0.158	2.414	2.414	6.817	0.091	2.414	3	0.217	2.409	1.450	0.004	0.060	0.060
Forklift	Forklifts	1.747	22.910	15.049	0.033	0.730	0.669	1.407	0.116	0.730	3	0.044	0.573	0.376	0.001	0.018	0.017
Foundation Drill Rig	Bore/Drill Rigs	8.653	81.296	63.964	0.405	2.089	1.964	17.442	0.027	2.089	3	0.216	2.032	1.599	0.010	0.052	0.049
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.290	16.471	1.893	0.065	7.080	1.825	2.996	0.002	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Structure Delivery and Setup (disconnect switches, H-frame d																	
Flat Bed Truck	Heavy-duty Diesel	0.215	0.971	25.026	0.228	88.959	10.358	11.451	0.029	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Phase 2: Equipment Installation (10 people for 30 weeks, and																	
Pick-up Truck	Light-duty Truck	0.713	26.324	5.148	0.107	136.320	2.192	4.955	0.004	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.475	17.550	3.432	0.071	90.880	1.461	3.304	0.004	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	37.822	548.192	341.551	0.987	12.564	12.564	42.428	0.076	12.564	4	0.252	3.655	2.277	0.007	0.084	0.084
30 Ton Crane	Cranes	19.388	149.301	165.064	0.443	6.646	6.150	19.872	0.075	6.646	4	0.129	0.995	1.100	0.003	0.044	0.041
Front Loader	Tractors/Loaders/Backhoes	21.040	337.911	191.047	0.494	7.026	6.570	21.474	0.074	7.026	4	0.140	2.253	1.274	0.003	0.047	0.044
80' Aerial Lifts	Aerial lifts	6.035	165.557	79.567	0.269	1.447	1.364	11.589	0.028	1.447	4	0.040	1.104	0.530	0.002	0.010	0.009
40' Aerial Lifts	Aerial lifts	6.035	165.557	79.567	0.269	1.447	1.364	11.589	0.028	1.447	4	0.040	1.104	0.530	0.002	0.010	0.009
Dump Truck	Heavy-duty Diesel	0.402	1.822	46.924	0.428	166.798	19.422	21.471	0.029	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
Compactor	plate compactors	6.015	31.570	37.694	0.073	1.465	1.465	2.352	0.161	1.465	4	0.040	0.210	0.251	0.000	0.010	0.010
Air Compressor	air compressors	32.567	361.365	217.528	0.594	9.053	9.053	25.566	0.091	9.053	4	0.217	2.409	1.450	0.004	0.060	0.060
Forklift	Forklifts	13.100	171.827	112.868	0.245	5.472	5.020	10.553	0.116	5.472	4	0.087	1.146	0.752	0.002	0.036	0.033
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	1.089	61.766	7.100	0.243	26.551	6.843	11.236	0.002	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000

Table 6
PG&E Lockeford Substation Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	Emissions (lbs/phase)						Emissions (metric tons/phase)	DPM Emission Factors, (g/hp/hr) for equipment, g/mile for vehicles,	Onsite DPM Emissions (lb/phase)		Onsite Emissions (lbs/day)					
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	DPM	DPM	Activity	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Phase 3: Dress/Test/Wire Equipment (10 people for 8 weeks,																	
Rigging Truck	Heavy-duty Diesel	0.060	0.270	6.952	0.063	24.711	2.877	3.181	0.029	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	Forklifts	6.987	91.641	60.196	0.131	2.918	2.677	5.628	0.116	2.918	5	0.175	2.291	1.505	0.003	0.073	0.067
Manlift	Aerial lifts	3.218	88.297	42.436	0.143	0.772	0.727	6.181	0.028	0.772	5	0.080	2.207	1.061	0.004	0.019	0.018
Boom Truck	Cranes	20.681	159.255	176.068	0.473	7.089	6.560	21.196	0.075	7.089	5	0.517	3.981	4.402	0.012	0.177	0.164
1-Ton Truck	Light-duty Truck	0.127	4.680	0.915	0.019	24.235	0.390	0.881	0.004	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.190	7.020	1.373	0.028	36.352	0.585	1.321	0.004	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	10.086	146.185	91.080	0.263	3.350	3.350	11.314	0.076	3.350	5	0.252	3.655	2.277	0.007	0.084	0.084
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Dump Truck	Heavy-duty Diesel	0.054	0.243	6.257	0.057	22.240	2.590	2.863	0.029	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Air Compressor	air compressors	8.684	96.364	58.008	0.158	2.414	2.414	6.817	0.091	2.414	5	0.217	2.409	1.450	0.004	0.060	0.060
Worker Commutes	Light-duty Auto/Truck	0.290	16.471	1.893	0.065	7.080	1.825	2.996	0.002	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Phase 4A-4C: Rebuild existing Substation. Install foundations																	
Rigging Truck	Heavy-duty Diesel	0.031	0.142	3.650	0.033	12.973	1.511	1.670	0.029	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	Forklifts	3.668	48.111	31.603	0.069	1.532	1.406	2.955	0.116	1.532	6	0.175	2.291	1.505	0.003	0.073	0.067
Manlift	Aerial lifts	1.690	46.356	22.279	0.075	0.405	0.382	3.245	0.028	0.405	6	0.080	2.207	1.061	0.004	0.019	0.018
Boom Truck	Cranes	10.857	83.609	92.436	0.248	3.722	3.444	11.128	0.075	3.722	6	0.517	3.981	4.402	0.012	0.177	0.164
1-Ton Truck	Light-duty Truck	0.067	2.457	0.480	0.010	12.723	0.205	0.462	0.004	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.100	3.685	0.721	0.015	19.085	0.307	0.694	0.004	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	5.295	76.747	47.817	0.138	1.759	1.759	5.940	0.076	1.759	6	0.252	3.655	2.277	0.007	0.084	0.084
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Dump Truck	Heavy-duty Diesel	0.056	0.255	6.569	0.060	23.352	2.719	3.006	0.029	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Air Compressor	air compressors	4.559	50.591	30.454	0.083	1.267	1.267	3.579	0.091	1.267	6	0.217	2.409	1.450	0.004	0.060	0.060
Worker Commutes	Light-duty Auto/Truck	0.152	8.647	0.994	0.034	3.717	0.958	1.573	0.002	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Phase 4D - 4F: Rebuild existing Substation. Replace or remov																	
Rigging Truck	Heavy-duty Diesel	0.255	1.154	29.719	0.271	105.639	12.301	13.598	0.029	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	Forklifts	14.934	195.882	128.669	0.279	6.238	5.723	12.031	0.116	6.238	7	0.087	1.146	0.752	0.002	0.036	0.033
Manlift	Aerial lifts	6.880	188.735	90.707	0.306	1.649	1.555	13.211	0.028	1.649	7	0.040	1.104	0.530	0.002	0.010	0.009
Boom Truck	Cranes	44.205	340.407	376.346	1.010	15.153	14.021	45.307	0.075	15.153	7	0.259	1.991	2.201	0.006	0.089	0.082
1-Ton Truck	Light-duty Truck	0.542	20.007	3.912	0.081	103.604	1.666	3.766	0.004	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.813	30.010	5.869	0.121	155.405	2.499	5.649	0.004	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	43.117	624.939	389.368	1.125	14.322	14.322	48.368	0.076	14.322	7	0.252	3.655	2.277	0.007	0.084	0.084
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Dump Truck	Heavy-duty Diesel	0.459	2.077	53.494	0.488	190.150	22.141	24.477	0.029	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Air Compressor	air compressors	37.126	411.956	247.982	0.677	10.320	10.320	29.145	0.091	10.320	7	0.217	2.409	1.450	0.004	0.060	0.060
Worker Commutes	Light-duty Auto/Truck	1.241	70.413	8.094	0.277	30.268	7.801	12.809	0.002	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Phase 5A -5C: Rebuild existing Substation - Total of 34 weeks																	
Rigging Truck	Heavy-duty Diesel	0.165	0.749	19.291	0.176	68.573	7.985	8.827	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	Forklifts	9.694	127.152	83.522	0.181	4.049	3.715	7.809	0.116	4.049	8	0.087	1.146	0.752	0.002	0.036	0.033
Manlift	Aerial lifts	4.466	122.512	58.880	0.199	1.071	1.009	8.576	0.028	1.071	8	0.040	1.104	0.530	0.002	0.010	0.009
Boom Truck	Cranes	28.694	220.966	244.295	0.656	9.836	9.101	29.410	0.075	9.836	8	0.259	1.991	2.201	0.006	0.089	0.082
1-Ton Truck	Light-duty Truck	0.352	12.987	2.540	0.053	67.251	1.081	2.445	0.004	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.528	19.480	3.809	0.079	100.877	1.622	3.667	0.004	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	13.994	202.831	126.374	0.365	4.649	4.649	15.698	0.076	4.649	8	0.126	1.827	1.139	0.003	0.042	0.042
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Dump Truck	Heavy-duty Diesel	0.298	1.348	34.724	0.317	123.431	14.372	15.888	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Air Compressor	air compressors	24.099	267.410	160.971	0.440	6.699	6.699	18.919	0.091	6.699	8	0.217	2.409	1.450	0.004	0.060	0.060
Worker Commutes	Light-duty Auto/Truck	0.806	45.706	5.254	0.180	19.647	5.064	8.314	0.002	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Cleaning and Landscaping (Assume 4 people for 1 week and w																	
Flat Bed Truck	Heavy-duty Diesel	0.009	0.040	1.043	0.010	3.707	0.432	0.477	0.029	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.008	0.292	0.057	0.001	1.515	0.024	0.055	0.004	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.008	0.292	0.057	0.001	1.515	0.024	0.055	0.004	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Small Backhoe	Tractors/Loaders/Backhoes	0.701	11.264	6.368	0.016	0.234	0.219	0.716	0.074	0.234	9	0.140	2.253	1.274	0.003	0.047	0.044
Dump Truck	Heavy-duty Diesel	0.013	0.061	1.564	0.014	5.560	0.647	0.716	0.029	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.015	0.824	0.095	0.003	0.354	0.091	0.150	0.002	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Other																	
Inspectors	light-duty auto/truck	0.327	18.530	2.130	0.073	7.965	2.053	3.371	0.002	0.000	11	0.000	0.000	0.000	0.000	0.000	0.000
Material Haul Trucks	Heavy-duty Diesel	0.241	1.093	28.155	0.257	100.079	11.653	12.882	0.029	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000

Table 6
PG&E Lockeford Substation Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Overlapping Emissions	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2026						
Activities 1,10,11	0.001	0.007	0.174	0.002	0.618	0.072
Activities 1,2,3,11	6.950	65.349	62.194	0.140	2.500	2.354
Activities 1,3,4,11	2.116	26.005	17.768	0.055	1.278	0.708
2027						
Activities 1,4,5, 11	2.190	27.425	19.034	0.053	1.332	0.755
Activities 1,9,11	0.142	2.259	1.447	0.005	0.665	0.116
2028						
Activities 1,5,11	1.243	14.550	10.869	0.031	1.031	0.465
Activities 1, 6,11	1.243	14.550	10.869	0.031	1.031	0.465
Activities 1,7,11	0.857	10.310	7.385	0.021	0.897	0.341
Activities 8,11	0.729	8.476	6.072	0.017	0.237	0.227
2029						
Activities 8,9,11	0.870	10.729	7.346	0.020	0.284	0.271
Worst-Case Daily						
2026	6.950	65.349	62.194	0.140	2.500	2.354
2027	2.190	27.425	19.034	0.053	1.332	0.755
2028	1.243	14.550	10.869	0.031	1.031	0.465
	0.870	10.729	7.346	0.020	0.284	0.271

Notes:
NA = Parameter not required for computing emissions.
1. Unless otherwise noted, equipment/vehicle list and daily use provided by PG&E.
2. Helicopter operation assumes 1 LTO/hr, medium lift helicopters
3. The following conversion factors were used to estimate emissions:

1 lb =	453.6	g
1 metric ton =	1,000,000	g
1 ton =	2,000	lbs
1 yd^3 =	1.2641662	tons
Blade width of grading equi	12	ft
1 acre =	43,560	ft^2
1 mile =	5,280	ft

4. PM_{10} and $PM_{2.5}$ emissions include paved road fugitive dust emissions associated with onroad travel.

Earthmoving Emissions
Fugitive Dust emissions from Truck Dumping/Loading activities:

Activity	Year	Volume (yd^3)	Weight (ton)	Emission Factors (lb/ton		Emissions (lb/phase)	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Soil Loaded/unloaded	2026	1,777	2,246	0.000041	0.000006	0.1	0.0
Soil Loaded/unloaded	2027	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2028	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2029	0	0	0.000041	0.000006	0.0	0.0

Note:
Material density (CalEEMod default, ton/cy) 1.264
Total amount of soil loaded/unloaded (cy): 1,777 (assumed to be split between 2025 and 2026.

Fugitive Dust emissions from Grading

Activity	Year	Area (acre)/Phase	Grader VMT (miles/phase)	Emission Factors (lb/VMT)		Emissions (lb/phase)	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Grading	2026	3	2.06	1.543	0.167	3.2	0.3
Grading	2027	0.00	0.00	1.543	0.167	0.0	0.0
Grading	2028	0.00	0.00	1.543	0.167	0.0	0.0
Grading	2029	0.00	0.00	1.543	0.167	0.0	0.0

Note:
VMT = As / Wb X 43,560 (sqft/acre) /5280 (ft/mile)
VMT: vehicle miles traveled

As: the acreage of the grading site (0.5 acres per grader, 1 acre for scraper, CalEEMod defaults)

Wb: blade width of the grader. CalEEMod default Wb = 12 ft.

Total acres to be graded (acres): 3

Annual Emissions Summary

Year	Emissions (ton/year)						Emissions (metric tons/year)	Onsite DPM
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2	(lb/year)
2026	0.107	1.102	1.724	0.010	3.152	0.388	976.715	68.780
2027	0.077	1.040	0.722	0.003	0.385	0.056	234.793	49.141
2028	0.100	1.248	0.914	0.003	0.501	0.072	299.749	64.110
2029	0.033	0.413	0.300	0.001	#VALUE!	0.023	0.049	21.160

Table 7

PG&E 12 kV Service Line Extension into PG&E Thurman Switching Station

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Quantity	Number of Days Used	Hours per Day	Miles per Day	Months with Activities				Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								2026	2027	2028	2029	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2
General Construction: Average commute from Hotels to job site.																		
Pick-up Truck	Light-duty Truck	NA	NA	2	20	NA	25	0	2	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Safety Inspection	Light-duty Auto/Truck	NA	NA	1	20	NA	50	0	2	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Worker Commutes	Light-duty Auto/Truck	NA	NA	2	20	NA	25	0	2	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Street Sweeper	Heavy-duty Diesel	NA	NA	1	20	NA	50	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Mobilization: Thurman Yard or Staging Area																		
Direction Drill Machine -HDD	Bore/Drill Rigs	221	0.5	1	15	8	NA	0	2	0	0	0.111	1.043	0.821	0.005	0.027	0.025	493.278
Vacuum Truck- Pump Intake	Pumps	84	0.74	1	15	8	NA	0	2	0	0	0.247	3.385	2.103	0.006	0.081	0.081	568.844
2 Stationary Pumps	Pumps	84	0.74	2	15	8	NA	0	2	0	0	0.247	3.385	2.103	0.006	0.081	0.081	568.844
10-Cu Asphalt/Concrete Truck	Heavy-duty Diesel	NA	NA	1	2	NA	60	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
10-Cu Dump Truck	Heavy-duty Diesel	NA	NA	1	15	NA	60	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Water Truck	Heavy-duty Diesel	NA	NA	1	15	NA	60	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Excavator/Ditch Witch	excavators	158	0.38	1	15	8	NA	0	2	0	0	0.169	3.135	1.028	0.005	0.050	0.046	494.812
Backhoe/Front Loader	Tractors/Loaders/Backhoes	97	0.37	2	10	8	NA	0	2	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Road Grader	Graders	187	0.41	1	10	8	NA	0	2	0	0	0.227	1.173	2.182	0.005	0.070	0.066	495.591
Drum Type Compactor	Plate Compactors	8	0.43	1	5	8	NA	0	2	0	0	0.661	3.469	4.142	0.008	0.161	0.161	569.774
10 ton fork lift	Forklifts	89	0.2	1	5	5	NA	0	2	0	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
30 Ton Crane	Cranes	231	0.29	1	5	5	NA	0	2	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
boom truck	Cranes	231	0.29	1	5	8	NA	0	2	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Cable puller Truck, 4 × 4	light-duty truck	NA	NA	1	20	NA	15	0	2	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Crew Cab Flatbed, 4 × 4	Light-duty Truck	NA	NA	2	20	NA	15	0	2	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Lowboy Truck/Trailer	Heavy-duty Diesel	NA	NA	1	10	NA	2	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	8	20	NA	25	0	2	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621

Table 7

PG&E 12 kV Service Line Extension into PG&E Thurman Switching St

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	Emissions (lbs/phase)						Emissions (metric tons/phase)	DPM Emission Factors, (g/hp/hr) for equipment, g/mile for vehicles,	DPM Emissions (lb/phase)	Activity	Onsite Emissions (lbs/day)					
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	DPM	DPM		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
General Construction: Average commute from Hotels to job site.																	
Pick-up Truck	Light-duty Truck	0.063	2.340	0.458	0.009	12.117	0.195	0.440	0.004	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Safety Inspection	Light-duty Auto/Truck	0.029	1.647	0.189	0.006	0.708	0.182	0.300	0.002	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.029	1.647	0.189	0.006	0.708	0.182	0.300	0.002	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Street Sweeper	Heavy-duty Diesel	0.030	0.135	3.476	0.032	12.355	1.439	1.590	0.029	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Mobilization: Thurman Yard or Staging Area																	
Direction Drill Machine -HDD	Bore/Drill Rigs	3.245	30.486	23.987	0.152	0.783	0.737	6.541	0.027	0.783	2	0.216	2.032	1.599	0.010	0.052	0.049
Vacuum Truck- Pump Intake	Pumps	4.068	55.658	34.579	0.099	1.329	1.329	4.243	0.081	1.329	2	0.271	3.711	2.305	0.007	0.089	0.089
2 Stationary Pumps	Pumps	8.137	111.316	69.159	0.197	2.657	2.657	8.486	0.081	2.657	2	0.542	7.421	4.611	0.013	0.177	0.177
10-Cu Asphalt/Concrete Truck	Heavy-duty Diesel	0.004	0.016	0.417	0.004	1.483	0.173	0.191	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
10-Cu Dump Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Water Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.057	2	0.002	0.008	0.209	0.002	0.741	0.086
Excavator/Ditch Witch	excavators	2.684	49.792	16.327	0.083	0.797	0.734	3.565	0.050	0.797	2	0.179	3.319	1.088	0.006	0.053	0.049
Backhoe/Front Loader	Tractors/Loaders/Backhoes	2.805	45.055	25.473	0.066	0.937	0.876	2.863	0.074	0.937	2	0.281	4.505	2.547	0.007	0.094	0.088
Road Grader	Graders	3.072	15.857	29.503	0.070	0.952	0.887	3.040	0.070	0.952	2	0.307	1.586	2.950	0.007	0.095	0.089
Drum Type Compactor	Plate Compactors	0.201	1.052	1.256	0.002	0.049	0.049	0.078	0.161	0.049	2	0.040	0.210	0.251	0.000	0.010	0.010
10 ton fork lift	Forklifts	0.273	3.580	2.351	0.005	0.114	0.105	0.220	0.116	0.114	2	0.055	0.716	0.470	0.001	0.023	0.021
30 Ton Crane	Cranes	0.808	6.221	6.878	0.018	0.277	0.256	0.828	0.075	0.277	2	0.162	1.244	1.376	0.004	0.055	0.051
boom truck	Cranes	1.293	9.953	11.004	0.030	0.443	0.410	1.325	0.075	0.443	2	0.259	1.991	2.201	0.006	0.089	0.082
Cable puller Truck, 4 × 4	light-duty truck	0.019	0.702	0.137	0.003	3.635	0.058	0.132	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Crew Cab Flatbed, 4 × 4	Light-duty Truck	0.038	1.404	0.275	0.006	7.270	0.117	0.264	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Lowboy Truck/Trailer	Heavy-duty Diesel	0.001	0.003	0.070	0.001	0.247	0.029	0.032	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.116	6.588	0.757	0.026	2.832	0.730	1.198	0.002	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000

Table 7

PG&E 12 kV Service Line Extension into PG&E Thurman Switching Station

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Worst-Case Daily						
	ROG	**CO**	**NOx**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2026	0.000	0.000	0.000	0.000	0.000	0.000
2027	2.313	26.744	19.608	0.062	1.478	0.790
2028	0.000	0.000	0.000	0.000	0.000	0.000
2029	0.000	0.000	0.000	0.000	0.000	0.000

Overlapping ov actifities 1 and 2.

Notes:

NA = Parameter not required for computing emissions.

1. Unless otherwise noted, equipment/vehicle list and daily use provided by PG&E.
2. Helicopter operation assumes 1 LTO/hr, medium lift helicopters
3. The following conversion factors were used to estimate emissions:

1 lb =	453.6	g
1 metric ton =	1,000,000	g
1 ton =	2,000	lbs
1 yd^3 =	1.2641662	tons
Blade width of grading equipmen	12	ft
1 acre =	43,560	ft^2
1 mile =	5,280	ft

4. PM_{10} and $PM_{2.5}$ emissions include paved road fugitive dust emissions associated with onroad travel.

Earthmoving Emissions

Fugitive Dust emissions from Truck Dumping/Loading activities:

Activity	**Year**	**Volume (yd^3)**	**Weight (ton)**	**Emission Factors (lb/ton**		**Emissions (lb/phase)**	
				PM_{10}	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**
Soil Loaded/unloaded	2026	0	0	0.000041	0.000006	0.0000	0.0000
Soil Loaded/unloaded	2027	13	16	0.000041	0.000006	0.0007	0.0001
Soil Loaded/unloaded	2028	0	0	0.000041	0.000006	0.0000	0.0000
Soil Loaded/unloaded	2029	0	0	0.000041	0.000006	0.0000	0.0000

Note:

Material density (CalEEMod default, ton/cy) 1.264

Total amount of soil loaded/unloaded (cy): 13

Fugitive Dust emissions from Grading

Activity	**Year**	**Area (acre)/**	**(miles/phase)**	**Emission Factors (lb/VMT)**		**Emissions (lb/phase)**	
				PM_{10}	**$PM_{2.5}$**	**PM_{10}**	**$PM_{2.5}$**
Grading	2026	0	0.00	1.543	0.167	0.0	0.0
Grading	2027	0	0.00	1.543	0.167	0.0	0.0
	2028	0	0.00	1.543	0.167	0.0	0.0
Grading	2029	0	0.00	1.543	0.167	0.0	0.0

Note:

VMT = As / Wb X 43,560 (sqft/acre) /5280 (ft/mile)

VMT: vehicle miles traveled

As: the acreage of the grading site (0.5 acres per grader, 1 acre for scraper, CalEEMod defaults)

Wb: blade width of the grader. CalEEMod default Wb = 12 ft.

Total acres to be graded (acres): 0

Annual Emissions Summary

Year	**Emissions (ton/year)**						**Emissions (metric tons/year)**	**Onsite DPM (lb/year)**
	ROG	**CO**	**NOx**	**SOx**	**PM_{10} [d]**	**$PM_{2.5}$ [d]**	**CO_2**	
2026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2027	0.013	0.172	0.116	0.000	0.036	0.007	38.500	8.395
2028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 8
PG&E Remote End Substation Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Quantity	Number of Days Used	Hours per Day	Miles per Day	Months with Activities				Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								2026	2027	2028	2029	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2
System Work at Brighton Substation																		
Mechanics Truck	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	3	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Worker Commutes	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	3	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
General Construction at Brighton Substation																		
3/4-Ton Pick-up Truck	Light-duty Truck	NA	NA	4	5	NA	20	0	0	4	2	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	1	5	NA	20	0	0	4	2	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Manlift	Aerial lifts	63	0.31	1	5	5	NA	0	0	4	2	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Dump Truck	Heavy-duty Diesel	NA	NA	1	5	NA	6	0	0	4	2	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Boom Truck	Cranes	231	0.29	1	5	6	NA	0	0	4	2	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Jack Hammer	Other Construction Equipment	172	0.42	1	5	6	NA	0	0	4	2	0.220	3.135	1.826	0.005	0.093	0.086	492.644
Small Backhoe	Tractors/Loaders/Backhoes	97	0.37	1	5	5	NA	0	0	4	2	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Worker Commutes	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	0	4	2	0.013	0.747	0.086	0.003	0.321	0.083	299.621
System Work at Rio Oso Substation																		
Mechanics Truck	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	3	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Worker Commutes	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	3	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
General Construction at Rio Oso Substation																		
3/4-Ton Pick-up Truck	Light-duty Truck	NA	NA	4	5	NA	20	0	0	4	2	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	1	5	NA	20	0	0	4	2	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Manlift	Aerial lifts	63	0.31	1	5	5	NA	0	0	4	2	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Dump Truck	Heavy-duty Diesel	NA	NA	1	5	NA	6	0	0	4	2	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Boom Truck	Cranes	231	0.29	1	5	6	6	0	0	4	2	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Jack Hammer	Other Construction Equipment	172	0.42	1	5	6	NA	0	0	4	2	0.220	3.135	1.826	0.005	0.093	0.086	492.644
Small Backhoe	Tractors/Loaders/Backhoes	97	0.37	1	5	5	NA	0	0	4	2	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Worker Commutes	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	0	4	2	0.013	0.747	0.086	0.003	0.321	0.083	299.621
System Work at Bellota Substation																		
Mechanics Truck	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	2	0	1	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Worker Commutes	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	2	0	1	0.013	0.747	0.086	0.003	0.321	0.083	299.621
General Construction at Bellota Substation																		
3/4-Ton Pick-up Truck	Light-duty Truck	NA	NA	4	5	NA	20	0	0	4	2	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	1	5	NA	20	0	0	4	2	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Manlift	Aerial lifts	63	0.31	1	5	5	NA	0	0	4	2	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Dump Truck	Heavy-duty Diesel	NA	NA	1	5	NA	6	0	0	4	2	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Boom Truck	Cranes	231	0.29	1	5	6	6	0	0	4	2	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Jack Hammer	Other Construction Equipment	172	0.42	1	5	6	NA	0	0	4	2	0.220	3.135	1.826	0.005	0.093	0.086	492.644
Small Backhoe	Tractors/Loaders/Backhoes	97	0.37	1	5	5	NA	0	0	4	2	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Worker Commutes	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	0	4	2	0.013	0.747	0.086	0.003	0.321	0.083	299.621
General Construction at Clayton Hill																		
Mechanics Truck	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	3	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Worker Commutes	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	3	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621

Table 8
PG&E Remote End Substation Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	Emissions (lbs/phase)						Emissions (metric tons/phase)	DPM Emission Factors, (g/hp/hr) for equipment, g/mile for vehicles,	Onsite DPM Emissions (lb/phase)	Activity	Onsite Emissions (lbs/day)					
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	DPM	DPM		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
System Work at Brighton Substation																	
Mechanics Truck	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
General Construction at Brighton Substation																	
3/4-Ton Pick-up Truck	Light-duty Truck	0.025	0.936	0.183	0.004	4.847	0.078	0.176	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.006	0.234	0.046	0.001	1.212	0.019	0.044	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Manlift	Aerial lifts	0.126	3.449	1.658	0.006	0.030	0.028	0.241	0.028	0.030	2	0.025	0.690	0.332	0.001	0.006	0.006
Dump Truck	Heavy-duty Diesel	0.001	0.004	0.104	0.001	0.371	0.043	0.048	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Boom Truck	Cranes	0.969	7.465	8.253	0.022	0.332	0.307	0.994	0.075	0.332	2	0.194	1.493	1.651	0.004	0.066	0.061
Jack Hammer	Other Construction Equipment	1.052	14.976	8.723	0.025	0.446	0.412	1.068	0.093	0.446	2	0.210	2.995	1.745	0.005	0.089	0.082
Small Backhoe	Tractors/Loaders/Backhoes	0.438	7.040	3.980	0.010	0.146	0.137	0.447	0.074	0.146	2	0.088	1.408	0.796	0.002	0.029	0.027
Worker Commutes	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
System Work at Rio Oso Substation																	
Mechanics Truck	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
General Construction at Rio Oso Substation																	
3/4-Ton Pick-up Truck	Light-duty Truck	0.025	0.936	0.183	0.004	4.847	0.078	0.176	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.006	0.234	0.046	0.001	1.212	0.019	0.044	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Manlift	Aerial lifts	0.126	3.449	1.658	0.006	0.030	0.028	0.241	0.028	0.030	2	0.025	0.690	0.332	0.001	0.006	0.006
Dump Truck	Heavy-duty Diesel	0.001	0.004	0.104	0.001	0.371	0.043	0.048	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Boom Truck	Cranes	0.969	7.465	8.253	0.022	0.332	0.307	0.994	0.075	0.332	2	0.194	1.493	1.651	0.004	0.066	0.061
Jack Hammer	Other Construction Equipment	1.052	14.976	8.723	0.025	0.446	0.412	1.068	0.093	0.446	2	0.210	2.995	1.745	0.005	0.089	0.082
Small Backhoe	Tractors/Loaders/Backhoes	0.438	7.040	3.980	0.010	0.146	0.137	0.447	0.074	0.146	2	0.088	1.408	0.796	0.002	0.029	0.027
Worker Commutes	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
System Work at Bellota Substation																	
Mechanics Truck	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
General Construction at Bellota Substation																	
3/4-Ton Pick-up Truck	Light-duty Truck	0.025	0.936	0.183	0.004	4.847	0.078	0.176	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.006	0.234	0.046	0.001	1.212	0.019	0.044	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Manlift	Aerial lifts	0.126	3.449	1.658	0.006	0.030	0.028	0.241	0.028	0.030	2	0.025	0.690	0.332	0.001	0.006	0.006
Dump Truck	Heavy-duty Diesel	0.001	0.004	0.104	0.001	0.371	0.043	0.048	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Boom Truck	Cranes	0.969	7.465	8.253	0.022	0.332	0.307	0.994	0.075	0.332	2	0.194	1.493	1.651	0.004	0.066	0.061
Jack Hammer	Other Construction Equipment	1.052	14.976	8.723	0.025	0.446	0.412	1.068	0.093	0.446	2	0.210	2.995	1.745	0.005	0.089	0.082
Small Backhoe	Tractors/Loaders/Backhoes	0.438	7.040	3.980	0.010	0.146	0.137	0.447	0.074	0.146	2	0.088	1.408	0.796	0.002	0.029	0.027
Worker Commutes	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
General Construction at Clayton Hill																	
Mechanics Truck	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000

Table 8
PG&E Remote End Substation Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Overlapping Emissions	ROG	CO	NOx	SOx	PM_{10} [d]	$PM_{2.5}$ [d]
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2027						
activity 1,4	0.000	0.000	0.000	0.000	0.000	0.000
Activity 3	0.000	0.000	0.000	0.000	0.000	0.000
2028						
Activity 2	1.551	19.758	13.568	0.038	0.573	0.531
2029						
Activity 2,4	1.551	19.758	13.568	0.038	0.573	0.531
Worst-Case Daily						
2026	0.000	0.000	0.000	0.000	0.000	0.000
2027	0.000	0.000	0.000	0.000	0.000	0.000
2028	1.551	19.758	13.568	0.038	0.573	0.531
2029	1.551	19.758	13.568	0.038	0.573	0.531

Notes:
NA = Parameter not required for computing emissions.
1. Unless otherwise noted, equipment/vehicle list and daily use provided by PG&E.
2. Helicopter operation assumes 1 LTO/hr, medium lift helicopters
3. The following conversion factors were used to estimate emissions:

1 lb =	453.6	g
1 metric ton =	1,000,000	g
1 ton =	2,000	lbs
1 yd^3 =	1.2641662	tons
Blade width of grading equipment	12	ft
1 acre =	43,560	ft^2
1 mile =	5,280	ft

4. PM_{10} and $PM_{2.5}$ emissions include paved road fugitive dust emissions associated with onroad travel.

Earthmoving Emissions

Fugitive Dust emissions from Truck Dumping/Loading activities:

Activity	Year	Volume (yd^3)	Weight (ton)	Emission Factors (lb/ton		Emissions (lb/phase)	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Soil Loaded/unloaded	2026	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2027	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2028	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2029	0	0	0.000041	0.000006	0.0	0.0

Note:
Material density (CalEEMod default, ton/cy) 1.264
Total amount of soil loaded/unloaded (cy): 0

Fugitive Dust emissions from Grading

Activity	Year	Area (acre)/Ph	Grader VMT (miles/phase)	Emission Factors (lb/VMT)		Emissions (lb/phase)	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Grading	2026	0	0.00	1.543	0.167	0.0	0.0
Grading	2027	0	0.00	1.543	0.167	0.0	0.0
Grading	2028	0	0.00	1.543	0.167	0.0	0.0
Grading	2029	0	0.00	1.543	0.167	0.0	0.0

Note:
VMT = As / Wb X 43,560 (sqft/acre) /5280 (ft/mile)
VMT: vehicle miles traveled
As: the acreage of the grading site (0.5 acres per grader, 1 acre for scraper, CalEEMod defaults)
Wb: blade width of the grader. CalEEMod default Wb = 12 ft.
Total acres to be graded (acres): 0

Annual Emissions Summary

Year	Emissions (ton/year)						Emissions (metric tons/year)	DPM (lb/year)
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2	DPM
2026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2027	0.000	0.009	0.001	0.000	0.004	0.001	3.296	0.000
2028	0.003	0.037	0.023	0.000	0.008	0.001	6.935	1.910
2029	0.001	0.019	0.012	0.000	0.005	0.001	3.767	0.955

Table 9
PG&E Thurman Switching Station Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Quantity	Number of Days Used	Hours per Day	Miles per Day/Vehicle	Months with Activities				Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								2026	2027	2028	2029	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2
General Construction (Assume 9 months to build this green field substation, work schedule 5-10)																		
Water Truck	Heavy-duty Diesel	NA	NA	1	85	NA	50	2	9	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Street Sweeper	Heavy-duty Diesel	NA	NA	1	50	NA	50	2	9	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Civil Site Preparation (Assume clear ultimate pad size of 514' X 500', around 6 Acre, 10 people for 4 weeks, and work schedule 5-10)																		
Pick-up Truck	Light-duty Truck	NA	NA	3	20	NA	25	1	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	2	20	NA	25	1	0	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	20	8	NA	1	0	0	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
Crawler Backhoe	Tractors/Loaders/Backhoes	97	0.37	2	20	8	NA	1	0	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Bulldozer	rubber tired dozers	247	0.4	2	20	8	NA	1	0	0	0	0.365	1.641	3.410	0.005	0.147	0.136	496.529
Front Loader	Tractors/Loaders/Backhoes	97	0.37	2	20	8	NA	1	0	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Dump Truck	Heavy-duty Diesel	NA	NA	6	20	NA	90	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Compactor / Roller	Rollers	80	0.38	4	20	8	NA	1	0	0	0	0.264	3.483	2.543	0.005	0.121	0.113	495.936
Air Compressor	air compressors	78	0.48	2	20	4	NA	1	0	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	1	0	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	20	NA	25	1	0	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Foundations, Excavation, and Installation (Assume 321 different size foundations, total 750 Cu Yd concrete, 10 people for 8 weeks, and work schedule 5-10)																		
Pick-up Truck	Light-duty Truck	NA	NA	3	40	NA	25	0	2	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	2	40	NA	25	0	2	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	40	8	NA	0	2	0	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
22 Ton Crane	Cranes	231	0.29	1	30	8	NA	0	2	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Concrete Truck	heavy-duty diesel	NA	NA	80	30	NA	90	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Front Loader	Tractors/Loaders/Backhoes	97	0.37	1	40	8	NA	0	2	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Dump Truck	Heavy-duty Diesel	NA	NA	1	40	NA	90	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Compactor	plate compactors	8	0.43	2	40	8	NA	0	2	0	0	0.661	3.469	4.142	0.008	0.161	0.161	569.774
Air Compressor	air compressors	78	0.48	2	40	4	NA	0	2	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Forklift	Forklifts	89	0.2	1	40	8	NA	0	2	0	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Foundation Drill Rig	Bore/Drill Rigs	221	0.5	1	40	8	NA	0	2	0	0	0.111	1.043	0.821	0.005	0.027	0.025	493.278
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	40	NA	25	0	2	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Structure Delivery and Setup (Assume sixteen disconnect switches, six H-frame deadend structure, two station service, fourteen single phase CCVT, high bus #1 & 2, and two bay low bus)																		
Flat Bed Truck	Heavy-duty Diesel	NA	NA	10	2	NA	150	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Equipment Installation (Assume six breakers, sixteen disconnect switches, six H-frame deadend structure, two station service, fourteen single phase CCVT, high bus #1 & 2, two bay low bus and jumpers, 10 people for 12 weeks, and work schedule 5-10)																		
Pick-up Truck	Light-duty Truck	NA	NA	3	60	NA	25	0	3	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	2	60	NA	25	0	3	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	60	8	NA	0	3	0	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
30 Ton Crane	Cranes	231	0.29	1	60	4	NA	0	3	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Front Loader	Tractors/Loaders/Backhoes	97	0.37	2	60	4	NA	0	3	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
80' Aerial Lifts	Aerial lifts	63	0.31	2	60	4	NA	0	3	0	0	0.117	3.204	1.540	0.005	0.028	0.026	494.496
40' Aerial Lifts	Aerial lifts	63	0.31	2	60	4	NA	0	3	0	0	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Dump Truck	Heavy-duty Diesel	NA	NA	1	40	NA	90	0	3	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Compactor	plate compactors	8	0.43	2	60	4	NA	0	3	0	0	0.661	3.469	4.142	0.008	0.161	0.161	569.774
Air Compressor	air compressors	78	0.48	2	60	4	NA	0	3	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Forklift	Forklifts	89	0.2	2	60	4	NA	0	3	0	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	0	3	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	60	NA	25	0	3	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Dress/Test/Wire Equipment (Assume six breakers, sixteen disconnect switches, four spans of overhead transmission line inside substation, two station service, fourteen single phase CCVT, 10 people for 8 weeks, and work schedule 5-10)																		
Rigging Truck	Heavy-duty Diesel	NA	NA	2	10	NA	25	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Forklift	Forklifts	89	0.2	2	40	8	NA	0	2	0	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Manlift	Aerial lifts	63	0.31	2	40	8	NA	0	2	0	0	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Boom Truck	Cranes	231	0.29	2	40	8	NA	0	2	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
1-Ton Truck	Light-duty Truck	NA	NA	2	40	NA	25	0	2	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Pick-up Truck	Light-duty Truck	NA	NA	3	40	NA	25	0	2	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	40	8	NA	0	2	0	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Dump Truck	Heavy-duty Diesel	NA	NA	1	10	NA	90	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419

Table 9
PG&E Thurman Switching Station Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Quantity	Number of Days Used	Hours per Day	Miles per Day/Vehicle	Months with Activities				Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								2026	2027	2028	2029	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2
Air Compressor	air compressors	78	0.48	2	20	4	NA	0	2	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	40	NA	25	0	2	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Exterior Walls, Final Grading, and Paving (Assume 1350' X 20' X 1' of paved road, grade ultimate pad size of 514' X 500', around 6 Acre, 10 people for 4 weeks, and work schedule 5-10)																		
Concrete Truck	heavy-duty diesel	NA	NA	100	20	NA	90	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Pick-up Truck	Light-duty Truck	NA	NA	3	20	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	2	20	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Office Trailer	Generator sets	84	0.74	1	20	8	NA	0	1	0	0	0.230	3.334	2.077	0.006	0.076	0.076	568.799
Crawler Backhoe	Tractors/Loaders/Backhoes	97	0.37	2	20	8	NA	0	1	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Bulldozer	rubber tired dozers	247	0.4	2	20	8	NA	0	1	0	0	0.365	1.641	3.410	0.005	0.147	0.136	496.529
Front Loader	Tractors/Loaders/Backhoes	97	0.37	2	20	8	NA	0	1	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Dump Truck	Heavy-duty Diesel	NA	NA	6	20	NA	90	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Compactor / Roller	Rollers	80	0.38	4	20	8	NA	0	1	0	0	0.264	3.483	2.543	0.005	0.121	0.113	495.936
Air Compressor	air compressors	78	0.48	2	20	4	NA	0	1	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Grader	Graders	187	0.41	2	20	8	NA	0	1	0	0	0.227	1.173	2.182	0.005	0.070	0.066	495.591
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	20	NA	25	0	1	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Cleaning and Landscaping (Assume 4 people for 1 week and work schedule 5-10)																		
Flat Bed Truck	Heavy-duty Diesel	NA	NA	3	2	NA	150	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Pick-up Truck	Light-duty Truck	NA	NA	1	5	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	1	5	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Small Backhoe	Tractors/Loaders/Backhoes	97	0.37	1	5	8	NA	0	1	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Dump Truck	Heavy-duty Diesel	NA	NA	1	5	NA	90	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	4	5	NA	25	0	1	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Other																		
Material Haul Trucks	Heavy-duty Diesel	NA	NA	25	2	NA	150	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Inspector Vehicles	light-duty auto/truck	NA	NA	1	180	NA	25	2	9	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621

Table 9
PG&E Thurman Switching Station Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	Emissions (lbs/phase)						Emissions (metric tons/phase)	DPM Emission Factors, (g/hp/hr) for equipment, g/mile for vehicles,	DPM Emissions (lb/phase)		Onsite Emissions (lbs/day) [c]					
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	DPM	DPM	Activity	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
General Construction (Assume 9 months to build this green field subs																	
Water Truck	Heavy-duty Diesel	0.127	0.573	14.772	0.135	52.511	6.114	6.759	0.029	0.268	1	0.001	0.007	0.174	0.002	0.618	0.072
Street Sweeper	Heavy-duty Diesel	0.075	0.337	8.690	0.079	30.889	3.597	3.976	0.029	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Civil Site Preparation (Assume clear ultimate pad size of 514' X 500', a																	
Pick-up Truck	Light-duty Truck	0.095	3.510	0.686	0.014	18.176	0.292	0.661	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.063	2.340	0.458	0.009	12.117	0.195	0.440	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	5.043	73.092	45.540	0.132	1.675	1.675	5.657	0.076	1.675	2	0.252	3.655	2.277	0.007	0.084	0.084
Crawler Backhoe	Tractors/Loaders/Backhoes	5.611	90.109	50.946	0.132	1.874	1.752	5.726	0.074	1.874	2	0.281	4.505	2.547	0.007	0.094	0.088
Bulldozer	rubber tired dozers	25.413	114.354	237.676	0.362	10.274	9.493	15.698	0.147	10.274	2	1.271	5.718	11.884	0.018	0.514	0.475
Front Loader	Tractors/Loaders/Backhoes	5.611	90.109	50.946	0.132	1.874	1.752	5.726	0.074	1.874	2	0.281	4.505	2.547	0.007	0.094	0.088
Dump Truck	Heavy-duty Diesel	0.322	1.457	37.539	0.342	133.439	15.538	17.177	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Compactor / Roller	Rollers	11.315	149.405	109.080	0.223	5.199	4.855	9.649	0.121	5.199	2	0.566	7.470	5.454	0.011	0.260	0.243
Air Compressor	air compressors	4.342	48.182	29.004	0.079	1.207	1.207	3.409	0.091	1.207	2	0.217	2.409	1.450	0.004	0.060	0.060
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.145	8.235	0.947	0.032	3.540	0.912	1.498	0.002	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Foundations, Excavation, and Installation (Assume 321 different size f																	
Pick-up Truck	Light-duty Truck	0.190	7.020	1.373	0.028	36.352	0.585	1.321	0.004	0.000	3_4	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.127	4.680	0.915	0.019	24.235	0.390	0.881	0.004	0.000	3_4	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	10.086	146.185	91.080	0.263	3.350	3.350	11.314	0.076	3.350	3_4	0.252	3.655	2.277	0.007	0.084	0.084
22 Ton Crane	Cranes	7.755	59.720	66.026	0.177	2.658	2.460	7.949	0.075	2.658	3_4	0.259	1.991	2.201	0.006	0.089	0.082
Concrete Truck	heavy-duty diesel	6.438	29.145	750.789	6.850	2668.773	310.754	343.531	0.029	0.000	3_4	0.000	0.000	0.000	0.000	0.000	0.000
Front Loader	Tractors/Loaders/Backhoes	5.611	90.109	50.946	0.132	1.874	1.752	5.726	0.074	1.874	3_4	0.140	2.253	1.274	0.003	0.047	0.044
Dump Truck	Heavy-duty Diesel	0.107	0.486	12.513	0.114	44.480	5.179	5.726	0.029	0.000	3_4	0.000	0.000	0.000	0.000	0.000	0.000
Compactor	plate compactors	3.208	16.837	20.104	0.039	0.781	0.781	1.254	0.161	0.781	3_4	0.080	0.421	0.503	0.001	0.020	0.020
Air Compressor	air compressors	8.684	96.364	58.008	0.158	2.414	2.414	6.817	0.091	2.414	3_4	0.217	2.409	1.450	0.004	0.060	0.060
Forklift	Forklifts	3.493	45.820	30.098	0.065	1.459	1.339	2.814	0.116	1.459	3_4	0.087	1.146	0.752	0.002	0.036	0.033
Foundation Drill Rig	Bore/Drill Rigs	8.653	81.296	63.964	0.405	2.089	1.964	17.442	0.027	2.089	3_4	0.216	2.032	1.599	0.010	0.052	0.049
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	3_4	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.290	16.471	1.893	0.065	7.080	1.825	2.996	0.002	0.000	3_4	0.000	0.000	0.000	0.000	0.000	0.000
Structure Delivery and Setup (Assume sixteen disconnect switches, six																	
Flat Bed Truck	Heavy-duty Diesel	0.089	0.405	10.428	0.095	37.066	4.316	4.771	0.029	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Equipment Installation (Assume six breakers, sixteen disconnect switc																	
Pick-up Truck	Light-duty Truck	0.285	10.530	2.059	0.043	54.528	0.877	1.982	0.004	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.190	7.020	1.373	0.028	36.352	0.585	1.321	0.004	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	15.129	219.277	136.620	0.395	5.025	5.025	16.971	0.076	5.025	6	0.252	3.655	2.277	0.007	0.084	0.084
30 Ton Crane	Cranes	7.755	59.720	66.026	0.177	2.658	2.460	7.949	0.075	2.658	6	0.129	0.995	1.100	0.003	0.044	0.041
Front Loader	Tractors/Loaders/Backhoes	8.416	135.164	76.419	0.197	2.810	2.628	8.590	0.074	2.810	6	0.140	2.253	1.274	0.003	0.047	0.044
80' Aerial Lifts	Aerial lifts	2.414	66.223	31.827	0.107	0.579	0.546	4.636	0.028	0.579	6	0.040	1.104	0.530	0.002	0.010	0.009
40' Aerial Lifts	Aerial lifts	2.414	66.223	31.827	0.107	0.579	0.546	4.636	0.028	0.579	6	0.040	1.104	0.530	0.002	0.010	0.009
Dump Truck	Heavy-duty Diesel	0.107	0.486	12.513	0.114	44.480	5.179	5.726	0.029	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Compactor	plate compactors	2.406	12.628	15.078	0.029	0.586	0.586	0.941	0.161	0.586	6	0.040	0.210	0.251	0.000	0.010	0.010
Air Compressor	air compressors	13.027	144.546	87.011	0.238	3.621	3.621	10.226	0.091	3.621	6	0.217	2.409	1.450	0.004	0.060	0.060
Forklift	Forklifts	5.240	68.731	45.147	0.098	2.189	2.008	4.221	0.116	2.189	6	0.087	1.146	0.752	0.002	0.036	0.033
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.436	24.706	2.840	0.097	10.620	2.737	4.494	0.002	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Dress/Test/Wire Equipment (Assume six breakers, sixteen disconnect																	
Rigging Truck	Heavy-duty Diesel	0.015	0.067	1.738	0.016	6.178	0.719	0.795	0.029	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Forklift	Forklifts	6.987	91.641	60.196	0.131	2.918	2.677	5.628	0.116	2.918	7	0.175	2.291	1.505	0.003	0.073	0.067
Manlift	Aerial lifts	3.218	88.297	42.436	0.143	0.772	0.727	6.181	0.028	0.772	7	0.080	2.207	1.061	0.004	0.019	0.018
Boom Truck	Cranes	20.681	159.255	176.068	0.473	7.089	6.560	21.196	0.075	7.089	7	0.517	3.981	4.402	0.012	0.177	0.164
1-Ton Truck	Light-duty Truck	0.127	4.680	0.915	0.019	24.235	0.390	0.881	0.004	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.190	7.020	1.373	0.028	36.352	0.585	1.321	0.004	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	10.086	146.185	91.080	0.263	3.350	3.350	11.314	0.076	3.350	7	0.252	3.655	2.277	0.007	0.084	0.084
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Dump Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000

Table 9
PG&E Thurman Switching Station Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

		Emissions (lbs/phase)						Emissions (metric tons/phase)	DPM Emission Factors, (g/hp/hr) for equipment, g/mile for vehicles,	DPM Emissions (lb/phase)		Onsite Emissions (lbs/day) [c]					
Equipment / Vehicle List	**Equipment / Vehicle Type**	**ROG**	**CO**	**NOx**	**SOx**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**	**DPM**	**DPM**	Activity	**ROG**	**CO**	**NOx**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Air Compressor	air compressors	4.342	48.182	29.004	0.079	1.207	1.207	3.409	0.091	1.207	7	0.217	2.409	1.450	0.004	0.060	0.060
Worker Commutes	Light-duty Auto/Truck	0.290	16.471	1.893	0.065	7.080	1.825	2.996	0.002	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Exterior Walls, Final Grading, and Paving (Assume 1350' X 20' X 1' of																	
Concrete Truck	heavy-duty diesel	5.365	24.287	625.658	5.708	2223.978	258.962	286.275	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.095	3.510	0.686	0.014	18.176	0.292	0.661	0.004	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.063	2.340	0.458	0.009	12.117	0.195	0.440	0.004	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Office Trailer	Generator sets	5.043	73.092	45.540	0.132	1.675	1.675	5.657	0.076	1.675	8	0.252	3.655	2.277	0.007	0.084	0.084
Crawler Backhoe	Tractors/Loaders/Backhoes	5.611	90.109	50.946	0.132	1.874	1.752	5.726	0.074	1.874	8	0.281	4.505	2.547	0.007	0.094	0.088
Bulldozer	rubber tired dozers	25.413	114.354	237.676	0.362	10.274	9.493	15.698	0.147	10.274	8	1.271	5.718	11.884	0.018	0.514	0.475
Front Loader	Tractors/Loaders/Backhoes	5.611	90.109	50.946	0.132	1.874	1.752	5.726	0.074	1.874	8	0.281	4.505	2.547	0.007	0.094	0.088
Dump Truck	Heavy-duty Diesel	0.322	1.457	37.539	0.342	133.439	15.538	17.177	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Compactor / Roller	Rollers	11.315	149.405	109.080	0.223	5.199	4.855	9.649	0.121	5.199	8	0.566	7.470	5.454	0.011	0.260	0.243
Air Compressor	air compressors	4.342	48.182	29.004	0.079	1.207	1.207	3.409	0.091	1.207	8	0.217	2.409	1.450	0.004	0.060	0.060
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Grader	Graders	12.289	63.429	118.011	0.281	3.808	3.548	12.159	0.070	3.808	8	0.614	3.171	5.901	0.014	0.190	0.177
Worker Commutes	Light-duty Auto/Truck	0.145	8.235	0.947	0.032	3.540	0.912	1.498	0.002	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000
Cleaning and Landscaping (Assume 4 people for 1 week and work sche																	
Flat Bed Truck	Heavy-duty Diesel	0.027	0.121	3.128	0.029	11.120	1.295	1.431	0.029	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.008	0.292	0.057	0.001	1.515	0.024	0.055	0.004	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.008	0.292	0.057	0.001	1.515	0.024	0.055	0.004	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Small Backhoe	Tractors/Loaders/Backhoes	0.701	11.264	6.368	0.016	0.234	0.219	0.716	0.074	0.234	9	0.140	2.253	1.274	0.003	0.047	0.044
Dump Truck	Heavy-duty Diesel	0.013	0.061	1.564	0.014	5.560	0.647	0.716	0.029	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.015	0.824	0.095	0.003	0.354	0.091	0.150	0.002	0.000	9	0.000	0.000	0.000	0.000	0.000	0.000
Other																	
Material Haul Trucks	Heavy-duty Diesel	0.224	1.012	26.069	0.238	92.666	10.790	11.928	0.029	0.000	10	0.000	0.000	0.000	0.000	0.000	0.000
Inspector Vehicles	light-duty auto/truck	0.131	7.412	0.852	0.029	3.186	0.821	1.348	0.002	0.000	11	0.000	0.000	0.000	0.000	0.000	0.000

Table 9
PG&E Thurman Switching Station Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Overlapping Emissions	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2026						
Activities 1,11	0.001	0.007	0.174	0.002	0.618	0.072
Activities 2,10,11	2.867	28.263	26.160	0.053	1.105	1.037
2027						
Activities 3_4, 10, 11	1.252	13.906	10.056	0.032	0.388	0.372
Activities 5,10, 11						
Activities 6,11	0.947	12.875	8.166	0.022	0.301	0.290
Activities 7,10,11	1.241	14.544	10.695	0.029	0.414	0.393
Activities 8,9,10,11	3.621	33.687	33.334	0.070	1.342	1.258
Worst-Case Daily						
2026	2.867	28.263	26.160	0.053	1.105	1.037
2027	3.621	33.687	33.334	0.070	1.342	1.258
2028	0.000	0.000	0.000	0.000	0.000	0.000
2029	0.000	0.000	0.000	0.000	0.000	0.000

Notes:

NA = Parameter not required for computing emissions.
1. Unless otherwise noted, equipment/vehicle list and daily use provided by PG&E.
2. Helicopter operation assumes 1 LTO/hr, medium lift helicopters
3. The following conversion factors were used to estimate emissions:

1 lb =	453.6	g
1 metric ton =	1,000,000	g
1 ton =	2,000	lbs
1 yd^3 =	1.2641662	tons
Blade width of grading equipment =	12	ft
1 acre =	43,560	ft^2
1 mile =	5,280	ft

4. PM_{10} and $PM_{2.5}$ emissions include paved road fugitive dust emissions associated with onroad travel.

Earthmoving Emissions
Fugitive Dust emissions from Truck Dumping/Loading activities:

Activity	Year	Volume (yd^3)	Weight (ton)	Emission Factors (lb/ton		Emissions (lb/phase)	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Soil Loaded/unloaded	2026	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2027	4,890	6,182	0.000041	0.000006	0.3	0.0
Soil Loaded/unloaded	2028	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2029	0	0	0.000041	0.000006	0.0	0.0

Note:

Material density (CalEEMod default, ton/cy)	1.264
Total amount of soil loaded/unloaded (cy):	4,890 (assumed to be in 2027

Fugitive Dust emissions from Grading

Activity	Year	Area (acre)/Pl	(miles/phase	Emission Factors		Emissions (lb/phase)	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Grading	2026	0	0.00	1.543	0.167	0.0	0.0
Grading	2027	6.25	4.30	1.543	0.167	6.6	0.7
Grading	2028	0.00	0.00	1.543	0.167	0.0	0.0
Grading	2029	0.00	0.00	1.543	0.167	0.0	0.0

Note:
VMT = As / Wb X 43,560 (sqft/acre) /5280 (ft/mile)
VMT: vehicle miles traveled
As: the acreage of the grading site (0.5 acres per grader, 1 acre for scraper, CalEEMod defaults)
Wb: blade width of the grader. CalEEMod default Wb = 12 ft.
Total acres to be graded (acres): 6.25

Annual Emissions Summary

Year	Emissions (ton/year)						Emissions (metric	Onsite DPM
	ROG	CO	NOx	SOx	PM_{10} [d]	$PM_{2.5}$ [d]	CO_2	(lb/year)
2026	0.029	0.291	0.285	0.001	0.112	0.021	69.270	22.151
2027	0.118	1.331	1.725	0.010	2.871	0.355	934.129	74.373
2028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 10

PG&E Microwave Tower within PG&E Thurman Switching Station Construction Emissions

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Quantity	Number of Days Used	Hours per Day	Miles per Day	Months with Activities				Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								2026	2027	2028	2029	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2
General Construction (Assume separate contractor to build 100' tower. 10 men crew for 4 months and work schedule 5-10)																		
Mechanics Truck	Light-duty Auto/Truck	NA	NA	1	80	NA	25	0	4	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Worker Commutes	Light-duty Auto/Truck	NA	NA	10	80	NA	25	0	4	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Tower Foundation Installation (Assume 4 foundations, total 160 Cu Yd concrete, 6 people for 4 weeks, and work schedule 5-10)																		
Pick-up Truck	Light-duty Truck	NA	NA	2	20	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	1	20	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
22 Ton Crane	Cranes	231	0.29	1	20	8	NA	0	1	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Concrete Truck	heavy-duty diesel	NA	NA	16	20	NA	90	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Front Loader	Tractors/Loaders/Backhoes	97	0.37	1	20	8	NA	0	1	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Dump Truck	Heavy-duty Diesel	NA	NA	1	20	NA	90	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Compactor	plate compactors	8	0.43	1	20	8	NA	0	1	0	0	0.661	3.469	4.142	0.008	0.161	0.161	569.774
Air Compressor	air compressors	78	0.48	1	20	4	NA	0	1	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Forklift	Forklifts	89	0.2	1	20	8	NA	0	1	0	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Foundation Drill Rig	Bore/Drill Rigs	221	0.5	1	20	8	NA	0	1	0	0	0.111	1.043	0.821	0.005	0.027	0.025	493.278
Flat Bed Truck	Heavy-duty Diesel	NA	NA	1	2	NA	150	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Structure Delivery and Setup (Assume 100' tower steel)																		
Flat Bed Truck	Heavy-duty Diesel	NA	NA	4	2	NA	150	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Tower Installation (Assume 125' tower, 10 people for 4 weeks, work schedule 5-10)																		
Pick-up Truck	Light-duty Truck	NA	NA	3	20	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	2	20	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
30 Ton Crane	Cranes	231	0.29	1	20	8	NA	0	1	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
Front Loader	Tractors/Loaders/Backhoes	97	0.37	1	20	8	NA	0	1	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
120' Aerial Lifts	Aerial Lifts	63	0.31	1	20	8	NA	0	1	0	0	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Dump Truck	Heavy-duty Diesel	NA	NA	1	20	NA	90	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Air Compressor	air compressors	78	0.48	2	20	4	NA	0	1	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Forklift	Forklifts	89	0.2	1	20	8	NA	0	1	0	0	0.278	3.649	2.397	0.005	0.116	0.107	494.068
Flat Bed Truck	Heavy-duty Diesel	NA	NA	1	2	NA	150	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Communication Equipment Installation & Testing (Assume 10 people for 8 weeks and work schedule 5-10)																		
Rigging Truck	Heavy-duty Diesel	NA	NA	1	20	NA	25	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Manlift	Aerial lifts	63	0.31	1	20	8	NA	0	2	0	0	0.117	3.204	1.540	0.005	0.028	0.026	494.496
Boom Truck	Cranes	231	0.29	1	20	8	NA	0	2	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
1-Ton Truck	Light-duty Truck	NA	NA	2	20	NA	25	0	2	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Pick-up Truck	Light-duty Truck	NA	NA	3	20	NA	25	0	2	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Flat Bed Truck	Heavy-duty Diesel	NA	NA	1	2	NA	150	0	2	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Air Compressor	air compressors	78	0.48	1	20	8	NA	0	2	0	0	0.329	3.648	2.196	0.006	0.091	0.091	569.034
Cleaning and Landscaping (Assume 4 people for 1 week and work schedule 5-10)																		
Flat Bed Truck	Heavy-duty Diesel	NA	NA	1	2	NA	150	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Pick-up Truck	Light-duty Truck	NA	NA	1	5	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
1-Ton Truck	Light-duty Truck	NA	NA	1	5	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Small Backhoe	Tractors/Loaders/Backhoes	97	0.37	1	5	8	NA	0	1	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Dump Truck	Heavy-duty Diesel	NA	NA	1	5	NA	90	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Worker Commutes	Light-duty Auto/Truck	NA	NA	1	5	NA	25	0	1	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Other																		
Material Haul Trucks	Heavy-duty Diesel	NA	NA	8	2	NA	150	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	1590.419
Inspector Vehicles	light-duty auto/truck	NA	NA	1	20	NA	25	0	1	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621

Table 10

PG&E Microwave Tower within PG&E Thurman Switching Station Con

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	Emissions (lbs/phase) ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	Emissions (metric tons/phase) CO_2e	DPM Emission Factors, (g/hp/hr) for equipment, g/mile for vehicles, DPM	DPM Emissions (lb/phase) DPM	Activity	Onsite Emissions (lbs/day) ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
General Construction (Assume separate contractor to build 100' tow																	
Mechanics Truck	Light-duty Auto/Truck	0.058	3.294	0.379	0.013	1.416	0.365	0.599	0.002	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.581	32.942	3.787	0.129	14.160	3.650	5.992	0.002	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Tower Foundation Installation (Assume 4 foundations, total 160 Cu																	
Pick-up Truck	Light-duty Truck	0.063	2.340	0.458	0.009	12.117	0.195	0.440	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.032	1.170	0.229	0.005	6.059	0.097	0.220	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
22 Ton Crane	Cranes	5.170	39.814	44.017	0.118	1.772	1.640	5.299	0.075	1.772	2	0.259	1.991	2.201	0.006	0.089	0.082
Concrete Truck	heavy-duty diesel	0.858	3.886	100.105	0.913	355.836	41.434	45.804	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Front Loader	Tractors/Loaders/Backhoes	2.805	45.055	25.473	0.066	0.937	0.876	2.863	0.074	0.937	2	0.140	2.253	1.274	0.003	0.047	0.044
Dump Truck	Heavy-duty Diesel	0.054	0.243	6.257	0.057	22.240	2.590	2.863	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Compactor	plate compactors	0.802	4.209	5.026	0.010	0.195	0.195	0.314	0.161	0.195	2	0.040	0.210	0.251	0.000	0.010	0.010
Air Compressor	air compressors	2.171	24.091	14.502	0.040	0.604	0.604	1.704	0.091	0.604	2	0.109	1.205	0.725	0.002	0.030	0.030
Forklift	Forklifts	1.747	22.910	15.049	0.033	0.730	0.669	1.407	0.116	0.730	2	0.087	1.146	0.752	0.002	0.036	0.033
Foundation Drill Rig	Bore/Drill Rigs	4.326	40.648	31.982	0.203	1.045	0.982	8.721	0.027	1.045	2	0.216	2.032	1.599	0.010	0.052	0.049
Flat Bed Truck	Heavy-duty Diesel	0.009	0.040	1.043	0.010	3.707	0.432	0.477	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Structure Delivery and Setup (Assume 100' tower steel)																	
Flat Bed Truck	Heavy-duty Diesel	0.036	0.162	4.171	0.038	14.827	1.726	1.909	0.029	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Tower Installation (Assume 125' tower, 10 people for 4 weeks, work																	
Pick-up Truck	Light-duty Truck	0.095	3.510	0.686	0.014	18.176	0.292	0.661	0.004	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.063	2.340	0.458	0.009	12.117	0.195	0.440	0.004	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
30 Ton Crane	Cranes	5.170	39.814	44.017	0.118	1.772	1.640	5.299	0.075	1.772	4	0.259	1.991	2.201	0.006	0.089	0.082
Front Loader	Tractors/Loaders/Backhoes	2.805	45.055	25.473	0.066	0.937	0.876	2.863	0.074	0.937	4	0.140	2.253	1.274	0.003	0.047	0.044
120' Aerial Lifts	Aerial Lifts	0.805	22.074	10.609	0.036	0.193	0.182	1.545	0.028	0.193	4	0.040	1.104	0.530	0.002	0.010	0.009
Dump Truck	Heavy-duty Diesel	0.054	0.243	6.257	0.057	22.240	2.590	2.863	0.029	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
Air Compressor	air compressors	4.342	48.182	29.004	0.079	1.207	1.207	3.409	0.091	1.207	4	0.217	2.409	1.450	0.004	0.060	0.060
Forklift	Forklifts	1.747	22.910	15.049	0.033	0.730	0.669	1.407	0.116	0.730	4	0.087	1.146	0.752	0.002	0.036	0.033
Flat Bed Truck	Heavy-duty Diesel	0.009	0.040	1.043	0.010	3.707	0.432	0.477	0.029	0.000		0.000	0.000	0.000	0.000	0.000	0.000
Communication Equipment Installation & Testing (Assume 10 peop																	
Rigging Truck	Heavy-duty Diesel	0.015	0.067	1.738	0.016	6.178	0.719	0.795	0.029	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Manlift	Aerial lifts	0.805	22.074	10.609	0.036	0.193	0.182	1.545	0.028	0.193	5	0.040	1.104	0.530	0.002	0.010	0.009
Boom Truck	Cranes	5.170	39.814	44.017	0.118	1.772	1.640	5.299	0.075	1.772	5	0.259	1.991	2.201	0.006	0.089	0.082
1-Ton Truck	Light-duty Truck	0.063	2.340	0.458	0.009	12.117	0.195	0.440	0.004	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.095	3.510	0.686	0.014	18.176	0.292	0.661	0.004	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Flat Bed Truck	Heavy-duty Diesel	0.009	0.040	1.043	0.010	3.707	0.432	0.477	0.029	0.000	5	0.000	0.000	0.000	0.000	0.000	0.000
Air Compressor	air compressors	4.342	48.182	29.004	0.079	1.207	1.207	3.409	0.091	1.207	5	0.217	2.409	1.450	0.004	0.060	0.060
Cleaning and Landscaping (Assume 4 people for 1 week and work s																	
Flat Bed Truck	Heavy-duty Diesel	0.009	0.040	1.043	0.010	3.707	0.432	0.477	0.029	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Pick-up Truck	Light-duty Truck	0.008	0.292	0.057	0.001	1.515	0.024	0.055	0.004	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
1-Ton Truck	Light-duty Truck	0.008	0.292	0.057	0.001	1.515	0.024	0.055	0.004	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Small Backhoe	Tractors/Loaders/Backhoes	0.701	11.264	6.368	0.016	0.234	0.219	0.716	0.074	0.234	6	0.140	2.253	1.274	0.003	0.047	0.044
Dump Truck	Heavy-duty Diesel	0.013	0.061	1.564	0.014	5.560	0.647	0.716	0.029	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.004	0.206	0.024	0.001	0.089	0.023	0.037	0.002	0.000	6	0.000	0.000	0.000	0.000	0.000	0.000
Other								0.000									
Material Haul Trucks	Heavy-duty Diesel	0.072	0.324	8.342	0.076	29.653	3.453	3.817	0.029	0.000	7	0.000	0.000	0.000	0.000	0.000	0.000
Inspector Vehicles	light-duty auto/truck	0.015	0.824	0.095	0.003	0.354	0.091	0.150	0.002	0.000	8	0.000	0.000	0.000	0.000	0.000	0.000

Table 10

PG&E Microwave Tower within PG&E Thurman Switching Station Construction Emissions

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Overlapping Emissions	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
2027						
Activities 1,2,3,7,8	0.851	8.836	6.802	0.023	0.264	0.248
Activities 1,4,7,8	0.743	8.902	6.208	0.017	0.242	0.229
Activities 1,5,6,8	0.656	7.756	5.455	0.015	0.205	0.195
Worst-Case Daily						
2026	0.000	0.000	0.000	0.000	0.000	0.000
2027	0.851	8.902	6.802	0.023	0.264	0.248
2028	0.000	0.000	0.000	0.000	0.000	0.000
2029	0.000	0.000	0.000	0.000	0.000	0.000

NA = Parameter not required for computing emissions.

1. Unless otherwise noted, equipment/vehicle list and daily use provided by PG&E.
2. Helicopter operation assumes 1 LTO/hr, medium lift helicopters
3. The following conversion factors were used to estimate emissions:

1 lb =	453.6	g
1 metric ton =	1,000,000	g
1 ton =	2,000	lbs
1 yd^3 =	1.2641662	tons
Blade width of grading equipmen	12	ft
1 acre =	43,560	ft^2
1 mile =	5,280	ft

4. PM_{10} and $PM_{2.5}$ emissions include paved road fugitive dust emissions associated with onroad travel.

Earthmoving Emissions

Fugitive Dust emissions from Truck Dumping/Loading activities:

Activity	Year	Volume (yd^3)	Weight (ton)	Emission Factors (lb/ton		Emissions (lb/phase)	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Soil Loaded/unloaded	2026	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2027	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2028	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2029	0	0	0.000041	0.000006	0.0	0.0

Note:

Material density (CalEEMod default, ton/cy)	1.264
Total amount of soil loaded/unloaded (cy):	0

Fugitive Dust emissions from Grading

Activity	Year	Area (acre)/	(miles/phas	Emission Factors		Emissions (lb/phase)	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Grading	2026	0	0.00	1.543	0.167	0.0	0.0
Grading	2027	0	0.00	1.543	0.167	0.0	0.0
Grading	2028	0	0.00	1.543	0.167	0.0	0.0
Grading	2029	0	0.00	1.543	0.167	0.0	0.0

Note:

VMT = As / Wb X 43,560 (sqft/acre) /5280 (ft/mile)

VMT: vehicle miles traveled

As: the acreage of the grading site (0.5 acres per grader, 1 acre for scraper, CalEEMod defaults)

Wb: blade width of the grader. CalEEMod default Wb = 12 ft.

Total acres to be graded (acres): 0

Annual Emissions Summary

Year	Emissions (ton/year)						Emissions (metric	Onsite DPM (lb/year)
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2	
2026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2027	0.023	0.267	0.245	0.001	0.291	0.037	116.227	13.527
2028	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2029	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	0.000

Table 11
PG&E 60 kV Lines Reconfiguration Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Quantity	Number of Days Used	Hours per Day	Miles per Day	Months with Activities				Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								2026	2027	2028	2029	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2
General Construction: Number of workers/union and non union. Average commute from Hotels to job site. Worker Avg 25 per day.																		
Pick-up Truck	Light-duty Truck	NA	NA	15	40	NA	25	0	1	1	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Worker Commutes	Light-duty Auto/Truck	NA	NA	15	40	NA	25	0	1	1	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Safety Inspection	Light-duty Auto/Truck	NA	NA	1	40	NA	25	0	1	1	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Water Truck	Heavy-duty Diesel	NA	NA	1	40	NA	50	0	1	1	0	0.014	0.061	1.577	0.014	5.604	0.653	######
Street Sweeper	Heavy-duty Diesel	NA	NA	1	40	NA	50	0	1	1	0	0.014	0.061	1.577	0.014	5.604	0.653	######
Removal and replacement of approx. (12) 60 kV Wood Poles - West end of Lockeford-Industrial																		
Auger Truck	Bore/Drill Rigs	221	0.5	1	15	8	NA	0	1	0	0	0.111	1.043	0.821	0.005	0.027	0.025	493.278
Backhoe/Front Loader	Tractors/Loaders/Backhoes	97	0.37	1	15	8	NA	0	1	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
boom truck	Cranes	231	0.29	1	15	8	NA	0	1	0	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
bucket truck	Heavy-duty Diesel	NA	NA	1	15	NA	1	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	######
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	2	15	NA	20	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Lowboy Truck/Trailer Pole Truck	Heavy-duty Diesel	NA	NA	1	15	NA	15	0	1	0	0	0.014	0.061	1.577	0.014	5.604	0.653	######
Worker Commutes	Light-duty Auto/Truck	NA	NA	5	15	NA	25	0	1	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Restoration: (Crew size of 4)																		
Light-duty Truck	Light-duty Truck	NA	NA	2	5	NA	25	0	1	0	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Road Grader	Graders	187	0.41	1	5	6	25	0	1	0	0	0.227	1.173	2.182	0.005	0.070	0.066	495.591
Backhoe and Trailer	Tractors/Loaders/Backhoes	97	0.37	1	5	6	NA	0	1	0	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Worker Commutes	Light-duty Auto/Truck	NA	NA	3	5	NA	25	0	1	0	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Replacement of approx. (1) 60 kV Wood Pole and reframing of 4 poles, reconfiguration outside of Industrial Sub, 2 new spans, topping north end of Industrial Tap																		
Auger Truck	Bore/Drill Rigs	221	0.5	1	15	8	NA	0	0	1	0	0.111	1.043	0.821	0.005	0.027	0.025	493.278
Backhoe/Front Loader	Tractors/Loaders/Backhoes	97	0.37	1	15	8	NA	0	0	1	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
boom truck	Cranes	231	0.29	1	15	8	NA	0	0	1	0	0.219	1.685	1.863	0.005	0.075	0.069	494.393
bucket truck	Heavy-duty Diesel	NA	NA	1	15	NA	1	0	0	1	0	0.014	0.061	1.577	0.014	5.604	0.653	######
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	2	15	NA	20	0	0	1	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Lowboy Truck/Trailer Pole Truck	Heavy-duty Diesel	NA	NA	1	15	NA	15	0	0	1	0	0.014	0.061	1.577	0.014	5.604	0.653	######
Worker Commutes	Light-duty Auto/Truck	NA	NA	5	15	NA	25	0	0	1	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Restoration: (Crew size of 4)																		
Light-duty Truck	Light-duty Truck	NA	NA	2	5	NA	25	0	0	1	0	0.029	1.061	0.208	0.004	5.496	0.088	440.471
Road Grader	Graders	187	0.41	1	5	6	NA	0	0	1	0	0.227	1.173	2.182	0.005	0.070	0.066	495.591
Backhoe and Trailer	Tractors/Loaders/Backhoes	97	0.37	1	5	6	NA	0	0	1	0	0.222	3.559	2.012	0.005	0.074	0.069	498.610
Worker Commutes	Light-duty Auto/Truck	NA	NA	4	5	NA	25	0	0	1	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Other																		
Material Haul Trucks	Heavy-duty Diesel	NA	NA	10	5	NA	75	0	0	1	0	0.014	0.061	1.577	0.014	5.604	0.653	######
General Construction at Lodi Substation																		
Mechanics Truck	Light-duty Auto/Truck	NA	NA	2	30	NA	100	0	0	1	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621
Worker Commutes	Light-duty Auto/Truck	NA	NA	2	30	NA	25	0	0	1	0	0.013	0.747	0.086	0.003	0.321	0.083	299.621

Table 11
PG&E 60 kV Lines Reconfiguration Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	Emissions (lbs/phase)						Emissions (metric tons/phase)	Factors, (g/hp/hr) for equipment, g/mile for vehicles,	Onsite DPM Emissions (lb/phase)	Activity	Onsite Emissions (lbs/day)					
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	DPM	DPM		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
General Construction: Number of workers/union and non union. Ave																	
Pick-up Truck	Light-duty Truck	0.951	35.099	6.864	0.142	181.761	2.923	6.607	0.004	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.436	24.706	2.840	0.097	10.620	2.737	4.494	0.002	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Safety Inspection	Light-duty Auto/Truck	0.029	1.647	0.189	0.006	0.708	0.182	0.300	0.002	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Water Truck	Heavy-duty Diesel	0.060	0.270	6.952	0.063	24.711	2.877	3.181	0.029	0.126	1	0.001	0.007	0.174	0.002	0.618	0.072
Street Sweeper	Heavy-duty Diesel	0.060	0.270	6.952	0.063	24.711	2.877	3.181	0.029	0.000	1	0.000	0.000	0.000	0.000	0.000	0.000
Removal and replacement of approx. (12) 60 kV Wood Poles - West																	
Auger Truck	Bore/Drill Rigs	3.245	30.486	23.987	0.152	0.783	0.737	6.541	0.027	0.783	2	0.216	2.032	1.599	0.010	0.052	0.049
Backhoe/Front Loader	Tractors/Loaders/Backhoes	2.104	33.791	19.105	0.049	0.703	0.657	2.147	0.074	0.703	2	0.140	2.253	1.274	0.003	0.047	0.044
boom truck	Cranes	3.878	29.860	33.013	0.089	1.329	1.230	3.974	0.075	1.329	2	0.259	1.991	2.201	0.006	0.089	0.082
bucket truck	Heavy-duty Diesel	0.000	0.002	0.052	0.000	0.185	0.022	0.024	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.038	1.404	0.275	0.006	7.270	0.117	0.264	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Lowboy Truck/Trailer Pole Truck	Heavy-duty Diesel	0.007	0.030	0.782	0.007	2.780	0.324	0.358	0.029	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.054	3.088	0.355	0.012	1.328	0.342	0.562	0.002	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Restoration: (Crew size of 4)																	
Light-duty Truck	Light-duty Truck	0.016	0.585	0.114	0.002	3.029	0.049	0.110	0.004	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Road Grader	Graders	1.152	5.947	11.064	0.026	0.357	0.333	1.140	0.070	0.357	2	0.230	1.189	2.213	0.005	0.071	0.067
Backhoe and Trailer	Tractors/Loaders/Backhoes	0.526	8.448	4.776	0.012	0.176	0.164	0.537	0.074	0.176	2	0.105	1.690	0.955	0.002	0.035	0.033
Worker Commutes	Light-duty Auto/Truck	0.011	0.618	0.071	0.002	0.266	0.068	0.112	0.002	0.000	2	0.000	0.000	0.000	0.000	0.000	0.000
Replacement of approx. (1) 60 kV Wood Pole and reframing of 4 pol																	
Auger Truck	Bore/Drill Rigs	3.245	30.486	23.987	0.152	0.783	0.737	6.541	0.027	0.783	3	0.216	2.032	1.599	0.010	0.052	0.049
Backhoe/Front Loader	Tractors/Loaders/Backhoes	2.104	33.791	19.105	0.049	0.703	0.657	2.147	0.074	0.703	3	0.140	2.253	1.274	0.003	0.047	0.044
boom truck	Cranes	3.878	29.860	33.013	0.089	1.329	1.230	3.974	0.075	1.329	3	0.259	1.991	2.201	0.006	0.089	0.082
bucket truck	Heavy-duty Diesel	0.000	0.002	0.052	0.000	0.185	0.022	0.024	0.029	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.038	1.404	0.275	0.006	7.270	0.117	0.264	0.004	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Lowboy Truck/Trailer Pole Truck	Heavy-duty Diesel	0.007	0.030	0.782	0.007	2.780	0.324	0.358	0.029	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.054	3.088	0.355	0.012	1.328	0.342	0.562	0.002	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Restoration: (Crew size of 4)																	
Light-duty Truck	Light-duty Truck	0.016	0.585	0.114	0.002	3.029	0.049	0.110	0.004	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Road Grader	Graders	1.152	5.947	11.064	0.026	0.357	0.333	1.140	0.070	0.357	3	0.230	1.189	2.213	0.005	0.071	0.067
Backhoe and Trailer	Tractors/Loaders/Backhoes	0.526	8.448	4.776	0.012	0.176	0.164	0.537	0.074	0.176	3	0.105	1.690	0.955	0.002	0.035	0.033
Worker Commutes	Light-duty Auto/Truck	0.015	0.824	0.095	0.003	0.354	0.091	0.150	0.002	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
Other																	
Material Haul Trucks	Heavy-duty Diesel	0.112	0.506	13.035	0.119	46.333	5.395	5.964	0.029	0.000	3	0.000	0.000	0.000	0.000	0.000	0.000
General Construction at Lodi Substation																	
Mechanics Truck	Light-duty Auto/Truck	0.174	9.882	1.136	0.039	4.248	1.095	1.798	0.002	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000
Worker Commutes	Light-duty Auto/Truck	0.044	2.471	0.284	0.010	1.062	0.274	0.449	0.002	0.000	4	0.000	0.000	0.000	0.000	0.000	0.000

Table 11
PG&E 60 kV Lines Reconfiguration Construction Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

	ROG	CO	NOx	SOx	PM_{10} [d]	$PM_{2.5}$ [d]
Overlapping Emissions						
2027						
Activities 1,2	0.952	9.161	8.415	0.029	0.912	0.346
2028						
Activities 1,3,4	0.952	9.161	8.415	0.029	0.912	0.346
Worst-Case Daily						
2026	0.000	0.000	0.000	0.000	0.000	0.000
2027	0.952	9.161	8.415	0.029	0.912	0.346
2028	0.952	9.161	8.415	0.029	0.912	0.346
2029	0.000	0.000	0.000	0.000	0.000	0.000

Notes:
NA = Parameter not required for computing emissions.
1. Unless otherwise noted, equipment/vehicle list and daily use provided by PG&E.
2. Helicopter operation assumes 1 LTO/hr, medium lift helicopters
3. The following conversion factors were used to estimate emissions:

1 lb =	453.6	g
1 metric ton =	1,000,000	g
1 ton =	2,000	lbs
1 yd^3 =	1.2641662	tons
Blade width of grading equipment	12	ft
1 acre =	43,560	ft^2
1 mile =	5,280	ft

4. PM_{10} and $PM_{2.5}$ emissions include paved road fugitive dust emissions associated with onroad travel.

Earthmoving Emissions

Fugitive Dust emissions from Truck Dumping/Loading activities:

Activity	Year	Volume (yd^3)	Weight (ton)	Emission Factors (lb/ton)		Emissions (lb/phase)	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Soil Loaded/unloaded	2026	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2027	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2028	0	0	0.000041	0.000006	0.0	0.0
Soil Loaded/unloaded	2029	0	0	0.000041	0.000006	0.0	0.0

Note:
Material density (CalEEMod default, ton/cy) 1.264
Total amount of soil loaded/unloaded (cy): 0 (assumed to be split between 2025 and 2026.

Fugitive Dust emissions from Grading

Activity	Year	Area (acre	(miles/phase)	Emission Factors (lb/VMT)		Emissions (lb/phase)	
				PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
Grading	2026	0	0.00	1.543	0.167	0.0	0.0
	2027	1	0.52	1.543	0.167	0.8	0.1
Grading	2028	0	0.00	1.543	0.167	0.0	0.0
Grading	2029	0	0.00	1.543	0.167	0.0	0.0

Note:
VMT = As / Wb X 43,560 (sqft/acre) /5280 (ft/mile)
VMT: vehicle miles traveled
As: the acreage of the grading site (0.5 acres per grader, 1 acre for scraper, CalEEMod defaults)
Wb: blade width of the grader. CalEEMod default Wb = 12 ft.
Total acres to be graded (acres): 0.75

Annual Emissions Summary

Year	Emissions (ton/year)						Emissions (metric tons/year)	Onsite DPM (lb/year)
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2	
2026	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2027	0.006	0.073	0.053	0.000	0.070	0.005	24.651	3.411
2028	0.006	0.079	0.060	0.000	0.096	0.008	32.900	3.411
2029	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 12
LEU Construciton Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Annual Construction Emissions (Total)

Construction Phase	Annual Emissions (ton/year)					
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Construction Year 2026	0.00	0.00	0.00	0.00	0.00	0.00
Construction Year 2027	0.20	1.37	1.45	0.01	1.30	0.26
Construction Year 2028	0.01	0.10	0.12	0.00	0.00	0.00
Construction Year 2029	0.00	0.00	0.00	0.00	0.00	0.00

Onsite DPM Emissions

Construction Phases	Start	End	Year	DPM ton/year
Survey	2027/02/01	2027/02/26	2027	1.05E-03
Access Roads	2027/03/01	2027/03/26	2027	3.04E-03
Site Preparation	2027/03/01	2027/03/26	2027	0.0112
Underground 12 kV Line Installation	2027/03/01	2027/03/12	2027	1.49E-03
Fence and Gate Installation	2027/04/01	2027/05/10	2027	4.06E-03
Foundation	2027/05/01	2027/06/27	2027	9.39E-03
Ground/Grid Circuit Installation	2027/06/01	2027/07/26	2027	3.99E-03
Transformer Installation	2027/07/01	2027/08/25	2027	7.89E-03
Steel/Bus Erection	2027/07/01	2027/08/25	2027	2.57E-03
Yard Rock Installation	2027/09/01	2027/09/28	2027	1.32E-03
Cleaning and Restoration 1	2027/10/01	2027/10/14	2027	9.10E-04
Remaining Deliveries, Installations, Testing and Commissioning 1	2027/11/01	2027/12/24	2027	5.31E-03
Cleaning and Restoration 2	2028/02/01	2028/02/14	2028	1.77E-03
Remaining Deliveries, Installations, Testing and Commissioning 2	2028/02/01	2028/02/28	2028	2.65E-03
			Total 2027 Emissions	5.22E-02
			Total 2028 Emissions	4.42E-03

Table 12
LEU Construciton Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA
Onsite Daily Emissions

			Phase Number	Onsite Daily Emissions (lb/day)					
				ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
Survey	2027/02/01	2027/02/26	1	0.4901	3.2687	2.9409	0.0136	0.1051	0.0967
Access Roads	2027/03/01	2027/03/26	2	1.323	8.7447	8.6699	0.0365	0.3039	0.2796
Site Preparation	2027/03/01	2027/03/26	3	3.8054	26.0621	29.1367	0.0924	9.3202	5.505
Underground 12 kV Line Installation	2027/03/01	2027/03/12	4	0.8826	6.7224	6.5475	0.0232	0.2981	0.2742
Fence and Gate Installation	2027/04/01	2027/05/10	5	1.2978	9.8858	8.3156	0.0365	0.2898	0.2666
Foundation	2027/05/01	2027/06/27	6	1.3677	8.3465	11.6893	0.0314	0.4696	0.4321
Ground/Grid Circuit Installation	2027/06/01	2027/07/26	7	0.4805	3.5608	3.6779	9.32E-03	0.1996	0.1836
Transformer Installation	2027/07/01	2027/08/25	8	1.6062	10.7247	10.8868	0.0406	0.3947	0.3656
Steel/Bus Erection	2027/07/01	2027/08/25	9	0.593	4.603	3.7956	0.017	0.1284	0.1181
Yard Rock Installation	2027/09/01	2027/09/28	10	0.5628	4.9828	3.9042	0.0162	0.1322	0.1216
Cleaning and Restoration 1	2027/10/01	2027/10/14	11	0.6498	3.9336	5.457	0.0164	0.1828	0.1682
Remaining Deliveries, Installations, Testing and Commissioning 1	2027/11/01	2027/12/24	12	0.9952	7.0236	7.1777	0.0259	0.2653	0.2441
Cleaning and Restoration 2	2028/02/01	2028/02/14	13	0.9644	5.0782	9.0364	0.0182	0.3536	0.3253
Remaining Deliveries, Installations, Testing and Commissioning 2	2028/02/01	2028/02/28	14	0.9952	7.0236	7.1777	0.0259	0.2653	0.2441

Maximum Onsite Daily Emissions

Overlapping Phases	Onsite Daily Emissions (lb/day)					
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
1	0.4901	3.2687	2.9409	0.0136	0.1051	0.0967
2,3,4	6.011	41.5292	44.3541	0.1521	9.9222	6.0588
5,6	2.6655	18.2323	20.0049	0.0679	0.7594	0.6987
6,7	1.8482	11.9073	15.3672	0.04072	0.6692	0.6157
7,8,9	2.6797	18.8885	18.3603	0.06692	0.7227	0.6673
10	0.5628	4.9828	3.9042	0.0162	0.1322	0.1216
11	0.6498	3.9336	5.457	0.0164	0.1828	0.1682
12	0.9952	7.0236	7.1777	0.0259	0.2653	0.2441
13,14	1.9596	12.1018	16.2141	0.0441	0.6189	0.5694
Max. daily emissions 2027	6.011	41.5292	44.3541	0.1521	9.9222	6.0588
Max. daily emissions 2028	1.9596	12.1018	16.2141	0.0441	0.6189	0.5694

Table 13

Overlappying Emissions for PG&E Sites Near Thurman Station

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

	2026						2027											
Construction Phase	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
PG&E 12 kV Service Line Extension to PG&E Thurman Switching Station																		
Specialized communications contractor												A_1	A_1					
Inspectors												A_2	A_2					
PG&E Thurman Switching Station																		
General Construction NTP by CPUC					B_1													
Civil Site Preparation						B_2												
Structure Foundations, Excavation, and Installation							B_3_4	B_3_4										
Equipment Foundations							B_3_4	B_3_4										
Structure Delivery and Setup									B_5									
Equipment Installation										B_6	B_6	B_6						
Dress/Test/Wire Equipment													B_7	B_7				
Exterior Walls, Final Grading, and Paving															B_8			
Cleaning and Landscaping															B_9			
Truck Drivers						B_10	B_10	B_10	B_10				B_10	B_10	B_10			
Inspectors					B_11	B_11	B_11	B_11	B_11	B_11	B_11	B_11	B_11	B_11	B_11			
PG&E Microwave Tower within Thurman Switching Station																		
General Construction										C_1	C_1	C_1	C_1					
Tower Foundation Installation										C_2								
Structure Delivery and Set Up										C_3								
Tower Installation											C_4							
Communication Equipment Installation & Testing												C_5	C_5					
Cleaning and Landscaping													C_6					
Truck Drivers										C_7	C_7							
Inspectors										C_8	C_8	C_8	C_8					

Overlapping Activities 2026	**ROG**	**CO**	**NOx**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
	lb/day	**lb/day**	**lb/day**	**lb/day**	**lb/day**	**lb/day**
B_1, B_11	0.001	0.007	0.174	0.002	0.618	0.072
B-2, B_10, B_11	2.867	28.263	26.160	0.053	1.105	1.037
Worst-case 2026	2.867	28.263	26.160	0.053	1.105	1.037

Overlapping Activities 2027	**ROG**	**CO**	**NOx**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
	lb/day	**lb/day**	**lb/day**	**lb/day**	**lb/day**	**lb/day**
(B_3_4, B_10, B_11)	1.252	13.906	10.056	0.032	0.388	0.372
(B_5, B_10, B_11)	0.000	0.000	0.000	0.000	0.000	0.000
(B_6, B_11), C_1, C_2, C_3, C_7, C_8),	1.798	21.712	14.968	0.046	0.565	0.539
(B_6, B_11), (C_1, C_4, C_7, C_8),	1.690	21.777	14.374	0.039	0.543	0.519
(A_1, A_2), (B_6, B_11), (C_1, C_5, C_8),	3.776	45.123	31.955	0.096	1.937	1.232
(A_1, A_2), (B_7, B_10, B_11), (C_1, C_5,C_6, C_8),	4.211	49.044	35.757	0.106	2.097	1.379
(B_8, B_9, B_10, B_11),	3.621	33.687	33.334	0.070	1.342	1.258
Worst-case 2027	4.211	49.044	35.757	0.106	2.097	1.379

Table 14

Overlappying Emissions for PG&E and LEU Sites Near Thurman Station

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

	2026						2027												2028											
Construction Phase	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
PG&E 12 kV Service Line Extension to PG&E Thurman Switching Station																														
Specialized communications contractor												A_1	A_1																	
Inspectors																														
PG&E Thurman Switching Station																														
General Construction NTP by CPUC					B_1																									
Civil Site Preparation						B_2																								
Structure Foundations, Excavation, and Installation							B_3_4	B_3_4																						
Equipment Foundations							B_3_4	B_3_4																						
Structure Delivery and Setup									B_5																					
Equipment Installation										B_6	B_6	B_6																		
Dress/Test/Wire Equipment													B_7	B_7																
Exterior Walls, Final Grading, and Paving															B_8															
Cleaning and Landscaping															B_9															
Truck Drivers						B_10	B_10	B_10	B_10				B_10	B_10	B_10															
Inspectors					B_11	B_11	B_11	B_11	B_11	B_11	B_11	B_11	B_11	B_11	B_11															
PG&E Microwave Tower within Thurman Switching Station																														
General Construction										C_1	C_1	C_1	C_1																	
Tower Foundation Installation										C_2																				
Structure Delivery and Set Up										C_3																				
Tower Installation											C_4																			
Communication Equipment Installation & Testing												C_5	C_5																	
Cleaning and Landscaping													C_6																	
Truck Drivers										C_7	C_7																			
Inspectors										C_8	C_8	C_8	C_8																	
LEU Construction																														
Survey								D_1																						
Access Roads									D_2																					
Site Preparation									D_3																					
Underground 12 kV Line Installation									D_4																					
Fence and Gate Installation										D_5	D_5																			
Foundation											D_6	D_6																		
Ground/Grid Circuit Installation												D_7	D_7																	
Transformer Installation													D_8	D_8																
Steel/Bus Erection													D_9	D_9																
Yard Rock Installation															D_10															
Cleaning and Restoration 1																D_11														
Remaining Deliveries, Installations, Testing and Commissioning 1																	D_12	D_12												
Cleaning and Restoration 2																				D_13										
Remaining Deliveries, Installations, Testing and Commissioning 2																				D_14										

Overlapping Activities 2026	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
B_1, B_11	0.001	0.007	0.174	0.002	0.618	0.072
B-2, B_10, B_11	2.867	28.263	26.160	0.053	1.105	1.037
Worst-case 2026	2.867	28.263	26.160	0.053	1.105	1.037

Overlapping Activities 2027	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
(B_3_4, B_10, B_11), (D_1)	1.742	17.175	12.997	0.046	0.493	0.469
(B_5, B_10, B_11), (D-2, D_3, D_4)	6.011	41.529	44.354	0.152	9.922	6.059
(B_6, B_11), C_1, C_2, C_3, C_7, C_8), D_5	3.096	31.597	23.284	0.082	0.855	0.805
(B_6, B_11), (C_1, C_4, C_7, C_8), (D_5, D_6)	4.356	40.009	34.378	0.107	1.302	1.218
(A_1, A_2), (B_6, B_11), (C_1, C_5, C_8), (D_6, D_7)	5.624	57.030	47.322	0.137	2.606	1.848
, A_2), (B_7, B_10, B_11), (C_1, C_5,C_6, C_8), (D_7, D_8, D_9))	6.890	67.932	54.118	0.173	2.820	2.046
(B_8, B_9, B_10, B_11), (D_10)	4.184	38.670	37.238	0.087	1.475	1.380
D_11	0.650	3.934	5.457	0.016	0.183	0.168
D_12	0.995	7.024	7.178	0.026	0.265	0.244
Worst-case 2027	6.890	67.932	54.118	0.173	9.922	6.059

Overlapping Activities 2028	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
	lb/day	lb/day	lb/day	lb/day	lb/day	lb/day
(D_13, D_14)	1.9596	12.1018	16.2141	0.0441	0.6189	0.5694

Table 15
PG&E Operation and Maintenance Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	HP	Equipment Load Factor	Quantity	Number of Days Used	Hours per Day	Miles per Day	Emission factors (g/hp/hr) for equipment, g/mile for vehicles, lb/hr for Helicopter						
								ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2
New 230kV Transmission Lines O&M (72 Structures)														
Detailed Ground and Aerial	Light-duty Auto/Truck	NA	NA	1	15	NA	50	0.009	0.608	0.056	0.003	0.320	0.082	270.292
Hughes 500 Helicopter	Helicopter	NA	NA	1	1	8	NA	4.010	5.330	1.950	0.290	0.060	0.060	424.200
Insulator Washing only if needed and called out by inspector	Heavy-duty Diesel	NA	NA	1	15	NA	80	0.012	0.052	1.445	0.013	0.444	0.139	1479.459
Light-duty Auto/Truck	Light-duty Auto/Truck	NA	NA	1	1	NA	50	0.009	0.608	0.056	0.003	0.320	0.082	270.292
10-Cu Dump Truck	Heavy-duty Diesel	NA	NA	1	5	NA	75	0.012	0.052	1.445	0.013	0.444	0.139	1479.459
Backhoe/Front Loader	Tractors/Loaders/Backhoes	97	0.37	1	5	8	NA	0.272	3.705	1.624	0.006	0.030	0.030	568.899
Boom truck	Cranes	231	0.29	1	5	8	NA	0.222	1.090	0.697	0.005	0.023	0.023	568.799
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	NA	NA	1	5	NA	75	0.018	0.820	0.126	0.004	0.330	0.086	387.997
Lowboy Truck/Trailer	Heavy-duty Diesel	NA	NA	1	5	NA	75	0.012	0.052	1.445	0.013	0.444	0.139	1479.459
New Thurman Switching Station O&M														
Monthly Visual Inspections/ Maintenance (PG&E Standard TD3322-S)	Light-duty Auto/Truck	NA	NA	1	12	NA	50	0.009	0.608	0.056	0.003	0.320	0.082	270.292
Yearly Inspections/Maintenance (PG&E Standard TD3322-S)	Light-duty Auto/Truck	NA	NA	1	24	NA	50	0.009	0.608	0.056	0.003	0.320	0.082	270.292
Insulator Washing only if needed and called out by inspector	Heavy-duty Diesel	NA	NA	1	24	NA	50	0.012	0.052	1.445	0.013	0.444	0.139	1479.459
5 year inspection and maintenance (some could be every 2 or 8 years for various items)	Light-duty Auto/Truck	NA	NA	1	12	NA	50	0.009	0.608	0.056	0.003	0.320	0.082	270.292
Lockeford Substation O&M (if applicable) substation equipment maintenance requirements.														
Monthly Visual Inspections/ Maintenance (PG&E Standard TD3322-S)	Light-duty Auto/Truck	NA	NA	1	12	NA	50	0.009	0.608	0.056	0.003	0.320	0.082	270.292
Yearly Inspections/Maintenance (PG&E Standard TD3322-S)	Light-duty Auto/Truck	NA	NA	1	24	NA	50	0.009	0.608	0.056	0.003	0.320	0.082	270.292
Insulator Washing only if needed and called out by inspector	Heavy-duty Diesel	NA	NA	1	24	NA	50	0.012	0.052	1.445	0.013	0.444	0.139	1479.459
5 year inspection and maintenance (some could be every 2 or 8 years for various items)	Light-duty Auto/Truck	NA	NA	1	12	NA	50	0.009	0.608	0.056	0.003	0.320	0.082	270.292

Notes:
NA = Parameter not required for computing emissions.
1. Unless otherwise noted, equipment/vehicle list and daily use provided by PG&E.
2. Helicopter operation assumes 1 LTO/hr, medium lift helicopters
3. The following conversion factors were used to estimate emissions:

1 lb =	453.6	g
1 metric ton =	1,000,000	g
1 ton =	2,000	lbs
1 yd^3 =	1.2641662	tons
Blade width of grading equipment =	12	ft
1 acre =	43,560	ft^2
1 mile =	5,280	ft

4. PM_{10} and $PM_{2.5}$ emissions include paved road fugitive dust emissions associated with onroad travel.

Table 15
PG&E Operation and Maintenance Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Equipment / Vehicle List	Equipment / Vehicle Type	Emissions (lbs/year)						Emissions (metric tons/year)	Onsite Emissions (lb/day)					
		ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
New 230kV Transmission Lines O&M (72 Structures)														
Detailed Ground and Aerial	Light-duty Auto/Truck	0.014	1.006	0.093	0.004	0.529	0.136	0.203	0.001	0.067	0.006	0.000	0.035	0.009
Hughes 500 Helicopter	Helicopter	32.080	42.640	15.600	2.320	0.480	0.480	1.539	32.080	42.640	15.600	2.320	0.480	0.480
Insulator Washing only if needed and called out by inspector	Heavy-duty Diesel	0.033	0.138	3.824	0.035	1.174	0.367	1.775	0.002	0.009	0.255	0.002	0.078	0.024
Light-duty Auto/Truck	Light-duty Auto/Truck	0.001	0.067	0.006	0.000	0.035	0.009	0.014	0.001	0.067	0.006	0.000	0.035	0.009
10-Cu Dump Truck	Heavy-duty Diesel	0.010	0.043	1.195	0.011	0.367	0.115	0.555	0.002	0.009	0.239	0.002	0.073	0.023
Backhoe/Front Loader	Tractors/Loaders/Backhoes	0.861	11.726	5.140	0.019	0.095	0.095	0.817	0.172	2.345	1.028	0.004	0.019	0.019
Boom truck	Cranes	1.311	6.439	4.117	0.030	0.136	0.136	1.524	0.262	1.288	0.823	0.006	0.027	0.027
¾-Ton Pick-up Truck, 4 × 4	Light-duty Truck	0.015	0.678	0.104	0.003	0.273	0.071	0.145	0.003	0.136	0.021	0.001	0.055	0.014
Lowboy Truck/Trailer	Heavy-duty Diesel	0.010	0.043	1.195	0.011	0.367	0.115	0.555	0.002	0.009	0.239	0.002	0.073	0.023
New Thurman Switching Station O&M														
Monthly Visual Inspections/ Maintenance (PG&E Standard TD3322-S)	Light-duty Auto/Truck	0.012	0.804	0.074	0.004	0.423	0.109	0.162	0.001	0.067	0.006	0.000	0.035	0.009
Yearly Inspections/Maintenance (PG&E Standard TD3322-S)	Light-duty Auto/Truck	0.023	1.609	0.148	0.007	0.847	0.217	0.324	0.001	0.067	0.006	0.000	0.035	0.009
Insulator Washing only if needed and called out by inspector	Heavy-duty Diesel	0.033	0.138	3.824	0.035	1.174	0.367	1.775	0.001	0.006	0.159	0.001	0.049	0.015
5 year inspection and maintenance (some could be every 2 or 8 years for various items)	Light-duty Auto/Truck	0.012	0.804	0.074	0.004	0.423	0.109	0.162	0.001	0.067	0.006	0.000	0.035	0.009
Lockeford Substation O&M (if applicable) substation equipment maintenance requirements.														
Monthly Visual Inspections/ Maintenance (PG&E Standard TD3322-S)	Light-duty Auto/Truck	0.012	0.804	0.074	0.004	0.423	0.109	0.162	0.001	0.067	0.006	0.000	0.035	0.009
Yearly Inspections/Maintenance (PG&E Standard TD3322-S)	Light-duty Auto/Truck	0.023	1.609	0.148	0.007	0.847	0.217	0.324	0.001	0.067	0.006	0.000	0.035	0.009
Insulator Washing only if needed and called out by inspector	Heavy-duty Diesel	0.033	0.138	3.824	0.035	1.174	0.367	1.775	0.001	0.006	0.159	0.001	0.049	0.015
5 year inspection and maintenance (some could be every 2 or 8 years for various items)	Light-duty Auto/Truck	0.012	0.804	0.074	0.004	0.423	0.109	0.162	0.001	0.067	0.006	0.000	0.035	0.009

Notes:
NA = Parameter not required for computing emissions.
1. Unless otherwise noted, equipment/vehicle list and daily use provided by PG&E.
2. Helicopter operation assumes 1 LTO/hr, medium lift helicopters
3. The following conversion factors were used to estimate emissions:

1 lb =	453.6
1 metric ton =	1,000,000
1 ton =	2,000
1 yd^3 =	1.2641662
Blade width of grading equipment =	12
1 acre =	43,560
1 mile =	5,280

4. PM_{10} and $PM_{2.5}$ emissions include paved road fugitive dust emissions associated with onroad tr

Table 15
PG&E Operation and Maintenance Emissions
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Vehicle and Equipment Emissions

Annual Emissions Summary

Year	Emissions (ton/year)						Emissions (metric tons/year)
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2
2030 and beyond	0.017	0.035	0.020	0.001	0.005	0.0016	11.9750

Maximum Daily Emissions

Year	Emissions (lb/day)					
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$
2030 and beyond	32.534	46.983	18.573	2.342	1.186	0.714

Note:
Daily emissions are worst-case scenario assuming all O&M activities would occur during the same day.

Table 16

PG&E and LEU GHG Emissions from SF6 Containing Breakers

PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Location	Number of Circuit Breakers	SF_6 Capacity per Breaker (lbs)	Leakage Rate [a]	SF_6 Emissions per Circuit Breaker (lb/year)	Total SF_6 Emissions (lb/year)	Total SF_6 Emissions (tons/year)	CO_2e Emissions[b] (tons/year)	CO_2e Emissions[b] (metric tons/year)
PG&E Lockeford Substation	8	155	0.50%	0.775	6.2	3.10E-03	70.68	64.14
PG&E Thurman Switching Station	2	155	0.50%	0.775	1.55	7.75E-04	17.67	16.03
LEU Guild Substation[c]	3	186	0.50%	0.930	2.79	1.40E-03	31.81	28.86
PG&E Total GHG							88.35	80.17
PG&E and LEU Total GHG							120.16	109.03

Notes:

a. It was conservatively assumed that the leakage rate would be 0.5 percent.

b. SF6 Global Warming Potential (40 CFR 98 Subpart A): 22,800

c. LEU Guild Substation is expected to have 2 circuit breakers and one spare filler tank which would have the equivalent volume of SF_6.

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Table 17
PG&E Fugitive Dust Emission Factors
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Fugitive Dust Emission Factors for Truck Dumping/Loading
Truck Dumping on a Pile or Loading to a Truck from a Pile

Parameter	PM_{10}	$PM_{2.5}$
k [a]	0.35	0.053
U [b]	2.7	2.7
M [a]	12.0	12.0
Emission Factor (lb/ton) [c]	0.00004	0.000006

Notes:
[a] k and M taken from Section 4.3 of Appendix A of the *CalEEMod User's Guide* (Environ, 2021).
[b] U taken as the CalEEMod default for the San Joaquin Valley Air Basin. Value converted from units of m/s to mph.
[c] Emission factor calculated using the following equation from Section 4.3 of Appendix A of the *CalEEMod User's Guide* (BREEZE, 2021):
Emission Factor (lb/ton) = $k \times 0.0032 \times [U\ (mph) / 5]^{1.3} / [M\ (\%) / 2]^{1.4}$

Fugitive Dust Emission Factors for Grading
Grading Equipment Passes

Parameter	PM_{10}	$PM_{2.5}$
S [a]	7.1	7.1
F [a]	0.6	0.031
Emission Factor (lb/VMT) [b]	1.543	0.167
Reduction from Applying Soil Stabilizers [c]	0%	0%
Emission Factor (Controlled, lb/VMT)	1.543	0.167

Notes:
[a] S and F taken from Section 4.3 of Appendix A of the *CalEEMod User's Guide* (Environ, 2021).
[b] Emission factor calculated using the following equation from Section 4.3 of Appendix A of the *CalEEMod User's Guide* (BREEZE 2021):
PM_{10} Emission Factor (lb/VMT) = $0.051 \times [S\ (mph)]^{2.0} \times F_{PM10}$
$PM_{2.5}$ Emission Factor (lb/VMT) = $0.04 \times [S\ (mph)]^{2.5} \times F_{PM2.5}$

Fugitive Dust Emissions from Paved and Unpaved Roads
Included in vehicle emissions - see Table 15 for details.

Table 18
PG&E Construction Equipment Emission Factors
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Construction Phase

OFFROAD Equipment Category	Horsepower	Load Factor	Year	Emission Factors (g/bhp-hr)								
				ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	CO_2	CH4
Aerial Lifts	63	0.31	2026	0.117	3.204	1.540	0.005	0.028	0.026	494.496	491.351	0.126
Air Compressors	78	0.48	2026	0.329	3.648	2.196	0.006	0.091	0.091	569.034	568.299	0.029
Bore/Drill Rigs	221	0.50	2026	0.111	1.043	0.821	0.005	0.027	0.025	493.278	490.183	0.124
Cement and Mortar Mixers	9	0.56	2026	0.661	3.469	4.142	0.008	0.161	0.161	569.774	568.299	0.059
Concrete/Industrial Saws	81	0.73	2026	0.271	3.492	2.074	0.006	0.078	0.078	568.895	568.300	0.024
Cranes	231	0.29	2026	0.219	1.685	1.863	0.005	0.075	0.069	494.393	491.233	0.126
Crawler Tractors	212	0.43	2026	0.238	1.288	2.190	0.005	0.085	0.078	494.133	490.958	0.127
Crushing/Proc. Equipment	85	0.78	2026	0.330	3.690	2.140	0.006	0.084	0.084	569.039	568.299	0.030
Dumpers/Tenders	16	0.38	2026	0.685	2.339	4.332	0.007	0.161	0.161	569.824	568.299	0.061
Excavators	158	0.38	2026	0.169	3.135	1.028	0.005	0.050	0.046	494.812	491.657	0.126
Forklifts	89	0.20	2026	0.278	3.649	2.397	0.005	0.116	0.107	494.068	490.883	0.127
Generator Sets	84	0.74	2026	0.230	3.334	2.077	0.006	0.076	0.076	568.799	568.299	0.020
Graders	187	0.41	2026	0.227	1.173	2.182	0.005	0.070	0.066	495.591	492.436	0.126
Off-Highway Tractors	124	0.44	2026	0.215	3.201	1.462	0.005	0.073	0.068	495.526	492.301	0.129
Off-Highway Trucks	402	0.38	2026	0.185	1.167	0.943	0.005	0.034	0.031	496.811	493.636	0.127
Other Construction Equipment	172	0.42	2026	0.220	3.135	1.826	0.005	0.093	0.086	492.644	489.534	0.124
Other General Industrial Equipment	88	0.34	2026	0.267	3.650	2.304	0.005	0.103	0.096	492.835	489.660	0.127
Other Material Handling Equipment	168	0.40	2026	0.195	3.203	1.245	0.005	0.063	0.059	494.590	491.435	0.126
Pavers	130	0.42	2026	0.204	3.071	1.600	0.005	0.076	0.072	494.843	491.648	0.128
Paving Equipment	132	0.36	2026	0.198	3.092	1.480	0.005	0.074	0.069	493.217	490.047	0.127
Plate Compactors	8	0.43	2026	0.661	3.469	4.142	0.008	0.161	0.161	569.774	568.299	0.059
Pressure Washers	13	0.30	2026	0.604	3.487	4.248	0.008	0.176	0.176	569.644	568.299	0.054
Pumps	84	0.74	2026	0.247	3.385	2.103	0.006	0.081	0.081	568.844	568.299	0.022
Rollers	80	0.38	2026	0.264	3.483	2.543	0.005	0.121	0.113	495.936	492.741	0.128
Rough Terrain Forklifts	100	0.40	2026	0.165	3.337	1.791	0.005	0.048	0.044	495.274	492.089	0.127
Rubber Tired Dozers	247	0.40	2026	0.365	1.641	3.410	0.005	0.147	0.136	496.529	493.319	0.128
Rubber Tired Loaders	203	0.36	2026	0.184	1.141	1.285	0.005	0.043	0.040	492.687	489.557	0.125
Scrapers	367	0.48	2026	0.225	1.622	1.852	0.005	0.073	0.067	494.866	491.691	0.127
Signal Boards	6	0.82	2026	0.661	3.469	4.142	0.008	0.161	0.161	569.774	568.299	0.059
Skid Steer Loaders	65	0.37	2026	0.155	3.309	1.789	0.005	0.049	0.045	494.918	491.763	0.126
Surfacing Equipment	263	0.30	2026	0.136	1.141	1.209	0.005	0.046	0.043	493.001	489.886	0.125
Sweepers/Scrubbers	64	0.46	2026	0.295	3.672	2.568	0.005	0.133	0.122	496.127	492.952	0.127
Tractors/Loaders/Backhoes	97	0.37	2026	0.222	3.559	2.012	0.005	0.074	0.069	498.610	495.410	0.128
Trenchers	78	0.50	2026	0.447	3.736	3.935	0.005	0.254	0.236	497.641	494.381	0.130
Welders	46	0.45	2026	0.571	4.497	3.595	0.007	0.099	0.099	569.579	568.299	0.051

Notes:
Construction emission factors are based on year 2026.
Unless otherwise noted, Horsepower and Load Factors taken as the default, average values provided in Table 3.3 of Appendix D of the *CalEEMod User's Guide* (Environ, 2021).
Emission Factors in grams per brake-horsepower-hour (g/bhp-hr) taken as the defaults for the year 2024 provided in Table 3.4 of Appendix D of the *CalEEMod User's Guide* (Environ, 2021).

Table 18
PG&E Construction Equipment Emission Factors
PG&E: Northern San Joaquin 230 kV Transmission Project PEA
Operation and Maintenance Equipment

OFFROAD Equipment Category	Horsepower	Load Factor	Year	Emission Factors (g/bhp-hr)								
				ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e	CO_2	CH4
Aerial Lifts	63	0.31	2030	0.188	3.352	1.657	0.006	0.036	0.036	568.724	568.299	0.017
Air Compressors	78	0.48	2030	0.264	3.630	1.729	0.006	0.041	0.041	568.874	568.299	0.023
Bore/Drill Rigs	221	0.50	2030	0.127	1.035	0.274	0.006	0.010	0.010	568.574	568.299	0.011
Cement and Mortar Mixers	9	0.56	2030	0.661	3.469	4.142	0.008	0.161	0.161	569.774	568.299	0.059
Concrete/Industrial Saws	81	0.73	2030	0.221	3.480	1.667	0.006	0.036	0.036	568.774	568.299	0.019
Cranes	231	0.29	2030	0.222	1.090	0.697	0.005	0.023	0.023	568.799	568.299	0.020
Crawler Tractors	212	0.43	2030	0.262	1.207	1.104	0.006	0.040	0.040	568.874	568.299	0.023
Crushing/Proc. Equipment	85	0.78	2030	0.272	3.673	1.708	0.006	0.038	0.038	568.899	568.299	0.024
Dumpers/Tenders	16	0.38	2030	0.685	2.340	4.332	0.007	0.161	0.161	569.824	568.299	0.061
Excavators	158	0.38	2030	0.213	3.362	0.525	0.006	0.023	0.023	568.774	568.299	0.019
Forklifts	89	0.20	2030	0.283	3.799	1.555	0.006	0.021	0.021	568.924	568.299	0.025
Generator Sets	84	0.74	2030	0.178	3.316	1.645	0.006	0.034	0.034	568.699	568.299	0.016
Graders	187	0.41	2030	0.216	1.148	0.684	0.006	0.024	0.024	568.774	568.299	0.019
Off-Highway Tractors	124	0.44	2030	0.373	3.435	1.916	0.006	0.104	0.104	569.124	568.299	0.033
Off-Highway Trucks	402	0.38	2030	0.216	1.104	0.458	0.005	0.017	0.017	568.774	568.299	0.019
Other Construction Equipment	172	0.42	2030	0.161	3.127	0.459	0.006	0.019	0.019	568.649	568.299	0.014
Other General Industrial Equipment	88	0.34	2030	0.309	3.802	1.766	0.006	0.043	0.043	568.974	568.299	0.027
Other Material Handling Equipment	168	0.40	2030	0.220	3.341	0.640	0.006	0.028	0.028	568.774	568.299	0.019
Pavers	130	0.42	2030	0.300	3.326	1.425	0.006	0.074	0.074	568.974	568.299	0.027
Paving Equipment	132	0.36	2030	0.290	3.306	1.363	0.006	0.070	0.070	568.949	568.299	0.026
Plate Compactors	8	0.43	2030	0.661	3.469	4.142	0.008	0.161	0.161	569.774	568.299	0.059
Pressure Washers	13	0.30	2030	0.592	3.470	4.164	0.008	0.166	0.166	569.625	568.300	0.053
Pumps	84	0.74	2030	0.193	3.367	1.662	0.006	0.036	0.036	568.724	568.299	0.017
Rollers	80	0.38	2030	0.299	3.639	1.950	0.006	0.066	0.066	568.974	568.299	0.027
Rough Terrain Forklifts	100	0.40	2030	0.279	3.725	1.671	0.006	0.034	0.034	568.924	568.299	0.025
Rubber Tired Dozers	247	0.40	2030	0.335	1.322	1.828	0.006	0.069	0.069	569.049	568.299	0.030
Rubber Tired Loaders	203	0.36	2030	0.210	1.138	0.655	0.006	0.022	0.022	568.749	568.299	0.018
Scrapers	367	0.48	2030	0.259	1.184	1.057	0.005	0.040	0.040	568.874	568.299	0.023
Signal Boards	6	0.82	2030	0.661	3.470	4.142	0.008	0.161	0.161	569.774	568.299	0.059
Skid Steer Loaders	65	0.37	2030	0.214	3.538	1.477	0.006	0.017	0.017	568.774	568.299	0.019
Surfacing Equipment	263	0.30	2030	0.169	1.032	0.738	0.005	0.025	0.025	568.674	568.299	0.015
Sweepers/Scrubbers	64	0.46	2030	0.261	3.703	1.569	0.006	0.023	0.023	568.874	568.299	0.023
Tractors/Loaders/Backhoes	97	0.37	2030	0.272	3.705	1.624	0.006	0.030	0.030	568.899	568.299	0.024
Trenchers	78	0.50	2030	0.409	3.743	2.559	0.006	0.132	0.132	569.199	568.299	0.036
Welders	46	0.45	2030	0.449	4.387	3.273	0.007	0.045	0.045	569.299	568.299	0.040

Note:
1. CO2e were calculated using the following global warming potential (GWP, 100-year GWP from IPCC Fifth Assessment Report , 2014)

CO2 1
CH4 25
N2O 298

Table 19
PG&E Vehicle Emission Factors
PG&E: Northern San Joaquin 230 kV Transmission Project PEA
Construction Phase Emission Factors 2026:

Vehicle Class	EMFAC2017 Emission Factors (g/mile) [a]							Paved Road Emission Factors (g/mile) [b]		Unpaved Road Emission Factors (g/mile) [b]		Total PM Emissions (g/mile)		Exhaust PM10 (g/mile)
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_{2e}	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	DPM
Light-duty Auto/Truck	0.013	0.747	0.086	0.003	0.021	0.008	299.621	0.300	0.075	258.442	25.789	0.321	0.083	0.0021
heavy-duty diesel	0.014	0.061	1.577	0.014	0.141	0.063	1,590.419	0.300	0.075	258.442	25.789	5.604	0.653	0.0286
light-duty truck	0.029	1.061	0.208	0.004	0.033	0.013	440.471	0.300	0.075	258.442	25.789	5.496	0.088	0.0044

Notes:

a. Vehicle Exhaust Emission Factors in grams per mile (g/mile) from EMFAC2021 for the San Joaquin Valley APCD, calendar year 2026.
b. Paved road emission factors calculated using CalEEMod methodology, as described below.
c. Total emission factors include fugitive emissions from paved and unpaved road

	Light-duty Auto/Truck	heavy-duty diesel	light-duty truck
VMT on paved road	100.0%	98.0%	98.0%
VMT on unpaved road	0.0%	2%	2%

Derivation of Paved Road Emission Factors

Parameter	PM_{10}	$PM_{2.5}$
Average Weight [a]	2.4	2.4
k [b]	1	0.25
sL [a]	0.1	0.1
Emission Factor (g/mile) [c]	**0.300**	**0.075**

$Eext = [k (sL)^{0.91} \times (W)^{1.02}] (1 – P/4N)$

[a] Average Weight and sL taken as the default value from CalEEMod.
[b] k taken from Table 13.2.1-1 of Section 13.2.1 of *AP-42* (USEPA, 2011).

[c] Emission factor calculated using Equation 1 from Section 13.2.1 of *AP-42* (USEPA, 2011), which is generally consistent with Section 5.3 of Appendix A of the *CalEEMod User's Guide* (BREEZE, 2021):

Emission Factor (g/mile) = k (g/mile) x $[sL (g/m^2)]^{0.91}$ x $[Average\ Weight\ (tons)]^{1.02}$

Unpaved Road Emission Factors

	Emission Factors (lb/VMT)		Emission Factors (g/VMT)	
	PM10	PM2.5	PM10	PM2.5
Unpaved Road (uncontrolled)	1.266	0.126	574.32	57.31
Unpaved Road (with watering unpaved road twice a day)	0.57	0.057	258.44	25.79

Calculation Equation:

Emission factor (lb/VMT) = $(k[(s/12)^a][(S/30)^d]/(M/0.5)^c - C)*(1-P/365)$ (CalEEMod and EPA AP-42, 13.2.2)

	PM10	PM2.5
k	1.8	0.18
s (silt content %)	8.5	8.5
S (mean vehicle speed)	40	40
M (moisture%)	0.5	0.5
a	1	1
c	0.2	0.2
d	0.5	0.5
C	0.00047	0.00036
P (number of days in a year with at least 0.01 inch of precipitation	51	51

Control efficiency of watering the unpaved road twice a day 55% (data from SCAQMD CEQA Handbook, TABLE XI-D, MITIGATION MEASURE EXAMPLES: FUGITIVE DUST FROM UNPAVED ROADs, 2007)

Operation and Maintenance Emission Factors: 2030

Vehicle Class	Exhaust Emission Factors (g/mile) [a]							Paved Road Emission		Total PM Emissions (g/mile)		DPM (g/mile)
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_{2e}	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	DPM
Light-duty Auto/Truck	0.009	0.608	0.056	0.003	0.020	0.007	270.292	0.300	0.075	0.320	0.082	0.0015
heavy-duty diesel	0.012	0.052	1.445	0.013	0.143	0.064	1,479.459	0.300	0.075	0.444	0.139	0.0282
light-duty truck	0.018	0.820	0.126	0.004	0.030	0.011	387.997	0.300	0.075	0.330	0.086	0.0030

Note
a. Vehicle Exhaust Emission Factors in grams per mile (g/mile) from EMFAC2021 for the San Joaquin Valley APCD, calendar year 2030
'ehicles are assumed to travel on paved roads during operation.

Table 20
PG&E Aircraft Emission Factors
PG&E: Northern San Joaquin 230 kV Transmission Project PEA

Aircraft Type	Emission Factors (lbs/LTO) [a]						
	ROG	CO	NOx	SOx	PM_{10}	$PM_{2.5}$	CO_2e
Twin Medium	4.010	5.330	1.950	0.290	0.060	0.060	424.200

Notes:

[a] Emission Factors in pounds per Landing and Take-off (lbs/LTO) found in Table 6-12 of the *Year 2011 Gulfwide Emission Inventory Study* , which was prepared by the U.S. Department of the Interior, Bureau of Ocean Energy Management (BOEM), Gulf of Mexico OCS Region (BOEM, 2014). The source of the Table 6-12 emission factors is Swiss Federal Office of Civil Aviation (FOCA). 2009. Guidance on Determination of Helicopter Emissions

D2

Emissions Calculations
for LEU Sites

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	132.64	1000sqft	4.60	132,640.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	51
Climate Zone	2			**Operational Year**	2028
Utility Company					
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project specific info

Land Use - 4.6 acres of disturbed area per grading plan

Construction Phase - Project-specific timeline.

Off-road Equipment - Project-specific Information.

Off-road Equipment -

Off-road Equipment - Project-specific info

Off-road Equipment - Project-specific

Off-road Equipment - Project-specific information

Off-road Equipment - Project-specific equipment list used in lieu of CalEEMod defaults.

Off-road Equipment - project-specific information

Off-road Equipment - Site-specific value

Off-road Equipment - project-specific information

Off-road Equipment - Site-specific info

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Off-road Equipment - Project-specific information

Trips and VMT - Project-specific worker trips

On-road Fugitive Dust - Only a small portion of the construction access road surfaces surrounding the project will be unpaved, therefore 98% pavement is assumed.

Grading - Site-specific area.

Vehicle Trips - Unmanned operation and no daily worker trips will occur

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products - No consumer product utilization was assumed for the project

Area Coating - No architectural coating is assumed for the project.

Landscape Equipment -

Energy Use -

Water And Wastewater - Unmanned facility - no water use is expected

Solid Waste - Unmanned facility - no solid waste generation is expected

Construction Off-road Equipment Mitigation - Tier 3 compliant engines are assumed for the project

Watering of exposed areas is assumed

Operational Off-Road Equipment - Assumes monthly inspection utilizing one off-highway truck 4 hours per day.

Fleet Mix -

Off-road Equipment - Project specific information

Off-road Equipment - Project specific equipment

Off-road Equipment - Project specific equipment

Off-road Equipment - Project specific equipment

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Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	10.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	18.00	40.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	5.00	28.00
tblConstructionPhase	NumDays	230.00	10.00
tblConstructionPhase	NumDays	230.00	20.00
tblGrading	AcresOfGrading	120.00	3.04
tblLandUse	LandUseSquareFeet	132,640.00	132,640.20
tblLandUse	LotAcreage	3.04	4.60
tblOffRoadEquipment	HorsePower	84.00	34.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00

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Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	LoadFactor	0.38	0.44
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00

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Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	PhaseName	Remaining Deliveries, Installations, Testing and Commissioning	Remaining Deliveries, Installations, Testing and Commissioning 1

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Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	PhaseName		Steel/Bus Erection
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 1
tblOffRoadEquipment	PhaseName		Underground 12 kV Line Installation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 1
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Access Roads
tblOffRoadEquipment	PhaseName		Steel/Bus Erection
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 1
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 1
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Survey
tblOffRoadEquipment	PhaseName		Underground 12 kV Line Installation
tblOffRoadEquipment	PhaseName		Fence and Gate Installation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Yard Rock Installation
tblOffRoadEquipment	PhaseName		Ground/Grid Circuit Installation
tblOffRoadEquipment	PhaseName		Transformer Installation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Fence and Gate Installation
tblOffRoadEquipment	PhaseName		Yard Rock Installation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Access Roads
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 1
tblOffRoadEquipment	PhaseName		Site Preparation

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Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Underground 12 kV Line Installation
tblOffRoadEquipment	PhaseName		Ground/Grid Circuit Installation
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 2
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 2
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 2
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 2
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 2
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 2
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	PhaseName	Remaining Deliveries, Installations, Testing and Commissioning	Remaining Deliveries, Installations, Testing and Commissioning 1
tblOnRoadDust	PhaseName	Cleaning and Restoration	Cleaning and Restoration 1

Table Name	Column Name	Default Value	New Value
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblSolidWaste	SolidWasteGenerationRate	164.47	0.00

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Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	PhaseName	Remaining Deliveries, Installations, Testing and Commissioning	Remaining Deliveries, Installations, Testing and Commissioning 1
tblTripsAndVMT	PhaseName	Cleaning and Restoration	Cleaning and Restoration 1
tblTripsAndVMT	WorkerTripNumber	15.00	20.00
tblTripsAndVMT	WorkerTripNumber	56.00	10.00
tblTripsAndVMT	WorkerTripNumber	56.00	30.00
tblTripsAndVMT	WorkerTripNumber	56.00	6.00
tblTripsAndVMT	WorkerTripNumber	38.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	16.00
tblTripsAndVMT	WorkerTripNumber	56.00	10.00
tblTripsAndVMT	WorkerTripNumber	56.00	16.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblWater	IndoorWaterUseRate	30,673,000.00	0.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2027	0.1959	1.4521	1.3746	5.2800e-003	1.2438	0.0528	1.2966	0.2110	0.0487	0.2597	0.0000	466.5651	466.5651	0.1351	5.3900e-003	471.5493
2028	0.0148	0.1170	0.0956	3.5000e-004	0.0000	4.4200e-003	4.4200e-003	0.0000	4.0700e-003	4.0700e-003	0.0000	30.7464	30.7464	9.9400e-003	0.0000	30.9950
Maximum	**0.1959**	**1.4521**	**1.3746**	**5.2800e-003**	**1.2438**	**0.0528**	**1.2966**	**0.2110**	**0.0487**	**0.2597**	**0.0000**	**466.5651**	**466.5651**	**0.1351**	**5.3900e-003**	**471.5493**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2027	0.1959	1.4521	1.3746	5.2800e-003	1.1435	0.0528	1.1963	0.1563	0.0487	0.2050	0.0000	466.5646	466.5646	0.1351	5.3900e-003	471.5488
2028	0.0148	0.1170	0.0956	3.5000e-004	0.0000	4.4200e-003	4.4200e-003	0.0000	4.0700e-003	4.0700e-003	0.0000	30.7464	30.7464	9.9400e-003	0.0000	30.9950
Maximum	**0.1959**	**1.4521**	**1.3746**	**5.2800e-003**	**1.1435**	**0.0528**	**1.1963**	**0.1563**	**0.0487**	**0.2050**	**0.0000**	**466.5646**	**466.5646**	**0.1351**	**5.3900e-003**	**471.5488**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**8.06**	**0.00**	**7.71**	**25.93**	**0.00**	**20.75**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2027**	**5-31-2027**	0.7152	0.7152
2	**6-1-2027**	**8-31-2027**	0.6063	0.6063
3	**9-1-2027**	**11-30-2027**	0.1804	0.1804
4	**12-1-2027**	**2-29-2028**	0.2113	0.2113
		Highest	0.7152	0.7152

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5181	1.0000e-005	1.2200e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3700e-003	2.3700e-003	1.0000e-005	0.0000	2.5200e-003
Energy	0.0132	0.1200	0.1008	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	450.0892	450.0892	0.0170	5.3800e-003	452.1171
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.4300e-003	8.6000e-003	9.5600e-003	4.0000e-005		3.1000e-004	3.1000e-004		2.8000e-004	2.8000e-004	0.0000	3.4827	3.4827	1.1300e-003	0.0000	3.5109
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5328**	**0.1286**	**0.1116**	**7.6000e-004**	**0.0000**	**9.4300e-003**	**9.4300e-003**	**0.0000**	**9.4000e-003**	**9.4000e-003**	**0.0000**	**453.5743**	**453.5743**	**0.0181**	**5.3800e-003**	**455.6305**

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Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.5181	1.0000e-005	1.2200e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3700e-003	2.3700e-003	1.0000e-005	0.0000	2.5200e-003
Energy	0.0132	0.1200	0.1008	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	450.0892	450.0892	0.0170	5.3800e-003	452.1171
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	1.4300e-003	8.6000e-003	9.5600e-003	4.0000e-005		3.1000e-004	3.1000e-004		2.8000e-004	2.8000e-004	0.0000	3.4827	3.4827	1.1300e-003	0.0000	3.5109
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.5328**	**0.1286**	**0.1116**	**7.6000e-004**	**0.0000**	**9.4300e-003**	**9.4300e-003**	**0.0000**	**9.4000e-003**	**9.4000e-003**	**0.0000**	**453.5743**	**453.5743**	**0.0181**	**5.3800e-003**	**455.6305**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Survey	Site Preparation	2/1/2027	2/26/2027	5	20	
2	Access Roads	Site Preparation	3/1/2027	3/26/2027	5	20	
3	Site Preparation	Site Preparation	3/1/2027	3/26/2027	5	20	
4	Underground 12 kV Line Installation	Trenching	3/1/2027	3/12/2027	5	10	
5	Fence and Gate Installation	Site Preparation	4/1/2027	5/10/2027	5	28	
6	Foundation	Paving	5/1/2027	6/27/2027	5	40	
7	Ground/Grid Circuit Installation	Building Construction	6/1/2027	7/26/2027	5	40	
8	Transformer Installation	Building Construction	7/1/2027	8/25/2027	5	40	
9	Steel/Bus Erection	Building Construction	7/1/2027	8/25/2027	5	40	
10	Yard Rock Installation	Paving	9/1/2027	9/28/2027	5	20	
11	Cleaning and Restoration 1	Building Construction	10/1/2027	10/14/2027	5	10	
12	Remaining Deliveries, Installations, Testing and Commissioning 1	Building Construction	11/1/2027	12/24/2027	5	40	
13	Cleaning and Restoration 2	Building Construction	2/1/2028	2/14/2028	5	10	
14	Remaining Deliveries, Installations, Testing and Commissioning 2	Building Construction	2/1/2028	2/28/2028	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Roads	Off-Highway Trucks	4	6.00	275	0.38
Access Roads	Rubber Tired Loaders	2	6.00	203	0.36
Site Preparation	Graders	1	6.00	187	0.41
Site Preparation	Off-Highway Trucks	9	6.00	275	0.38
Site Preparation	Rollers	2	6.00	80	0.38
Site Preparation	Rubber Tired Dozers	1	6.00	247	0.40
Site Preparation	Rubber Tired Loaders	1	6.00	203	0.36
Site Preparation	Scrapers	1	6.00	367	0.48
Survey	Off-Highway Trucks	2	6.00	275	0.38
Fence and Gate Installation	Off-Highway Trucks	5	6.00	275	0.38
Fence and Gate Installation	Rough Terrain Forklifts	1	6.00	100	0.40
Underground 12 kV Line Installation	Bore/Drill Rigs	1	6.00	221	0.50
Underground 12 kV Line Installation	Off-Highway Trucks	2	6.00	275	0.38
Underground 12 kV Line Installation	Trenchers	1	6.00	78	0.50
Ground/Grid Circuit Installation	Off-Highway Trucks	1	6.00	275	0.38
Ground/Grid Circuit Installation	Trenchers	1	6.00	78	0.50
Transformer Installation	Cranes	1	6.00	231	0.29
Transformer Installation	Generator Sets	1	6.00	34	0.74
Transformer Installation	Off-Highway Trucks	5	6.00	275	0.38
Steel/Bus Erection	Aerial Lifts	1	6.00	63	0.31
Steel/Bus Erection	Off-Highway Trucks	2	6.00	275	0.44
Remaining Deliveries, Installations, Testing and Commissioning 1	Aerial Lifts	1	6.00	63	0.31
Remaining Deliveries, Installations, Testing and Commissioning 1	Cranes	1	6.00	231	0.29
Remaining Deliveries, Installations, Testing and Commissioning 1	Off-Highway Trucks	3	6.00	275	0.38
Cleaning and Restoration 1	Graders	1	6.00	187	0.41
Cleaning and Restoration 1	Off-Highway Trucks	1	6.00	275	0.38
Cleaning and Restoration 1	Rubber Tired Loaders	1	6.00	203	0.36
Foundation	Bore/Drill Rigs	1	6.00	221	0.50

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Foundation	Cranes	1	6.00	231	0.29
Foundation	Off-Highway Trucks	2	6.00	275	0.38
Foundation	Rubber Tired Dozers	1	6.00	247	0.40
Yard Rock Installation	Off-Highway Trucks	2	6.00	275	0.38
Yard Rock Installation	Rough Terrain Forklifts	1	6.00	100	0.40
Cleaning and Restoration 2	Graders	1	6.00	187	0.41
Cleaning and Restoration 2	Off-Highway Trucks	1	6.00	275	0.38
Cleaning and Restoration 2	Rubber Tired Dozers	1	6.00	247	0.40
Remaining Deliveries, Installations, Testing and Commissioning 2	Aerial Lifts	1	6.00	63	0.31
Remaining Deliveries, Installations, Testing and Commissioning 2	Cranes	1	6.00	231	0.29
Remaining Deliveries, Installations, Testing and Commissioning 2	Off-Highway Trucks	3	6.00	275	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Roads	6	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	15	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Survey	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fence and Gate Installation	6	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground 12 kV Line Installation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Ground/Grid Circuit Installation	2	10.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Transformer Installation	7	16.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Steel/Bus Erection	3	10.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Remaining Deliveries, Installations, Testing	5	30.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Cleaning and Restoration 1	3	6.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Foundation	5	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Yard Rock Installation	3	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Cleaning and Restoration 2										
Remaining Deliveries, Installations, Testing										

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3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Survey - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-003	0.0294	0.0327	1.4000e-004		1.0500e-003	1.0500e-003		9.7000e-004	9.7000e-004	0.0000	11.9122	11.9122	3.8500e-003	0.0000	12.0086
Total	**4.9000e-003**	**0.0294**	**0.0327**	**1.4000e-004**	**0.0000**	**1.0500e-003**	**1.0500e-003**	**0.0000**	**9.7000e-004**	**9.7000e-004**	**0.0000**	**11.9122**	**11.9122**	**3.8500e-003**	**0.0000**	**12.0086**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	6.0000e-005	8.7000e-004	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.2743	0.2743	1.0000e-005	1.0000e-005	0.2765
Total	**1.1000e-004**	**6.0000e-005**	**8.7000e-004**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.2743**	**0.2743**	**1.0000e-005**	**1.0000e-005**	**0.2765**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-003	0.0294	0.0327	1.4000e-004		1.0500e-003	1.0500e-003		9.7000e-004	9.7000e-004	0.0000	11.9122	11.9122	3.8500e-003	0.0000	12.0085
Total	**4.9000e-003**	**0.0294**	**0.0327**	**1.4000e-004**	**0.0000**	**1.0500e-003**	**1.0500e-003**	**0.0000**	**9.7000e-004**	**9.7000e-004**	**0.0000**	**11.9122**	**11.9122**	**3.8500e-003**	**0.0000**	**12.0085**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	6.0000e-005	8.7000e-004	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.2743	0.2743	1.0000e-005	1.0000e-005	0.2765
Total	**1.1000e-004**	**6.0000e-005**	**8.7000e-004**	**0.0000**	**4.0000e-004**	**0.0000**	**4.0000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.2743**	**0.2743**	**1.0000e-005**	**1.0000e-005**	**0.2765**

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3.3 Access Roads - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.0867	0.0875	3.7000e-004		3.0400e-003	3.0400e-003		2.8000e-003	2.8000e-003	0.0000	32.0657	32.0657	0.0104	0.0000	32.3249
Total	**0.0132**	**0.0867**	**0.0875**	**3.7000e-004**	**0.0000**	**3.0400e-003**	**3.0400e-003**	**0.0000**	**2.8000e-003**	**2.8000e-003**	**0.0000**	**32.0657**	**32.0657**	**0.0104**	**0.0000**	**32.3249**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	3.4800e-003	1.0000e-005	0.0563	1.0000e-005	0.0563	5.8700e-003	1.0000e-005	5.8800e-003	0.0000	1.0971	1.0971	3.0000e-005	3.0000e-005	1.1059
Total	**4.4000e-004**	**2.4000e-004**	**3.4800e-003**	**1.0000e-005**	**0.0563**	**1.0000e-005**	**0.0563**	**5.8700e-003**	**1.0000e-005**	**5.8800e-003**	**0.0000**	**1.0971**	**1.0971**	**3.0000e-005**	**3.0000e-005**	**1.1059**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.0867	0.0875	3.7000e-004		3.0400e-003	3.0400e-003		2.8000e-003	2.8000e-003	0.0000	32.0656	32.0656	0.0104	0.0000	32.3249
Total	**0.0132**	**0.0867**	**0.0875**	**3.7000e-004**	**0.0000**	**3.0400e-003**	**3.0400e-003**	**0.0000**	**2.8000e-003**	**2.8000e-003**	**0.0000**	**32.0656**	**32.0656**	**0.0104**	**0.0000**	**32.3249**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	3.4800e-003	1.0000e-005	0.0563	1.0000e-005	0.0563	5.8700e-003	1.0000e-005	5.8800e-003	0.0000	1.0971	1.0971	3.0000e-005	3.0000e-005	1.1059
Total	**4.4000e-004**	**2.4000e-004**	**3.4800e-003**	**1.0000e-005**	**0.0563**	**1.0000e-005**	**0.0563**	**5.8700e-003**	**1.0000e-005**	**5.8800e-003**	**0.0000**	**1.0971**	**1.0971**	**3.0000e-005**	**3.0000e-005**	**1.1059**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Site Preparation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1823	0.0000	0.1823	0.0995	0.0000	0.0995	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0381	0.2914	0.2606	9.2000e-004		0.0112	0.0112		0.0103	0.0103	0.0000	81.1547	81.1547	0.0263	0.0000	81.8108
Total	**0.0381**	**0.2914**	**0.2606**	**9.2000e-004**	**0.1823**	**0.0112**	**0.1935**	**0.0995**	**0.0103**	**0.1098**	**0.0000**	**81.1547**	**81.1547**	**0.0263**	**0.0000**	**81.8108**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	3.4800e-003	1.0000e-005	0.0563	1.0000e-005	0.0563	5.8700e-003	1.0000e-005	5.8800e-003	0.0000	1.0971	1.0971	3.0000e-005	3.0000e-005	1.1059
Total	**4.4000e-004**	**2.4000e-004**	**3.4800e-003**	**1.0000e-005**	**0.0563**	**1.0000e-005**	**0.0563**	**5.8700e-003**	**1.0000e-005**	**5.8800e-003**	**0.0000**	**1.0971**	**1.0971**	**3.0000e-005**	**3.0000e-005**	**1.1059**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0820	0.0000	0.0820	0.0448	0.0000	0.0448	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0381	0.2914	0.2606	9.2000e-004		0.0112	0.0112		0.0103	0.0103	0.0000	81.1546	81.1546	0.0263	0.0000	81.8107
Total	**0.0381**	**0.2914**	**0.2606**	**9.2000e-004**	**0.0820**	**0.0112**	**0.0932**	**0.0448**	**0.0103**	**0.0551**	**0.0000**	**81.1546**	**81.1546**	**0.0263**	**0.0000**	**81.8107**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.4000e-004	3.4800e-003	1.0000e-005	0.0563	1.0000e-005	0.0563	5.8700e-003	1.0000e-005	5.8800e-003	0.0000	1.0971	1.0971	3.0000e-005	3.0000e-005	1.1059
Total	**4.4000e-004**	**2.4000e-004**	**3.4800e-003**	**1.0000e-005**	**0.0563**	**1.0000e-005**	**0.0563**	**5.8700e-003**	**1.0000e-005**	**5.8800e-003**	**0.0000**	**1.0971**	**1.0971**	**3.0000e-005**	**3.0000e-005**	**1.1059**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Underground 12 kV Line Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4100e-003	0.0327	0.0336	1.2000e-004		1.4900e-003	1.4900e-003		1.3700e-003	1.3700e-003	0.0000	10.1902	10.1902	3.3000e-003	0.0000	10.2726
Total	**4.4100e-003**	**0.0327**	**0.0336**	**1.2000e-004**		**1.4900e-003**	**1.4900e-003**		**1.3700e-003**	**1.3700e-003**	**0.0000**	**10.1902**	**10.1902**	**3.3000e-003**	**0.0000**	**10.2726**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	6.0000e-005	8.7000e-004	0.0000	0.0141	0.0000	0.0141	1.4700e-003	0.0000	1.4700e-003	0.0000	0.2743	0.2743	1.0000e-005	1.0000e-005	0.2765
Total	**1.1000e-004**	**6.0000e-005**	**8.7000e-004**	**0.0000**	**0.0141**	**0.0000**	**0.0141**	**1.4700e-003**	**0.0000**	**1.4700e-003**	**0.0000**	**0.2743**	**0.2743**	**1.0000e-005**	**1.0000e-005**	**0.2765**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.4100e-003	0.0327	0.0336	1.2000e-004		1.4900e-003	1.4900e-003		1.3700e-003	1.3700e-003	0.0000	10.1902	10.1902	3.3000e-003	0.0000	10.2725
Total	**4.4100e-003**	**0.0327**	**0.0336**	**1.2000e-004**		**1.4900e-003**	**1.4900e-003**		**1.3700e-003**	**1.3700e-003**	**0.0000**	**10.1902**	**10.1902**	**3.3000e-003**	**0.0000**	**10.2725**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	6.0000e-005	8.7000e-004	0.0000	0.0141	0.0000	0.0141	1.4700e-003	0.0000	1.4700e-003	0.0000	0.2743	0.2743	1.0000e-005	1.0000e-005	0.2765
Total	**1.1000e-004**	**6.0000e-005**	**8.7000e-004**	**0.0000**	**0.0141**	**0.0000**	**0.0141**	**1.4700e-003**	**0.0000**	**1.4700e-003**	**0.0000**	**0.2743**	**0.2743**	**1.0000e-005**	**1.0000e-005**	**0.2765**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Fence and Gate Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.1164	0.1384	5.1000e-004		4.0600e-003	4.0600e-003		3.7300e-003	3.7300e-003	0.0000	44.8717	44.8717	0.0145	0.0000	45.2345
Total	**0.0182**	**0.1164**	**0.1384**	**5.1000e-004**	**0.0000**	**4.0600e-003**	**4.0600e-003**	**0.0000**	**3.7300e-003**	**3.7300e-003**	**0.0000**	**44.8717**	**44.8717**	**0.0145**	**0.0000**	**45.2345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	1.7000e-004	2.4300e-003	1.0000e-005	0.0394	0.0000	0.0394	4.1100e-003	0.0000	4.1200e-003	0.0000	0.7680	0.7680	2.0000e-005	2.0000e-005	0.7741
Total	**3.0000e-004**	**1.7000e-004**	**2.4300e-003**	**1.0000e-005**	**0.0394**	**0.0000**	**0.0394**	**4.1100e-003**	**0.0000**	**4.1200e-003**	**0.0000**	**0.7680**	**0.7680**	**2.0000e-005**	**2.0000e-005**	**0.7741**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.1164	0.1384	5.1000e-004		4.0600e-003	4.0600e-003		3.7300e-003	3.7300e-003	0.0000	44.8716	44.8716	0.0145	0.0000	45.2344
Total	**0.0182**	**0.1164**	**0.1384**	**5.1000e-004**	**0.0000**	**4.0600e-003**	**4.0600e-003**	**0.0000**	**3.7300e-003**	**3.7300e-003**	**0.0000**	**44.8716**	**44.8716**	**0.0145**	**0.0000**	**45.2344**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	1.7000e-004	2.4300e-003	1.0000e-005	0.0394	0.0000	0.0394	4.1100e-003	0.0000	4.1200e-003	0.0000	0.7680	0.7680	2.0000e-005	2.0000e-005	0.7741
Total	**3.0000e-004**	**1.7000e-004**	**2.4300e-003**	**1.0000e-005**	**0.0394**	**0.0000**	**0.0394**	**4.1100e-003**	**0.0000**	**4.1200e-003**	**0.0000**	**0.7680**	**0.7680**	**2.0000e-005**	**2.0000e-005**	**0.7741**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Foundation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0274	0.2338	0.1669	6.3000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	55.1637	55.1637	0.0178	0.0000	55.6097
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0274**	**0.2338**	**0.1669**	**6.3000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**55.1637**	**55.1637**	**0.0178**	**0.0000**	**55.6097**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	4.9000e-004	6.9600e-003	2.0000e-005	0.1125	1.0000e-005	0.1125	0.0118	1.0000e-005	0.0118	0.0000	2.1942	2.1942	5.0000e-005	5.0000e-005	2.2118
Total	**8.7000e-004**	**4.9000e-004**	**6.9600e-003**	**2.0000e-005**	**0.1125**	**1.0000e-005**	**0.1125**	**0.0118**	**1.0000e-005**	**0.0118**	**0.0000**	**2.1942**	**2.1942**	**5.0000e-005**	**5.0000e-005**	**2.2118**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0274	0.2338	0.1669	6.3000e-004		9.3900e-003	9.3900e-003		8.6400e-003	8.6400e-003	0.0000	55.1636	55.1636	0.0178	0.0000	55.6096
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0274**	**0.2338**	**0.1669**	**6.3000e-004**		**9.3900e-003**	**9.3900e-003**		**8.6400e-003**	**8.6400e-003**	**0.0000**	**55.1636**	**55.1636**	**0.0178**	**0.0000**	**55.6096**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.7000e-004	4.9000e-004	6.9600e-003	2.0000e-005	0.1125	1.0000e-005	0.1125	0.0118	1.0000e-005	0.0118	0.0000	2.1942	2.1942	5.0000e-005	5.0000e-005	2.2118
Total	**8.7000e-004**	**4.9000e-004**	**6.9600e-003**	**2.0000e-005**	**0.1125**	**1.0000e-005**	**0.1125**	**0.0118**	**1.0000e-005**	**0.0118**	**0.0000**	**2.1942**	**2.1942**	**5.0000e-005**	**5.0000e-005**	**2.2118**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Ground/Grid Circuit Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.6100e-003	0.0736	0.0712	1.9000e-004		3.9900e-003	3.9900e-003		3.6700e-003	3.6700e-003	0.0000	16.3667	16.3667	5.2900e-003	0.0000	16.4990
Total	**9.6100e-003**	**0.0736**	**0.0712**	**1.9000e-004**		**3.9900e-003**	**3.9900e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**16.3667**	**16.3667**	**5.2900e-003**	**0.0000**	**16.4990**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0192	5.3700e-003	8.0000e-005	0.0842	1.2000e-004	0.0843	8.9500e-003	1.2000e-004	9.0600e-003	0.0000	7.8831	7.8831	4.0000e-005	1.1900e-003	8.2373
Worker	4.4000e-004	2.4000e-004	3.4800e-003	1.0000e-005	0.0563	1.0000e-005	0.0563	5.8700e-003	1.0000e-005	5.8800e-003	0.0000	1.0971	1.0971	3.0000e-005	3.0000e-005	1.1059
Total	**8.7000e-004**	**0.0194**	**8.8500e-003**	**9.0000e-005**	**0.1405**	**1.3000e-004**	**0.1406**	**0.0148**	**1.3000e-004**	**0.0149**	**0.0000**	**8.9801**	**8.9801**	**7.0000e-005**	**1.2200e-003**	**9.3432**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.6100e-003	0.0736	0.0712	1.9000e-004		3.9900e-003	3.9900e-003		3.6700e-003	3.6700e-003	0.0000	16.3667	16.3667	5.2900e-003	0.0000	16.4990
Total	**9.6100e-003**	**0.0736**	**0.0712**	**1.9000e-004**		**3.9900e-003**	**3.9900e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**16.3667**	**16.3667**	**5.2900e-003**	**0.0000**	**16.4990**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0192	5.3700e-003	8.0000e-005	0.0842	1.2000e-004	0.0843	8.9500e-003	1.2000e-004	9.0600e-003	0.0000	7.8831	7.8831	4.0000e-005	1.1900e-003	8.2373
Worker	4.4000e-004	2.4000e-004	3.4800e-003	1.0000e-005	0.0563	1.0000e-005	0.0563	5.8700e-003	1.0000e-005	5.8800e-003	0.0000	1.0971	1.0971	3.0000e-005	3.0000e-005	1.1059
Total	**8.7000e-004**	**0.0194**	**8.8500e-003**	**9.0000e-005**	**0.1405**	**1.3000e-004**	**0.1406**	**0.0148**	**1.3000e-004**	**0.0149**	**0.0000**	**8.9801**	**8.9801**	**7.0000e-005**	**1.2200e-003**	**9.3432**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Transformer Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0321	0.2177	0.2145	8.1000e-004		7.8900e-003	7.8900e-003		7.3100e-003	7.3100e-003	0.0000	70.5972	70.5972	0.0220	0.0000	71.1462
Total	**0.0321**	**0.2177**	**0.2145**	**8.1000e-004**		**7.8900e-003**	**7.8900e-003**		**7.3100e-003**	**7.3100e-003**	**0.0000**	**70.5972**	**70.5972**	**0.0220**	**0.0000**	**71.1462**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0192	5.3700e-003	8.0000e-005	0.0842	1.2000e-004	0.0843	8.9500e-003	1.2000e-004	9.0600e-003	0.0000	7.8831	7.8831	4.0000e-005	1.1900e-003	8.2373
Worker	7.0000e-004	3.9000e-004	5.5700e-003	2.0000e-005	0.0900	1.0000e-005	0.0900	9.4000e-003	1.0000e-005	9.4100e-003	0.0000	1.7553	1.7553	4.0000e-005	4.0000e-005	1.7694
Total	**1.1300e-003**	**0.0196**	**0.0109**	**1.0000e-004**	**0.1742**	**1.3000e-004**	**0.1743**	**0.0184**	**1.3000e-004**	**0.0185**	**0.0000**	**9.6384**	**9.6384**	**8.0000e-005**	**1.2300e-003**	**10.0067**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0321	0.2177	0.2145	8.1000e-004		7.8900e-003	7.8900e-003		7.3100e-003	7.3100e-003	0.0000	70.5971	70.5971	0.0220	0.0000	71.1461
Total	**0.0321**	**0.2177**	**0.2145**	**8.1000e-004**		**7.8900e-003**	**7.8900e-003**		**7.3100e-003**	**7.3100e-003**	**0.0000**	**70.5971**	**70.5971**	**0.0220**	**0.0000**	**71.1461**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0192	5.3700e-003	8.0000e-005	0.0842	1.2000e-004	0.0843	8.9500e-003	1.2000e-004	9.0600e-003	0.0000	7.8831	7.8831	4.0000e-005	1.1900e-003	8.2373
Worker	7.0000e-004	3.9000e-004	5.5700e-003	2.0000e-005	0.0900	1.0000e-005	0.0900	9.4000e-003	1.0000e-005	9.4100e-003	0.0000	1.7553	1.7553	4.0000e-005	4.0000e-005	1.7694
Total	**1.1300e-003**	**0.0196**	**0.0109**	**1.0000e-004**	**0.1742**	**1.3000e-004**	**0.1743**	**0.0184**	**1.3000e-004**	**0.0185**	**0.0000**	**9.6384**	**9.6384**	**8.0000e-005**	**1.2300e-003**	**10.0067**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Steel/Bus Erection - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.0759	0.0921	3.4000e-004		2.5700e-003	2.5700e-003		2.3600e-003	2.3600e-003	0.0000	29.7991	29.7991	9.6400e-003	0.0000	30.0401
Total	**0.0119**	**0.0759**	**0.0921**	**3.4000e-004**		**2.5700e-003**	**2.5700e-003**		**2.3600e-003**	**2.3600e-003**	**0.0000**	**29.7991**	**29.7991**	**9.6400e-003**	**0.0000**	**30.0401**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0192	5.3700e-003	8.0000e-005	0.0842	1.2000e-004	0.0843	8.9500e-003	1.2000e-004	9.0600e-003	0.0000	7.8831	7.8831	4.0000e-005	1.1900e-003	8.2373
Worker	4.4000e-004	2.4000e-004	3.4800e-003	1.0000e-005	0.0563	1.0000e-005	0.0563	5.8700e-003	1.0000e-005	5.8800e-003	0.0000	1.0971	1.0971	3.0000e-005	3.0000e-005	1.1059
Total	**8.7000e-004**	**0.0194**	**8.8500e-003**	**9.0000e-005**	**0.1405**	**1.3000e-004**	**0.1406**	**0.0148**	**1.3000e-004**	**0.0149**	**0.0000**	**8.9801**	**8.9801**	**7.0000e-005**	**1.2200e-003**	**9.3432**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0119	0.0759	0.0921	3.4000e-004		2.5700e-003	2.5700e-003		2.3600e-003	2.3600e-003	0.0000	29.7991	29.7991	9.6400e-003	0.0000	30.0400
Total	**0.0119**	**0.0759**	**0.0921**	**3.4000e-004**		**2.5700e-003**	**2.5700e-003**		**2.3600e-003**	**2.3600e-003**	**0.0000**	**29.7991**	**29.7991**	**9.6400e-003**	**0.0000**	**30.0400**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0192	5.3700e-003	8.0000e-005	0.0842	1.2000e-004	0.0843	8.9500e-003	1.2000e-004	9.0600e-003	0.0000	7.8831	7.8831	4.0000e-005	1.1900e-003	8.2373
Worker	4.4000e-004	2.4000e-004	3.4800e-003	1.0000e-005	0.0563	1.0000e-005	0.0563	5.8700e-003	1.0000e-005	5.8800e-003	0.0000	1.0971	1.0971	3.0000e-005	3.0000e-005	1.1059
Total	**8.7000e-004**	**0.0194**	**8.8500e-003**	**9.0000e-005**	**0.1405**	**1.3000e-004**	**0.1406**	**0.0148**	**1.3000e-004**	**0.0149**	**0.0000**	**8.9801**	**8.9801**	**7.0000e-005**	**1.2200e-003**	**9.3432**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Yard Rock Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.6300e-003	0.0390	0.0498	1.6000e-004		1.3200e-003	1.3200e-003		1.2200e-003	1.2200e-003	0.0000	14.1828	14.1828	4.5900e-003	0.0000	14.2975
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.6300e-003**	**0.0390**	**0.0498**	**1.6000e-004**		**1.3200e-003**	**1.3200e-003**		**1.2200e-003**	**1.2200e-003**	**0.0000**	**14.1828**	**14.1828**	**4.5900e-003**	**0.0000**	**14.2975**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	2.0000e-004	2.7800e-003	1.0000e-005	0.0450	1.0000e-005	0.0450	4.7000e-003	0.0000	4.7000e-003	0.0000	0.8777	0.8777	2.0000e-005	2.0000e-005	0.8847
Total	**3.5000e-004**	**2.0000e-004**	**2.7800e-003**	**1.0000e-005**	**0.0450**	**1.0000e-005**	**0.0450**	**4.7000e-003**	**0.0000**	**4.7000e-003**	**0.0000**	**0.8777**	**0.8777**	**2.0000e-005**	**2.0000e-005**	**0.8847**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.6300e-003	0.0390	0.0498	1.6000e-004		1.3200e-003	1.3200e-003		1.2200e-003	1.2200e-003	0.0000	14.1828	14.1828	4.5900e-003	0.0000	14.2975
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.6300e-003**	**0.0390**	**0.0498**	**1.6000e-004**		**1.3200e-003**	**1.3200e-003**		**1.2200e-003**	**1.2200e-003**	**0.0000**	**14.1828**	**14.1828**	**4.5900e-003**	**0.0000**	**14.2975**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	2.0000e-004	2.7800e-003	1.0000e-005	0.0450	1.0000e-005	0.0450	4.7000e-003	0.0000	4.7000e-003	0.0000	0.8777	0.8777	2.0000e-005	2.0000e-005	0.8847
Total	**3.5000e-004**	**2.0000e-004**	**2.7800e-003**	**1.0000e-005**	**0.0450**	**1.0000e-005**	**0.0450**	**4.7000e-003**	**0.0000**	**4.7000e-003**	**0.0000**	**0.8777**	**0.8777**	**2.0000e-005**	**2.0000e-005**	**0.8847**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.12 Cleaning and Restoration 1 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2500e-003	0.0273	0.0197	8.0000e-005		9.1000e-004	9.1000e-004		8.4000e-004	8.4000e-004	0.0000	7.2164	7.2164	2.3300e-003	0.0000	7.2748
Total	**3.2500e-003**	**0.0273**	**0.0197**	**8.0000e-005**		**9.1000e-004**	**9.1000e-004**		**8.4000e-004**	**8.4000e-004**	**0.0000**	**7.2164**	**7.2164**	**2.3300e-003**	**0.0000**	**7.2748**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-004	4.7900e-003	1.3400e-003	2.0000e-005	0.0211	3.0000e-005	0.0211	2.2400e-003	3.0000e-005	2.2700e-003	0.0000	1.9708	1.9708	1.0000e-005	3.0000e-004	2.0593
Worker	7.0000e-005	4.0000e-005	5.2000e-004	0.0000	8.4400e-003	0.0000	8.4400e-003	8.8000e-004	0.0000	8.8000e-004	0.0000	0.1646	0.1646	0.0000	0.0000	0.1659
Total	**1.8000e-004**	**4.8300e-003**	**1.8600e-003**	**2.0000e-005**	**0.0295**	**3.0000e-005**	**0.0295**	**3.1200e-003**	**3.0000e-005**	**3.1500e-003**	**0.0000**	**2.1353**	**2.1353**	**1.0000e-005**	**3.0000e-004**	**2.2252**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.2500e-003	0.0273	0.0197	8.0000e-005		9.1000e-004	9.1000e-004		8.4000e-004	8.4000e-004	0.0000	7.2164	7.2164	2.3300e-003	0.0000	7.2748
Total	**3.2500e-003**	**0.0273**	**0.0197**	**8.0000e-005**		**9.1000e-004**	**9.1000e-004**		**8.4000e-004**	**8.4000e-004**	**0.0000**	**7.2164**	**7.2164**	**2.3300e-003**	**0.0000**	**7.2748**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-004	4.7900e-003	1.3400e-003	2.0000e-005	0.0211	3.0000e-005	0.0211	2.2400e-003	3.0000e-005	2.2700e-003	0.0000	1.9708	1.9708	1.0000e-005	3.0000e-004	2.0593
Worker	7.0000e-005	4.0000e-005	5.2000e-004	0.0000	8.4400e-003	0.0000	8.4400e-003	8.8000e-004	0.0000	8.8000e-004	0.0000	0.1646	0.1646	0.0000	0.0000	0.1659
Total	**1.8000e-004**	**4.8300e-003**	**1.8600e-003**	**2.0000e-005**	**0.0295**	**3.0000e-005**	**0.0295**	**3.1200e-003**	**3.0000e-005**	**3.1500e-003**	**0.0000**	**2.1353**	**2.1353**	**1.0000e-005**	**3.0000e-004**	**2.2252**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.13 Remaining Deliveries, Installations, Testing and Commissioning 1 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0199	0.1436	0.1405	5.2000e-004		5.3100e-003	5.3100e-003		4.8800e-003	4.8800e-003	0.0000	45.5540	45.5540	0.0147	0.0000	45.9223
Total	**0.0199**	**0.1436**	**0.1405**	**5.2000e-004**		**5.3100e-003**	**5.3100e-003**		**4.8800e-003**	**4.8800e-003**	**0.0000**	**45.5540**	**45.5540**	**0.0147**	**0.0000**	**45.9223**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0192	5.3700e-003	8.0000e-005	0.0842	1.2000e-004	0.0843	8.9500e-003	1.2000e-004	9.0600e-003	0.0000	7.8831	7.8831	4.0000e-005	1.1900e-003	8.2373
Worker	1.3100e-003	7.3000e-004	0.0104	4.0000e-005	0.1688	2.0000e-005	0.1688	0.0176	2.0000e-005	0.0176	0.0000	3.2913	3.2913	8.0000e-005	8.0000e-005	3.3177
Total	**1.7400e-003**	**0.0199**	**0.0158**	**1.2000e-004**	**0.2530**	**1.4000e-004**	**0.2531**	**0.0266**	**1.4000e-004**	**0.0267**	**0.0000**	**11.1743**	**11.1743**	**1.2000e-004**	**1.2700e-003**	**11.5549**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0199	0.1436	0.1405	5.2000e-004		5.3100e-003	5.3100e-003		4.8800e-003	4.8800e-003	0.0000	45.5539	45.5539	0.0147	0.0000	45.9223
Total	**0.0199**	**0.1436**	**0.1405**	**5.2000e-004**		**5.3100e-003**	**5.3100e-003**		**4.8800e-003**	**4.8800e-003**	**0.0000**	**45.5539**	**45.5539**	**0.0147**	**0.0000**	**45.9223**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0192	5.3700e-003	8.0000e-005	0.0842	1.2000e-004	0.0843	8.9500e-003	1.2000e-004	9.0600e-003	0.0000	7.8831	7.8831	4.0000e-005	1.1900e-003	8.2373
Worker	1.3100e-003	7.3000e-004	0.0104	4.0000e-005	0.1688	2.0000e-005	0.1688	0.0176	2.0000e-005	0.0176	0.0000	3.2913	3.2913	8.0000e-005	8.0000e-005	3.3177
Total	**1.7400e-003**	**0.0199**	**0.0158**	**1.2000e-004**	**0.2530**	**1.4000e-004**	**0.2531**	**0.0266**	**1.4000e-004**	**0.0267**	**0.0000**	**11.1743**	**11.1743**	**1.2000e-004**	**1.2700e-003**	**11.5549**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.14 Cleaning and Restoration 2 - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.8200e-003	0.0452	0.0254	9.0000e-005		1.7700e-003	1.7700e-003		1.6300e-003	1.6300e-003	0.0000	7.9694	7.9694	2.5800e-003	0.0000	8.0338
Total	**4.8200e-003**	**0.0452**	**0.0254**	**9.0000e-005**		**1.7700e-003**	**1.7700e-003**		**1.6300e-003**	**1.6300e-003**	**0.0000**	**7.9694**	**7.9694**	**2.5800e-003**	**0.0000**	**8.0338**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.8200e-003	0.0452	0.0254	9.0000e-005		1.7700e-003	1.7700e-003		1.6300e-003	1.6300e-003	0.0000	7.9694	7.9694	2.5800e-003	0.0000	8.0338
Total	**4.8200e-003**	**0.0452**	**0.0254**	**9.0000e-005**		**1.7700e-003**	**1.7700e-003**		**1.6300e-003**	**1.6300e-003**	**0.0000**	**7.9694**	**7.9694**	**2.5800e-003**	**0.0000**	**8.0338**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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3.15 Remaining Deliveries, Installations, Testing and Commissioning 2 - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9500e-003	0.0718	0.0702	2.6000e-004		2.6500e-003	2.6500e-003		2.4400e-003	2.4400e-003	0.0000	22.7770	22.7770	7.3700e-003	0.0000	22.9612
Total	**9.9500e-003**	**0.0718**	**0.0702**	**2.6000e-004**		**2.6500e-003**	**2.6500e-003**		**2.4400e-003**	**2.4400e-003**	**0.0000**	**22.7770**	**22.7770**	**7.3700e-003**	**0.0000**	**22.9612**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.9500e-003	0.0718	0.0702	2.6000e-004		2.6500e-003	2.6500e-003		2.4400e-003	2.4400e-003	0.0000	22.7770	22.7770	7.3700e-003	0.0000	22.9611
Total	**9.9500e-003**	**0.0718**	**0.0702**	**2.6000e-004**		**2.6500e-003**	**2.6500e-003**		**2.4400e-003**	**2.4400e-003**	**0.0000**	**22.7770**	**22.7770**	**7.3700e-003**	**0.0000**	**22.9611**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.554122	0.053376	0.171995	0.136171	0.022603	0.005710	0.012724	0.016721	0.000451	0.000316	0.021848	0.001050	0.002914

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	319.4967	319.4967	0.0145	2.9900e-003	320.7486
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	319.4967	319.4967	0.0145	2.9900e-003	320.7486
NaturalGas Mitigated	0.0132	0.1200	0.1008	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	130.5925	130.5925	2.5000e-003	2.3900e-003	131.3686
NaturalGas Unmitigated	0.0132	0.1200	0.1008	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	130.5925	130.5925	2.5000e-003	2.3900e-003	131.3686

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	2.44721e+006	0.0132	0.1200	0.1008	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	130.5925	130.5925	2.5000e-003	2.3900e-003	131.3686
Total		**0.0132**	**0.1200**	**0.1008**	**7.2000e-004**		**9.1200e-003**	**9.1200e-003**		**9.1200e-003**	**9.1200e-003**	**0.0000**	**130.5925**	**130.5925**	**2.5000e-003**	**2.3900e-003**	**131.3686**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	2.44721e+006	0.0132	0.1200	0.1008	7.2000e-004		9.1200e-003	9.1200e-003		9.1200e-003	9.1200e-003	0.0000	130.5925	130.5925	2.5000e-003	2.3900e-003	131.3686
Total		**0.0132**	**0.1200**	**0.1008**	**7.2000e-004**		**9.1200e-003**	**9.1200e-003**		**9.1200e-003**	**9.1200e-003**	**0.0000**	**130.5925**	**130.5925**	**2.5000e-003**	**2.3900e-003**	**131.3686**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.09826e+006	319.4967	0.0145	2.9900e-003	320.7486
Total		**319.4967**	**0.0145**	**2.9900e-003**	**320.7486**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	1.09826e+006	319.4967	0.0145	2.9900e-003	320.7486
Total		**319.4967**	**0.0145**	**2.9900e-003**	**320.7486**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5181	1.0000e-005	1.2200e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3700e-003	2.3700e-003	1.0000e-005	0.0000	2.5200e-003
Unmitigated	0.5181	1.0000e-005	1.2200e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3700e-003	2.3700e-003	1.0000e-005	0.0000	2.5200e-003

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5180					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.2200e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3700e-003	2.3700e-003	1.0000e-005	0.0000	2.5200e-003
Total	**0.5181**	**1.0000e-005**	**1.2200e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.3700e-003**	**2.3700e-003**	**1.0000e-005**	**0.0000**	**2.5200e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5180					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1000e-004	1.0000e-005	1.2200e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.3700e-003	2.3700e-003	1.0000e-005	0.0000	2.5200e-003
Total	**0.5181**	**1.0000e-005**	**1.2200e-003**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.3700e-003**	**2.3700e-003**	**1.0000e-005**	**0.0000**	**2.5200e-003**

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7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Lodi Substation - San Joaquin County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Trucks	1	4.00	12	402	0.38	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Off-Highway Trucks	1.4300e-003	8.6000e-003	9.5600e-003	4.0000e-005		3.1000e-004	3.1000e-004		2.8000e-004	2.8000e-004	0.0000	3.4827	3.4827	1.1300e-003	0.0000	3.5109
Total	**1.4300e-003**	**8.6000e-003**	**9.5600e-003**	**4.0000e-005**		**3.1000e-004**	**3.1000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**3.4827**	**3.4827**	**1.1300e-003**	**0.0000**	**3.5109**

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Lodi Substation

San Joaquin County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	132.64	1000sqft	4.60	132,640.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	51
Climate Zone	2			**Operational Year**	2028
Utility Company					
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project specific info

Land Use - 4.6 acres of disturbed area per grading plan

Construction Phase - Project-specific timeline.

Off-road Equipment - Project-specific Information.

Off-road Equipment -

Off-road Equipment - Project-specific info

Off-road Equipment - Project-specific

Off-road Equipment - Project-specific information

Off-road Equipment - Project-specific equipment list used in lieu of CalEEMod defaults.

Off-road Equipment - project-specific information

Off-road Equipment - Site-specific value

Off-road Equipment - project-specific information

Off-road Equipment - Site-specific info

Off-road Equipment - Project-specific information

Trips and VMT - Project-specific worker trips

On-road Fugitive Dust - Only a small portion of the construction access road surfaces surrounding the project will be unpaved, therefore 98% pavement is assumed.

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - Site-specific area.

Vehicle Trips - Unmanned operation and no daily worker trips will occur

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Consumer Products - No consumer product utilization was assumed for the project

Area Coating - No architectural coating is assumed for the project.

Landscape Equipment -

Energy Use -

Water And Wastewater - Unmanned facility - no water use is expected

Solid Waste - Unmanned facility - no solid waste generation is expected

Construction Off-road Equipment Mitigation - Tier 3 compliant engines are assumed for the project

Watering of exposed areas is assumed

Operational Off-Road Equipment - Assumes monthly inspection utilizing one off-highway truck 4 hours per day.

Fleet Mix -

Off-road Equipment - Project specific information

Off-road Equipment - Project specific equipment

Off-road Equipment - Project specific equipment

Off-road Equipment - Project specific equipment

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	10.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	18.00	40.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	5.00	28.00
tblConstructionPhase	NumDays	230.00	10.00
tblConstructionPhase	NumDays	230.00	20.00
tblGrading	AcresOfGrading	120.00	3.04
tblLandUse	LandUseSquareFeet	132,640.00	132,640.20
tblLandUse	LotAcreage	3.04	4.60
tblOffRoadEquipment	HorsePower	84.00	34.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	LoadFactor	0.38	0.44
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	PhaseName	Remaining Deliveries, Installations, Testing and Commissioning	Remaining Deliveries, Installations, Testing and Commissioning 1

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	PhaseName		Steel/Bus Erection
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 1
tblOffRoadEquipment	PhaseName		Underground 12 kV Line Installation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 1
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Access Roads
tblOffRoadEquipment	PhaseName		Steel/Bus Erection
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 1
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 1
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Survey
tblOffRoadEquipment	PhaseName		Underground 12 kV Line Installation
tblOffRoadEquipment	PhaseName		Fence and Gate Installation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Yard Rock Installation
tblOffRoadEquipment	PhaseName		Ground/Grid Circuit Installation
tblOffRoadEquipment	PhaseName		Transformer Installation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Fence and Gate Installation
tblOffRoadEquipment	PhaseName		Yard Rock Installation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Access Roads
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 1
tblOffRoadEquipment	PhaseName		Site Preparation

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Underground 12 kV Line Installation
tblOffRoadEquipment	PhaseName		Ground/Grid Circuit Installation
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 2
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 2
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 2
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 2
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 2
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 2
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	PhaseName	Remaining Deliveries, Installations, Testing and Commissioning	Remaining Deliveries, Installations, Testing and Commissioning 1
tblOnRoadDust	PhaseName	Cleaning and Restoration	Cleaning and Restoration 1

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblSolidWaste	SolidWasteGenerationRate	164.47	0.00

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblTripsAndVMT	PhaseName	Remaining Deliveries, Installations, Testing and Commissioning	Remaining Deliveries, Installations, Testing and Commissioning 1
tblTripsAndVMT	PhaseName	Cleaning and Restoration	Cleaning and Restoration 1
tblTripsAndVMT	WorkerTripNumber	15.00	20.00
tblTripsAndVMT	WorkerTripNumber	56.00	10.00
tblTripsAndVMT	WorkerTripNumber	56.00	30.00
tblTripsAndVMT	WorkerTripNumber	56.00	6.00
tblTripsAndVMT	WorkerTripNumber	38.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	16.00
tblTripsAndVMT	WorkerTripNumber	56.00	10.00
tblTripsAndVMT	WorkerTripNumber	56.00	16.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblWater	IndoorWaterUseRate	30,673,000.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2027	6.1321	44.4095	42.4950	0.1554	34.5252	1.7213	36.2465	11.6413	1.5836	13.2249	0.0000	15,053.0148	15,053.0148	4.7695	0.2009	15,174.3660
2028	1.9596	16.2140	12.1018	0.0441	0.0000	0.6189	0.6189	0.0000	0.5694	0.5694	0.0000	4,267.6839	4,267.6839	1.3803	0.0000	4,302.1903
Maximum	**6.1321**	**44.4095**	**42.4950**	**0.1554**	**34.5252**	**1.7213**	**36.2465**	**11.6413**	**1.5836**	**13.2249**	**0.0000**	**15,053.0148**	**15,053.0148**	**4.7695**	**0.2009**	**15,174.3660**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2027	6.1321	44.4095	42.4950	0.1554	26.3564	1.7213	27.0988	6.1699	1.5836	7.7535	0.0000	15,053.0148	15,053.0148	4.7695	0.2009	15,174.3659
2028	1.9596	16.2140	12.1018	0.0441	0.0000	0.6189	0.6189	0.0000	0.5694	0.5694	0.0000	4,267.6839	4,267.6839	1.3803	0.0000	4,302.1903
Maximum	**6.1321**	**44.4095**	**42.4950**	**0.1554**	**26.3564**	**1.7213**	**27.0988**	**6.1699**	**1.5836**	**7.7535**	**0.0000**	**15,053.0148**	**15,053.0148**	**4.7695**	**0.2009**	**15,174.3659**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**23.66**	**0.00**	**24.81**	**47.00**	**0.00**	**39.66**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8397	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309
Energy	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.2388	1.4330	1.5927	6.6100e-003		0.0512	0.0512		0.0471	0.0471	0.0000	639.8377	639.8377	0.2069		645.0111
Total	**3.1508**	**2.0905**	**2.1584**	**0.0106**	**0.0000**	**0.1012**	**0.1012**	**0.0000**	**0.0971**	**0.0971**	**0.0000**	**1,428.6538**	**1,428.6538**	**0.2221**	**0.0145**	**1,438.5164**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8397	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309
Energy	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.2388	1.4330	1.5927	6.6100e-003		0.0512	0.0512		0.0471	0.0471	0.0000	639.8377	639.8377	0.2069		645.0111
Total	**3.1508**	**2.0905**	**2.1584**	**0.0106**	**0.0000**	**0.1012**	**0.1012**	**0.0000**	**0.0971**	**0.0971**	**0.0000**	**1,428.6538**	**1,428.6538**	**0.2221**	**0.0145**	**1,438.5164**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Survey	Site Preparation	2/1/2027	2/26/2027	5	20	
2	Access Roads	Site Preparation	3/1/2027	3/26/2027	5	20	
3	Site Preparation	Site Preparation	3/1/2027	3/26/2027	5	20	
4	Underground 12 kV Line Installation	Trenching	3/1/2027	3/12/2027	5	10	
5	Fence and Gate Installation	Site Preparation	4/1/2027	5/10/2027	5	28	
6	Foundation	Paving	5/1/2027	6/27/2027	5	40	
7	Ground/Grid Circuit Installation	Building Construction	6/1/2027	7/26/2027	5	40	
8	Transformer Installation	Building Construction	7/1/2027	8/25/2027	5	40	
9	Steel/Bus Erection	Building Construction	7/1/2027	8/25/2027	5	40	
10	Yard Rock Installation	Paving	9/1/2027	9/28/2027	5	20	
11	Cleaning and Restoration 1	Building Construction	10/1/2027	10/14/2027	5	10	
12	Remaining Deliveries, Installations, Testing and Commissioning 1	Building Construction	11/1/2027	12/24/2027	5	40	
13	Cleaning and Restoration 2	Building Construction	2/1/2028	2/14/2028	5	10	
14	Remaining Deliveries, Installations, Testing and Commissioning 2	Building Construction	2/1/2028	2/28/2028	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Roads	Off-Highway Trucks	4	6.00	275	0.38
Access Roads	Rubber Tired Loaders	2	6.00	203	0.36
Site Preparation	Graders	1	6.00	187	0.41
Site Preparation	Off-Highway Trucks	9	6.00	275	0.38
Site Preparation	Rollers	2	6.00	80	0.38
Site Preparation	Rubber Tired Dozers	1	6.00	247	0.40
Site Preparation	Rubber Tired Loaders	1	6.00	203	0.36
Site Preparation	Scrapers	1	6.00	367	0.48
Survey	Off-Highway Trucks	2	6.00	275	0.38
Fence and Gate Installation	Off-Highway Trucks	5	6.00	275	0.38
Fence and Gate Installation	Rough Terrain Forklifts	1	6.00	100	0.40
Underground 12 kV Line Installation	Bore/Drill Rigs	1	6.00	221	0.50
Underground 12 kV Line Installation	Off-Highway Trucks	2	6.00	275	0.38
Underground 12 kV Line Installation	Trenchers	1	6.00	78	0.50
Ground/Grid Circuit Installation	Off-Highway Trucks	1	6.00	275	0.38
Ground/Grid Circuit Installation	Trenchers	1	6.00	78	0.50
Transformer Installation	Cranes	1	6.00	231	0.29
Transformer Installation	Generator Sets	1	6.00	34	0.74
Transformer Installation	Off-Highway Trucks	5	6.00	275	0.38
Steel/Bus Erection	Aerial Lifts	1	6.00	63	0.31
Steel/Bus Erection	Off-Highway Trucks	2	6.00	275	0.44
Remaining Deliveries, Installations, Testing and Commissioning 1	Aerial Lifts	1	6.00	63	0.31
Remaining Deliveries, Installations, Testing and Commissioning 1	Cranes	1	6.00	231	0.29
Remaining Deliveries, Installations, Testing and Commissioning 1	Off-Highway Trucks	3	6.00	275	0.38
Cleaning and Restoration 1	Graders	1	6.00	187	0.41
Cleaning and Restoration 1	Off-Highway Trucks	1	6.00	275	0.38
Cleaning and Restoration 1	Rubber Tired Loaders	1	6.00	203	0.36
Foundation	Bore/Drill Rigs	1	6.00	221	0.50
Foundation	Cranes	1	6.00	231	0.29
Foundation	Off-Highway Trucks	2	6.00	275	0.38
Foundation	Rubber Tired Dozers	1	6.00	247	0.40

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Yard Rock Installation	Off-Highway Trucks	2	6.00	275	0.38
Yard Rock Installation	Rough Terrain Forklifts	1	6.00	100	0.40
Cleaning and Restoration 2	Graders	1	6.00	187	0.41
Cleaning and Restoration 2	Off-Highway Trucks	1	6.00	275	0.38
Cleaning and Restoration 2	Rubber Tired Dozers	1	6.00	247	0.40
Remaining Deliveries, Installations, Testing and Commissioning 2	Aerial Lifts	1	6.00	63	0.31
Remaining Deliveries, Installations, Testing and Commissioning 2	Cranes	1	6.00	231	0.29
Remaining Deliveries, Installations, Testing and Commissioning 2	Off-Highway Trucks	3	6.00	275	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Roads	6	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	15	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Survey	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fence and Gate Installation	6	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground 12 kV Line Installation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Ground/Grid Circuit Installation	2	10.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Transformer Installation	7	16.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Steel/Bus Erection	3	10.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Remaining Deliveries, Installations, Testing	5	30.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Cleaning and Restoration 1	3	6.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Foundation	5	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Yard Rock Installation	3	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Cleaning and Restoration 2										
Remaining Deliveries, Installations, Testing										

3.1 Mitigation Measures Construction

Water Exposed Area

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Survey - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4901	2.9409	3.2687	0.0136		0.1051	0.1051		0.0967	0.0967		1,313.0998	1,313.0998	0.4247		1,323.7169
Total	**0.4901**	**2.9409**	**3.2687**	**0.0136**	**0.0000**	**0.1051**	**0.1051**	**0.0000**	**0.0967**	**0.0967**		**1,313.0998**	**1,313.0998**	**0.4247**		**1,323.7169**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0121	5.5400e-003	0.0966	3.2000e-004	0.0411	1.6000e-004	0.0412	0.0109	1.5000e-004	0.0110		32.6068	32.6068	6.6000e-004	7.1000e-004	32.8344
Total	**0.0121**	**5.5400e-003**	**0.0966**	**3.2000e-004**	**0.0411**	**1.6000e-004**	**0.0412**	**0.0109**	**1.5000e-004**	**0.0110**		**32.6068**	**32.6068**	**6.6000e-004**	**7.1000e-004**	**32.8344**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4901	2.9409	3.2687	0.0136		0.1051	0.1051		0.0967	0.0967	0.0000	1,313.0998	1,313.0998	0.4247		1,323.7169
Total	**0.4901**	**2.9409**	**3.2687**	**0.0136**	**0.0000**	**0.1051**	**0.1051**	**0.0000**	**0.0967**	**0.0967**	**0.0000**	**1,313.0998**	**1,313.0998**	**0.4247**		**1,323.7169**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0121	5.5400e-003	0.0966	3.2000e-004	0.0411	1.6000e-004	0.0412	0.0109	1.5000e-004	0.0110		32.6068	32.6068	6.6000e-004	7.1000e-004	32.8344
Total	**0.0121**	**5.5400e-003**	**0.0966**	**3.2000e-004**	**0.0411**	**1.6000e-004**	**0.0412**	**0.0109**	**1.5000e-004**	**0.0110**		**32.6068**	**32.6068**	**6.6000e-004**	**7.1000e-004**	**32.8344**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Access Roads - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3230	8.6699	8.7447	0.0365		0.3039	0.3039		0.2796	0.2796		3,534.6323	3,534.6323	1.1432		3,563.2116
Total	**1.3230**	**8.6699**	**8.7447**	**0.0365**	**0.0000**	**0.3039**	**0.3039**	**0.0000**	**0.2796**	**0.2796**		**3,534.6323**	**3,534.6323**	**1.1432**		**3,563.2116**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0485	0.0222	0.3864	1.2900e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		130.4271	130.4271	2.6200e-003	2.8400e-003	131.3376
Total	**0.0485**	**0.0222**	**0.3864**	**1.2900e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**130.4271**	**130.4271**	**2.6200e-003**	**2.8400e-003**	**131.3376**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3230	8.6699	8.7447	0.0365		0.3039	0.3039		0.2796	0.2796	0.0000	3,534.6323	3,534.6323	1.1432		3,563.2116
Total	**1.3230**	**8.6699**	**8.7447**	**0.0365**	**0.0000**	**0.3039**	**0.3039**	**0.0000**	**0.2796**	**0.2796**	**0.0000**	**3,534.6323**	**3,534.6323**	**1.1432**		**3,563.2116**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0485	0.0222	0.3864	1.2900e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		130.4271	130.4271	2.6200e-003	2.8400e-003	131.3376
Total	**0.0485**	**0.0222**	**0.3864**	**1.2900e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**130.4271**	**130.4271**	**2.6200e-003**	**2.8400e-003**	**131.3376**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Site Preparation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.2275	0.0000	18.2275	9.9481	0.0000	9.9481			0.0000			0.0000
Off-Road	3.8054	29.1367	26.0621	0.0924		1.1178	1.1178		1.0284	1.0284		8,945.7685	8,945.7685	2.8932		9,018.0995
Total	**3.8054**	**29.1367**	**26.0621**	**0.0924**	**18.2275**	**1.1178**	**19.3453**	**9.9481**	**1.0284**	**10.9765**		**8,945.7685**	**8,945.7685**	**2.8932**		**9,018.0995**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0485	0.0222	0.3864	1.2900e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		130.4271	130.4271	2.6200e-003	2.8400e-003	131.3376
Total	**0.0485**	**0.0222**	**0.3864**	**1.2900e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**130.4271**	**130.4271**	**2.6200e-003**	**2.8400e-003**	**131.3376**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.2024	0.0000	8.2024	4.4766	0.0000	4.4766			0.0000			0.0000
Off-Road	3.8054	29.1367	26.0621	0.0924		1.1178	1.1178		1.0284	1.0284	0.0000	8,945.7684	8,945.7684	2.8932		9,018.0995
Total	**3.8054**	**29.1367**	**26.0621**	**0.0924**	**8.2024**	**1.1178**	**9.3202**	**4.4766**	**1.0284**	**5.5050**	**0.0000**	**8,945.7684**	**8,945.7684**	**2.8932**		**9,018.0995**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0485	0.0222	0.3864	1.2900e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		130.4271	130.4271	2.6200e-003	2.8400e-003	131.3376
Total	**0.0485**	**0.0222**	**0.3864**	**1.2900e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**130.4271**	**130.4271**	**2.6200e-003**	**2.8400e-003**	**131.3376**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Underground 12 kV Line Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8826	6.5475	6.7224	0.0232		0.2981	0.2981		0.2742	0.2742		2,246.5463	2,246.5463	0.7266		2,264.7107
Total	**0.8826**	**6.5475**	**6.7224**	**0.0232**		**0.2981**	**0.2981**		**0.2742**	**0.2742**		**2,246.5463**	**2,246.5463**	**0.7266**		**2,264.7107**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0242	0.0111	0.1932	6.5000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		65.2136	65.2136	1.3100e-003	1.4200e-003	65.6688
Total	**0.0242**	**0.0111**	**0.1932**	**6.5000e-004**	**3.2596**	**3.2000e-004**	**3.2599**	**0.3387**	**2.9000e-004**	**0.3389**		**65.2136**	**65.2136**	**1.3100e-003**	**1.4200e-003**	**65.6688**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8826	6.5475	6.7224	0.0232		0.2981	0.2981		0.2742	0.2742	0.0000	2,246.5463	2,246.5463	0.7266		2,264.7107
Total	**0.8826**	**6.5475**	**6.7224**	**0.0232**		**0.2981**	**0.2981**		**0.2742**	**0.2742**	**0.0000**	**2,246.5463**	**2,246.5463**	**0.7266**		**2,264.7107**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0242	0.0111	0.1932	6.5000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		65.2136	65.2136	1.3100e-003	1.4200e-003	65.6688
Total	**0.0242**	**0.0111**	**0.1932**	**6.5000e-004**	**3.2596**	**3.2000e-004**	**3.2599**	**0.3387**	**2.9000e-004**	**0.3389**		**65.2136**	**65.2136**	**1.3100e-003**	**1.4200e-003**	**65.6688**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Fence and Gate Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.2978	8.3156	9.8858	0.0365		0.2898	0.2898		0.2666	0.2666		3,533.0376	3,533.0376	1.1427		3,561.6040
Total	**1.2978**	**8.3156**	**9.8858**	**0.0365**	**0.0000**	**0.2898**	**0.2898**	**0.0000**	**0.2666**	**0.2666**		**3,533.0376**	**3,533.0376**	**1.1427**		**3,561.6040**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0242	0.0111	0.1932	6.5000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		65.2136	65.2136	1.3100e-003	1.4200e-003	65.6688
Total	**0.0242**	**0.0111**	**0.1932**	**6.5000e-004**	**3.2596**	**3.2000e-004**	**3.2599**	**0.3387**	**2.9000e-004**	**0.3389**		**65.2136**	**65.2136**	**1.3100e-003**	**1.4200e-003**	**65.6688**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.2978	8.3156	9.8858	0.0365		0.2898	0.2898		0.2666	0.2666	0.0000	3,533.0376	3,533.0376	1.1427		3,561.6040
Total	**1.2978**	**8.3156**	**9.8858**	**0.0365**	**0.0000**	**0.2898**	**0.2898**	**0.0000**	**0.2666**	**0.2666**	**0.0000**	**3,533.0376**	**3,533.0376**	**1.1427**		**3,561.6040**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0242	0.0111	0.1932	6.5000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		65.2136	65.2136	1.3100e-003	1.4200e-003	65.6688
Total	**0.0242**	**0.0111**	**0.1932**	**6.5000e-004**	**3.2596**	**3.2000e-004**	**3.2599**	**0.3387**	**2.9000e-004**	**0.3389**		**65.2136**	**65.2136**	**1.3100e-003**	**1.4200e-003**	**65.6688**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Foundation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3677	11.6893	8.3465	0.0314		0.4696	0.4696		0.4321	0.4321		3,040.3772	3,040.3772	0.9833		3,064.9602
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3677**	**11.6893**	**8.3465**	**0.0314**		**0.4696**	**0.4696**		**0.4321**	**0.4321**		**3,040.3772**	**3,040.3772**	**0.9833**		**3,064.9602**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0485	0.0222	0.3864	1.2900e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		130.4271	130.4271	2.6200e-003	2.8400e-003	131.3376
Total	**0.0485**	**0.0222**	**0.3864**	**1.2900e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**130.4271**	**130.4271**	**2.6200e-003**	**2.8400e-003**	**131.3376**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3677	11.6893	8.3465	0.0314		0.4696	0.4696		0.4321	0.4321	0.0000	3,040.3772	3,040.3772	0.9833		3,064.9602
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3677**	**11.6893**	**8.3465**	**0.0314**		**0.4696**	**0.4696**		**0.4321**	**0.4321**	**0.0000**	**3,040.3772**	**3,040.3772**	**0.9833**		**3,064.9602**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0485	0.0222	0.3864	1.2900e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		130.4271	130.4271	2.6200e-003	2.8400e-003	131.3376
Total	**0.0485**	**0.0222**	**0.3864**	**1.2900e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**130.4271**	**130.4271**	**2.6200e-003**	**2.8400e-003**	**131.3376**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Ground/Grid Circuit Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4805	3.6779	3.5608	9.3200e-003		0.1996	0.1996		0.1836	0.1836		902.0587	902.0587	0.2917		909.3523
Total	**0.4805**	**3.6779**	**3.5608**	**9.3200e-003**		**0.1996**	**0.1996**		**0.1836**	**0.1836**		**902.0587**	**902.0587**	**0.2917**		**909.3523**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0221	0.9176	0.2646	4.1100e-003	4.8740	6.2000e-003	4.8802	0.5141	5.9300e-003	0.5200		434.1255	434.1255	1.9900e-003	0.0653	453.6262
Worker	0.0242	0.0111	0.1932	6.5000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		65.2136	65.2136	1.3100e-003	1.4200e-003	65.6688
Total	**0.0464**	**0.9287**	**0.4578**	**4.7600e-003**	**8.1336**	**6.5200e-003**	**8.1401**	**0.8528**	**6.2200e-003**	**0.8590**		**499.3390**	**499.3390**	**3.3000e-003**	**0.0667**	**519.2951**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4805	3.6779	3.5608	9.3200e-003		0.1996	0.1996		0.1836	0.1836	0.0000	902.0587	902.0587	0.2917		909.3523
Total	**0.4805**	**3.6779**	**3.5608**	**9.3200e-003**		**0.1996**	**0.1996**		**0.1836**	**0.1836**	**0.0000**	**902.0587**	**902.0587**	**0.2917**		**909.3523**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0221	0.9176	0.2646	4.1100e-003	4.8740	6.2000e-003	4.8802	0.5141	5.9300e-003	0.5200		434.1255	434.1255	1.9900e-003	0.0653	453.6262
Worker	0.0242	0.0111	0.1932	6.5000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		65.2136	65.2136	1.3100e-003	1.4200e-003	65.6688
Total	**0.0464**	**0.9287**	**0.4578**	**4.7600e-003**	**8.1336**	**6.5200e-003**	**8.1401**	**0.8528**	**6.2200e-003**	**0.8590**		**499.3390**	**499.3390**	**3.3000e-003**	**0.0667**	**519.2951**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Transformer Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6062	10.8868	10.7247	0.0406		0.3947	0.3947		0.3656	0.3656		3,891.0050	3,891.0050	1.2102		3,921.2610
Total	**1.6062**	**10.8868**	**10.7247**	**0.0406**		**0.3947**	**0.3947**		**0.3656**	**0.3656**		**3,891.0050**	**3,891.0050**	**1.2102**		**3,921.2610**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0221	0.9176	0.2646	4.1100e-003	4.8740	6.2000e-003	4.8802	0.5141	5.9300e-003	0.5200		434.1255	434.1255	1.9900e-003	0.0653	453.6262
Worker	0.0388	0.0177	0.3091	1.0300e-003	5.2153	5.1000e-004	5.2158	0.5418	4.7000e-004	0.5423		104.3417	104.3417	2.1000e-003	2.2700e-003	105.0701
Total	**0.0609**	**0.9353**	**0.5737**	**5.1400e-003**	**10.0893**	**6.7100e-003**	**10.0960**	**1.0559**	**6.4000e-003**	**1.0623**		**538.4672**	**538.4672**	**4.0900e-003**	**0.0675**	**558.6964**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6062	10.8868	10.7247	0.0406		0.3947	0.3947		0.3656	0.3656	0.0000	3,891.0050	3,891.0050	1.2102		3,921.2609
Total	**1.6062**	**10.8868**	**10.7247**	**0.0406**		**0.3947**	**0.3947**		**0.3656**	**0.3656**	**0.0000**	**3,891.0050**	**3,891.0050**	**1.2102**		**3,921.2609**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0221	0.9176	0.2646	4.1100e-003	4.8740	6.2000e-003	4.8802	0.5141	5.9300e-003	0.5200		434.1255	434.1255	1.9900e-003	0.0653	453.6262
Worker	0.0388	0.0177	0.3091	1.0300e-003	5.2153	5.1000e-004	5.2158	0.5418	4.7000e-004	0.5423		104.3417	104.3417	2.1000e-003	2.2700e-003	105.0701
Total	**0.0609**	**0.9353**	**0.5737**	**5.1400e-003**	**10.0893**	**6.7100e-003**	**10.0960**	**1.0559**	**6.4000e-003**	**1.0623**		**538.4672**	**538.4672**	**4.0900e-003**	**0.0675**	**558.6964**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Steel/Bus Erection - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5930	3.7956	4.6030	0.0170		0.1284	0.1284		0.1181	0.1181		1,642.3962	1,642.3962	0.5312		1,655.6758
Total	**0.5930**	**3.7956**	**4.6030**	**0.0170**		**0.1284**	**0.1284**		**0.1181**	**0.1181**		**1,642.3962**	**1,642.3962**	**0.5312**		**1,655.6758**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0221	0.9176	0.2646	4.1100e-003	4.8740	6.2000e-003	4.8802	0.5141	5.9300e-003	0.5200		434.1255	434.1255	1.9900e-003	0.0653	453.6262
Worker	0.0242	0.0111	0.1932	6.5000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		65.2136	65.2136	1.3100e-003	1.4200e-003	65.6688
Total	**0.0464**	**0.9287**	**0.4578**	**4.7600e-003**	**8.1336**	**6.5200e-003**	**8.1401**	**0.8528**	**6.2200e-003**	**0.8590**		**499.3390**	**499.3390**	**3.3000e-003**	**0.0667**	**519.2951**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5930	3.7956	4.6030	0.0170		0.1284	0.1284		0.1181	0.1181	0.0000	1,642.3962	1,642.3962	0.5312		1,655.6758
Total	**0.5930**	**3.7956**	**4.6030**	**0.0170**		**0.1284**	**0.1284**		**0.1181**	**0.1181**	**0.0000**	**1,642.3962**	**1,642.3962**	**0.5312**		**1,655.6758**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0221	0.9176	0.2646	4.1100e-003	4.8740	6.2000e-003	4.8802	0.5141	5.9300e-003	0.5200		434.1255	434.1255	1.9900e-003	0.0653	453.6262
Worker	0.0242	0.0111	0.1932	6.5000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		65.2136	65.2136	1.3100e-003	1.4200e-003	65.6688
Total	**0.0464**	**0.9287**	**0.4578**	**4.7600e-003**	**8.1336**	**6.5200e-003**	**8.1401**	**0.8528**	**6.2200e-003**	**0.8590**		**499.3390**	**499.3390**	**3.3000e-003**	**0.0667**	**519.2951**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Yard Rock Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5628	3.9042	4.9828	0.0162		0.1322	0.1322		0.1216	0.1216		1,563.3879	1,563.3879	0.5056		1,576.0287
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5628**	**3.9042**	**4.9828**	**0.0162**		**0.1322**	**0.1322**		**0.1216**	**0.1216**		**1,563.3879**	**1,563.3879**	**0.5056**		**1,576.0287**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0388	0.0177	0.3091	1.0300e-003	5.2153	5.1000e-004	5.2158	0.5418	4.7000e-004	0.5423		104.3417	104.3417	2.1000e-003	2.2700e-003	105.0701
Total	**0.0388**	**0.0177**	**0.3091**	**1.0300e-003**	**5.2153**	**5.1000e-004**	**5.2158**	**0.5418**	**4.7000e-004**	**0.5423**		**104.3417**	**104.3417**	**2.1000e-003**	**2.2700e-003**	**105.0701**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5628	3.9042	4.9828	0.0162		0.1322	0.1322		0.1216	0.1216	0.0000	1,563.3879	1,563.3879	0.5056		1,576.0287
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5628**	**3.9042**	**4.9828**	**0.0162**		**0.1322**	**0.1322**		**0.1216**	**0.1216**	**0.0000**	**1,563.3879**	**1,563.3879**	**0.5056**		**1,576.0287**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0388	0.0177	0.3091	1.0300e-003	5.2153	5.1000e-004	5.2158	0.5418	4.7000e-004	0.5423		104.3417	104.3417	2.1000e-003	2.2700e-003	105.0701
Total	**0.0388**	**0.0177**	**0.3091**	**1.0300e-003**	**5.2153**	**5.1000e-004**	**5.2158**	**0.5418**	**4.7000e-004**	**0.5423**		**104.3417**	**104.3417**	**2.1000e-003**	**2.2700e-003**	**105.0701**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.12 Cleaning and Restoration 1 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6498	5.4570	3.9336	0.0164		0.1828	0.1828		0.1682	0.1682		1,590.9460	1,590.9460	0.5145		1,603.8096
Total	**0.6498**	**5.4570**	**3.9336**	**0.0164**		**0.1828**	**0.1828**		**0.1682**	**0.1682**		**1,590.9460**	**1,590.9460**	**0.5145**		**1,603.8096**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0221	0.9176	0.2646	4.1100e-003	4.8740	6.2000e-003	4.8802	0.5141	5.9300e-003	0.5200		434.1255	434.1255	1.9900e-003	0.0653	453.6262
Worker	0.0145	6.6500e-003	0.1159	3.9000e-004	1.9557	1.9000e-004	1.9559	0.2032	1.8000e-004	0.2034		39.1281	39.1281	7.9000e-004	8.5000e-004	39.4013
Total	**0.0367**	**0.9243**	**0.3805**	**4.5000e-003**	**6.8297**	**6.3900e-003**	**6.8361**	**0.7173**	**6.1100e-003**	**0.7234**		**473.2536**	**473.2536**	**2.7800e-003**	**0.0661**	**493.0275**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6498	5.4570	3.9336	0.0164		0.1828	0.1828		0.1682	0.1682	0.0000	1,590.9460	1,590.9460	0.5145		1,603.8096
Total	**0.6498**	**5.4570**	**3.9336**	**0.0164**		**0.1828**	**0.1828**		**0.1682**	**0.1682**	**0.0000**	**1,590.9460**	**1,590.9460**	**0.5145**		**1,603.8096**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0221	0.9176	0.2646	4.1100e-003	4.8740	6.2000e-003	4.8802	0.5141	5.9300e-003	0.5200		434.1255	434.1255	1.9900e-003	0.0653	453.6262
Worker	0.0145	6.6500e-003	0.1159	3.9000e-004	1.9557	1.9000e-004	1.9559	0.2032	1.8000e-004	0.2034		39.1281	39.1281	7.9000e-004	8.5000e-004	39.4013
Total	**0.0367**	**0.9243**	**0.3805**	**4.5000e-003**	**6.8297**	**6.3900e-003**	**6.8361**	**0.7173**	**6.1100e-003**	**0.7234**		**473.2536**	**473.2536**	**2.7800e-003**	**0.0661**	**493.0275**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.13 Remaining Deliveries, Installations, Testing and Commissioning 1 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9952	7.1777	7.0236	0.0259		0.2653	0.2653		0.2441	0.2441		2,510.7342	2,510.7342	0.8120		2,531.0348
Total	**0.9952**	**7.1777**	**7.0236**	**0.0259**		**0.2653**	**0.2653**		**0.2441**	**0.2441**		**2,510.7342**	**2,510.7342**	**0.8120**		**2,531.0348**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0221	0.9176	0.2646	4.1100e-003	4.8740	6.2000e-003	4.8802	0.5141	5.9300e-003	0.5200		434.1255	434.1255	1.9900e-003	0.0653	453.6262
Worker	0.0727	0.0332	0.5796	1.9400e-003	9.7786	9.5000e-004	9.7796	1.0159	8.8000e-004	1.0168		195.6407	195.6407	3.9400e-003	4.2500e-003	197.0065
Total	**0.0948**	**0.9508**	**0.8442**	**6.0500e-003**	**14.6526**	**7.1500e-003**	**14.6598**	**1.5301**	**6.8100e-003**	**1.5369**		**629.7661**	**629.7661**	**5.9300e-003**	**0.0695**	**650.6327**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9952	7.1777	7.0236	0.0259		0.2653	0.2653		0.2441	0.2441	0.0000	2,510.7342	2,510.7342	0.8120		2,531.0348
Total	**0.9952**	**7.1777**	**7.0236**	**0.0259**		**0.2653**	**0.2653**		**0.2441**	**0.2441**	**0.0000**	**2,510.7342**	**2,510.7342**	**0.8120**		**2,531.0348**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0221	0.9176	0.2646	4.1100e-003	4.8740	6.2000e-003	4.8802	0.5141	5.9300e-003	0.5200		434.1255	434.1255	1.9900e-003	0.0653	453.6262
Worker	0.0727	0.0332	0.5796	1.9400e-003	9.7786	9.5000e-004	9.7796	1.0159	8.8000e-004	1.0168		195.6407	195.6407	3.9400e-003	4.2500e-003	197.0065
Total	**0.0948**	**0.9508**	**0.8442**	**6.0500e-003**	**14.6526**	**7.1500e-003**	**14.6598**	**1.5301**	**6.8100e-003**	**1.5369**		**629.7661**	**629.7661**	**5.9300e-003**	**0.0695**	**650.6327**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.14 Cleaning and Restoration 2 - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9644	9.0364	5.0782	0.0182		0.3536	0.3536		0.3253	0.3253		1,756.9497	1,756.9497	0.5682		1,771.1555
Total	**0.9644**	**9.0364**	**5.0782**	**0.0182**		**0.3536**	**0.3536**		**0.3253**	**0.3253**		**1,756.9497**	**1,756.9497**	**0.5682**		**1,771.1555**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**0.0000**			**0.0000**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9644	9.0364	5.0782	0.0182		0.3536	0.3536		0.3253	0.3253	0.0000	1,756.9497	1,756.9497	0.5682		1,771.1555
Total	**0.9644**	**9.0364**	**5.0782**	**0.0182**		**0.3536**	**0.3536**		**0.3253**	**0.3253**	**0.0000**	**1,756.9497**	**1,756.9497**	**0.5682**		**1,771.1555**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**0.0000**			**0.0000**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.15 Remaining Deliveries, Installations, Testing and Commissioning 2 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9952	7.1777	7.0236	0.0259		0.2653	0.2653		0.2441	0.2441		2,510.7342	2,510.7342	0.8120		2,531.0348
Total	**0.9952**	**7.1777**	**7.0236**	**0.0259**		**0.2653**	**0.2653**		**0.2441**	**0.2441**		**2,510.7342**	**2,510.7342**	**0.8120**		**2,531.0348**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**0.0000**			**0.0000**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9952	7.1777	7.0236	0.0259		0.2653	0.2653		0.2441	0.2441	0.0000	2,510.7342	2,510.7342	0.8120		2,531.0348
Total	**0.9952**	**7.1777**	**7.0236**	**0.0259**		**0.2653**	**0.2653**		**0.2441**	**0.2441**	**0.0000**	**2,510.7342**	**2,510.7342**	**0.8120**		**2,531.0348**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**0.0000**			**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.554122	0.053376	0.171995	0.136171	0.022603	0.005710	0.012724	0.016721	0.000451	0.000316	0.021848	0.001050	0.002914

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744
NaturalGas Unmitigated	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	6704.69	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744
Total		**0.0723**	**0.6573**	**0.5522**	**3.9400e-003**		**0.0500**	**0.0500**		**0.0500**	**0.0500**		**788.7870**	**788.7870**	**0.0151**	**0.0145**	**793.4744**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	6.70469	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744
Total		**0.0723**	**0.6573**	**0.5522**	**3.9400e-003**		**0.0500**	**0.0500**		**0.0500**	**0.0500**		**788.7870**	**788.7870**	**0.0151**	**0.0145**	**793.4744**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8397	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309
Unmitigated	2.8397	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8385					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2400e-003	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309
Total	**2.8397**	**1.2000e-004**	**0.0135**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0290**	**0.0290**	**8.0000e-005**		**0.0309**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8385					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2400e-003	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309
Total	**2.8397**	**1.2000e-004**	**0.0135**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0290**	**0.0290**	**8.0000e-005**		**0.0309**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Trucks	1	4.00	12	402	0.38	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Off-Highway Trucks	0.2388	1.4330	1.5927	6.6100e-003		0.0512	0.0512		0.0471	0.0471	0.0000	639.8377	639.8377	0.2069		645.0111
Total	**0.2388**	**1.4330**	**1.5927**	**6.6100e-003**		**0.0512**	**0.0512**		**0.0471**	**0.0471**	**0.0000**	**639.8377**	**639.8377**	**0.2069**		**645.0111**

Lodi Substation - San Joaquin County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Lodi Substation

San Joaquin County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	132.64	1000sqft	4.60	132,640.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	51
Climate Zone	2			**Operational Year**	2028
Utility Company					
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Project specific info

Land Use - 4.6 acres of disturbed area per grading plan

Construction Phase - Project-specific timeline.

Off-road Equipment - Project-specific Information.

Off-road Equipment -

Off-road Equipment - Project-specific info

Off-road Equipment - Project-specific

Off-road Equipment - Project-specific information

Off-road Equipment - Project-specific equipment list used in lieu of CalEEMod defaults.

Off-road Equipment - project-specific information

Off-road Equipment - Site-specific value

Off-road Equipment - project-specific information

Off-road Equipment - Site-specific info

Off-road Equipment - Project-specific information

Trips and VMT - Project-specific worker trips

On-road Fugitive Dust - Only a small portion of the construction access road surfaces surrounding the project will be unpaved, therefore 98% pavement is assumed.

Grading - Site-specific area.

Vehicle Trips - Unmanned operation and no daily worker trips will occur

Vehicle Emission Factors -

Vehicle Emission Factors -

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Vehicle Emission Factors -

Consumer Products - No consumer product utilization was assumed for the project

Area Coating - No architectural coating is assumed for the project.

Landscape Equipment -

Energy Use -

Water And Wastewater - Unmanned facility - no water use is expected

Solid Waste - Unmanned facility - no solid waste generation is expected

Construction Off-road Equipment Mitigation - Tier 3 compliant engines are assumed for the project

Watering of exposed areas is assumed

Operational Off-Road Equipment - Assumes monthly inspection utilizing one off-highway truck 4 hours per day.

Fleet Mix -

Off-road Equipment - Project specific information

Off-road Equipment - Project specific equipment

Off-road Equipment - Project specific equipment

Off-road Equipment - Project specific equipment

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	10.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	230.00	40.00
tblConstructionPhase	NumDays	18.00	40.00
tblConstructionPhase	NumDays	18.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	5.00	28.00
tblConstructionPhase	NumDays	230.00	10.00
tblConstructionPhase	NumDays	230.00	20.00
tblGrading	AcresOfGrading	120.00	3.04
tblLandUse	LandUseSquareFeet	132,640.00	132,640.20
tblLandUse	LotAcreage	3.04	4.60
tblOffRoadEquipment	HorsePower	84.00	34.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	HorsePower	402.00	275.00
tblOffRoadEquipment	LoadFactor	0.38	0.44
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	9.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	3.00
tblOffRoadEquipment	PhaseName	Remaining Deliveries, Installations, Testing and Commissioning	Remaining Deliveries, Installations, Testing and Commissioning 1
tblOffRoadEquipment	PhaseName		Steel/Bus Erection
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 1
tblOffRoadEquipment	PhaseName		Underground 12 kV Line Installation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 1

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Access Roads
tblOffRoadEquipment	PhaseName		Steel/Bus Erection
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 1
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 1
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Survey
tblOffRoadEquipment	PhaseName		Underground 12 kV Line Installation
tblOffRoadEquipment	PhaseName		Fence and Gate Installation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Yard Rock Installation
tblOffRoadEquipment	PhaseName		Ground/Grid Circuit Installation
tblOffRoadEquipment	PhaseName		Transformer Installation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Fence and Gate Installation
tblOffRoadEquipment	PhaseName		Yard Rock Installation
tblOffRoadEquipment	PhaseName		Foundation
tblOffRoadEquipment	PhaseName		Access Roads
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 1
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Site Preparation
tblOffRoadEquipment	PhaseName		Underground 12 kV Line Installation
tblOffRoadEquipment	PhaseName		Ground/Grid Circuit Installation
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 2
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 2
tblOffRoadEquipment	PhaseName		Cleaning and Restoration 2
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 2
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 2

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblOffRoadEquipment	PhaseName		Remaining Deliveries, Installations, Testing and Commissioning 2
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	HaulingPercentPave	100.00	98.00
tblOnRoadDust	PhaseName	Remaining Deliveries, Installations, Testing and Commissioning	Remaining Deliveries, Installations, Testing and Commissioning 1
tblOnRoadDust	PhaseName	Cleaning and Restoration	Cleaning and Restoration 1
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	VendorPercentPave	100.00	98.00

Table Name	Column Name	Default Value	New Value
tblOnRoadDust	VendorPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOnRoadDust	WorkerPercentPave	100.00	98.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	12.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	4.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblSolidWaste	SolidWasteGenerationRate	164.47	0.00
tblTripsAndVMT	PhaseName	Remaining Deliveries, Installations, Testing and Commissioning	Remaining Deliveries, Installations, Testing and Commissioning 1
tblTripsAndVMT	PhaseName	Cleaning and Restoration	Cleaning and Restoration 1
tblTripsAndVMT	WorkerTripNumber	15.00	20.00
tblTripsAndVMT	WorkerTripNumber	56.00	10.00
tblTripsAndVMT	WorkerTripNumber	56.00	30.00
tblTripsAndVMT	WorkerTripNumber	56.00	6.00
tblTripsAndVMT	WorkerTripNumber	38.00	20.00
tblTripsAndVMT	WorkerTripNumber	15.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	20.00
tblTripsAndVMT	WorkerTripNumber	8.00	16.00
tblTripsAndVMT	WorkerTripNumber	56.00	10.00
tblTripsAndVMT	WorkerTripNumber	56.00	16.00

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblWater	IndoorWaterUseRate	30,673,000.00	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2027	6.1261	44.4211	42.4102	0.1551	34.5252	1.7213	36.2465	11.6413	1.5836	13.2249	0.0000	15,021.8741	15,021.8741	4.7706	0.2021	15,143.5356
2028	1.9596	16.2140	12.1018	0.0441	0.0000	0.6189	0.6189	0.0000	0.5694	0.5694	0.0000	4,267.6839	4,267.6839	1.3803	0.0000	4,302.1903
Maximum	**6.1261**	**44.4211**	**42.4102**	**0.1551**	**34.5252**	**1.7213**	**36.2465**	**11.6413**	**1.5836**	**13.2249**	**0.0000**	**15,021.8741**	**15,021.8741**	**4.7706**	**0.2021**	**15,143.5356**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2027	6.1261	44.4211	42.4102	0.1551	26.3564	1.7213	27.0988	6.1699	1.5836	7.7535	0.0000	15,021.8741	15,021.8741	4.7706	0.2021	15,143.5356
2028	1.9596	16.2140	12.1018	0.0441	0.0000	0.6189	0.6189	0.0000	0.5694	0.5694	0.0000	4,267.6839	4,267.6839	1.3803	0.0000	4,302.1903
Maximum	**6.1261**	**44.4211**	**42.4102**	**0.1551**	**26.3564**	**1.7213**	**27.0988**	**6.1699**	**1.5836**	**7.7535**	**0.0000**	**15,021.8741**	**15,021.8741**	**4.7706**	**0.2021**	**15,143.5356**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**23.66**	**0.00**	**24.81**	**47.00**	**0.00**	**39.66**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8397	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309
Energy	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.2388	1.4330	1.5927	6.6100e-003		0.0512	0.0512		0.0471	0.0471	0.0000	639.8377	639.8377	0.2069		645.0111
Total	**3.1508**	**2.0905**	**2.1584**	**0.0106**	**0.0000**	**0.1012**	**0.1012**	**0.0000**	**0.0971**	**0.0971**	**0.0000**	**1,428.6538**	**1,428.6538**	**0.2221**	**0.0145**	**1,438.5164**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.8397	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309
Energy	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.2388	1.4330	1.5927	6.6100e-003		0.0512	0.0512		0.0471	0.0471	0.0000	639.8377	639.8377	0.2069		645.0111
Total	**3.1508**	**2.0905**	**2.1584**	**0.0106**	**0.0000**	**0.1012**	**0.1012**	**0.0000**	**0.0971**	**0.0971**	**0.0000**	**1,428.6538**	**1,428.6538**	**0.2221**	**0.0145**	**1,438.5164**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Survey	Site Preparation	2/1/2027	2/26/2027	5	20	
2	Access Roads	Site Preparation	3/1/2027	3/26/2027	5	20	
3	Site Preparation	Site Preparation	3/1/2027	3/26/2027	5	20	
4	Underground 12 kV Line Installation	Trenching	3/1/2027	3/12/2027	5	10	
5	Fence and Gate Installation	Site Preparation	4/1/2027	5/10/2027	5	28	
6	Foundation	Paving	5/1/2027	6/27/2027	5	40	
7	Ground/Grid Circuit Installation	Building Construction	6/1/2027	7/26/2027	5	40	
8	Transformer Installation	Building Construction	7/1/2027	8/25/2027	5	40	
9	Steel/Bus Erection	Building Construction	7/1/2027	8/25/2027	5	40	
10	Yard Rock Installation	Paving	9/1/2027	9/28/2027	5	20	
11	Cleaning and Restoration 1	Building Construction	10/1/2027	10/14/2027	5	10	
12	Remaining Deliveries, Installations, Testing and Commissioning 1	Building Construction	11/1/2027	12/24/2027	5	40	
13	Cleaning and Restoration 2	Building Construction	2/1/2028	2/14/2028	5	10	
14	Remaining Deliveries, Installations, Testing and Commissioning 2	Building Construction	2/1/2028	2/28/2028	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Access Roads	Off-Highway Trucks	4	6.00	275	0.38
Access Roads	Rubber Tired Loaders	2	6.00	203	0.36
Site Preparation	Graders	1	6.00	187	0.41
Site Preparation	Off-Highway Trucks	9	6.00	275	0.38
Site Preparation	Rollers	2	6.00	80	0.38
Site Preparation	Rubber Tired Dozers	1	6.00	247	0.40
Site Preparation	Rubber Tired Loaders	1	6.00	203	0.36
Site Preparation	Scrapers	1	6.00	367	0.48
Survey	Off-Highway Trucks	2	6.00	275	0.38
Fence and Gate Installation	Off-Highway Trucks	5	6.00	275	0.38
Fence and Gate Installation	Rough Terrain Forklifts	1	6.00	100	0.40
Underground 12 kV Line Installation	Bore/Drill Rigs	1	6.00	221	0.50
Underground 12 kV Line Installation	Off-Highway Trucks	2	6.00	275	0.38
Underground 12 kV Line Installation	Trenchers	1	6.00	78	0.50
Ground/Grid Circuit Installation	Off-Highway Trucks	1	6.00	275	0.38
Ground/Grid Circuit Installation	Trenchers	1	6.00	78	0.50
Transformer Installation	Cranes	1	6.00	231	0.29
Transformer Installation	Generator Sets	1	6.00	34	0.74
Transformer Installation	Off-Highway Trucks	5	6.00	275	0.38
Steel/Bus Erection	Aerial Lifts	1	6.00	63	0.31
Steel/Bus Erection	Off-Highway Trucks	2	6.00	275	0.44
Remaining Deliveries, Installations, Testing and Commissioning 1	Aerial Lifts	1	6.00	63	0.31
Remaining Deliveries, Installations, Testing and Commissioning 1	Cranes	1	6.00	231	0.29
Remaining Deliveries, Installations, Testing and Commissioning 1	Off-Highway Trucks	3	6.00	275	0.38
Cleaning and Restoration 1	Graders	1	6.00	187	0.41
Cleaning and Restoration 1	Off-Highway Trucks	1	6.00	275	0.38
Cleaning and Restoration 1	Rubber Tired Loaders	1	6.00	203	0.36
Foundation	Bore/Drill Rigs	1	6.00	221	0.50
Foundation	Cranes	1	6.00	231	0.29
Foundation	Off-Highway Trucks	2	6.00	275	0.38
Foundation	Rubber Tired Dozers	1	6.00	247	0.40
Yard Rock Installation	Off-Highway Trucks	2	6.00	275	0.38
Yard Rock Installation	Rough Terrain Forklifts	1	6.00	100	0.40
Cleaning and Restoration 2	Graders	1	6.00	187	0.41

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Cleaning and Restoration 2	Off-Highway Trucks	1	6.00	275	0.38
Cleaning and Restoration 2	Rubber Tired Dozers	1	6.00	247	0.40
Remaining Deliveries, Installations, Testing and Commissioning 2	Aerial Lifts	1	6.00	63	0.31
Remaining Deliveries, Installations, Testing and Commissioning 2	Cranes	1	6.00	231	0.29
Remaining Deliveries, Installations, Testing and Commissioning 2	Off-Highway Trucks	3	6.00	275	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Access Roads	6	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	15	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Survey	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Fence and Gate Installation	6	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground 12 kV Line Installation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Ground/Grid Circuit Installation	2	10.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Transformer Installation	7	16.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Steel/Bus Erection	3	10.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Remaining Deliveries, Installations, Testing and Commissioning 1	5	30.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Cleaning and Restoration 1	3	6.00	22.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Foundation	5	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Yard Rock Installation	3	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Cleaning and Restoration 2										
Remaining Deliveries, Installations, Testing and Commissioning 2										

3.1 Mitigation Measures Construction

Water Exposed Area

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Survey - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4901	2.9409	3.2687	0.0136		0.1051	0.1051		0.0967	0.0967		1,313.0998	1,313.0998	0.4247		1,323.7169
Total	**0.4901**	**2.9409**	**3.2687**	**0.0136**	**0.0000**	**0.1051**	**0.1051**	**0.0000**	**0.0967**	**0.0967**		**1,313.0998**	**1,313.0998**	**0.4247**		**1,323.7169**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0115	6.7000e-003	0.0881	2.9000e-004	0.0411	1.6000e-004	0.0412	0.0109	1.5000e-004	0.0110		29.4927	29.4927	7.6000e-004	8.0000e-004	29.7514
Total	**0.0115**	**6.7000e-003**	**0.0881**	**2.9000e-004**	**0.0411**	**1.6000e-004**	**0.0412**	**0.0109**	**1.5000e-004**	**0.0110**		**29.4927**	**29.4927**	**7.6000e-004**	**8.0000e-004**	**29.7514**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.4901	2.9409	3.2687	0.0136		0.1051	0.1051		0.0967	0.0967	0.0000	1,313.0998	1,313.0998	0.4247		1,323.7169
Total	**0.4901**	**2.9409**	**3.2687**	**0.0136**	**0.0000**	**0.1051**	**0.1051**	**0.0000**	**0.0967**	**0.0967**	**0.0000**	**1,313.0998**	**1,313.0998**	**0.4247**		**1,323.7169**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0115	6.7000e-003	0.0881	2.9000e-004	0.0411	1.6000e-004	0.0412	0.0109	1.5000e-004	0.0110		29.4927	29.4927	7.6000e-004	8.0000e-004	29.7514
Total	**0.0115**	**6.7000e-003**	**0.0881**	**2.9000e-004**	**0.0411**	**1.6000e-004**	**0.0412**	**0.0109**	**1.5000e-004**	**0.0110**		**29.4927**	**29.4927**	**7.6000e-004**	**8.0000e-004**	**29.7514**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Access Roads - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3230	8.6699	8.7447	0.0365		0.3039	0.3039		0.2796	0.2796		3,534.6323	3,534.6323	1.1432		3,563.2116
Total	**1.3230**	**8.6699**	**8.7447**	**0.0365**	**0.0000**	**0.3039**	**0.3039**	**0.0000**	**0.2796**	**0.2796**		**3,534.6323**	**3,534.6323**	**1.1432**		**3,563.2116**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0461	0.0268	0.3524	1.1700e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		117.9708	117.9708	3.0300e-003	3.2200e-003	119.0055
Total	**0.0461**	**0.0268**	**0.3524**	**1.1700e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**117.9708**	**117.9708**	**3.0300e-003**	**3.2200e-003**	**119.0055**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.3230	8.6699	8.7447	0.0365		0.3039	0.3039		0.2796	0.2796	0.0000	3,534.6323	3,534.6323	1.1432		3,563.2116
Total	**1.3230**	**8.6699**	**8.7447**	**0.0365**	**0.0000**	**0.3039**	**0.3039**	**0.0000**	**0.2796**	**0.2796**	**0.0000**	**3,534.6323**	**3,534.6323**	**1.1432**		**3,563.2116**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0461	0.0268	0.3524	1.1700e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		117.9708	117.9708	3.0300e-003	3.2200e-003	119.0055
Total	**0.0461**	**0.0268**	**0.3524**	**1.1700e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**117.9708**	**117.9708**	**3.0300e-003**	**3.2200e-003**	**119.0055**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Site Preparation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.2275	0.0000	18.2275	9.9481	0.0000	9.9481			0.0000			0.0000
Off-Road	3.8054	29.1367	26.0621	0.0924		1.1178	1.1178		1.0284	1.0284		8,945.7685	8,945.7685	2.8932		9,018.0995
Total	**3.8054**	**29.1367**	**26.0621**	**0.0924**	**18.2275**	**1.1178**	**19.3453**	**9.9481**	**1.0284**	**10.9765**		**8,945.7685**	**8,945.7685**	**2.8932**		**9,018.0995**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0461	0.0268	0.3524	1.1700e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		117.9708	117.9708	3.0300e-003	3.2200e-003	119.0055
Total	**0.0461**	**0.0268**	**0.3524**	**1.1700e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**117.9708**	**117.9708**	**3.0300e-003**	**3.2200e-003**	**119.0055**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.2024	0.0000	8.2024	4.4766	0.0000	4.4766			0.0000			0.0000
Off-Road	3.8054	29.1367	26.0621	0.0924		1.1178	1.1178		1.0284	1.0284	0.0000	8,945.7684	8,945.7684	2.8932		9,018.0995
Total	**3.8054**	**29.1367**	**26.0621**	**0.0924**	**8.2024**	**1.1178**	**9.3202**	**4.4766**	**1.0284**	**5.5050**	**0.0000**	**8,945.7684**	**8,945.7684**	**2.8932**		**9,018.0995**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0461	0.0268	0.3524	1.1700e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		117.9708	117.9708	3.0300e-003	3.2200e-003	119.0055
Total	**0.0461**	**0.0268**	**0.3524**	**1.1700e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**117.9708**	**117.9708**	**3.0300e-003**	**3.2200e-003**	**119.0055**

3.5 Underground 12 kV Line Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8826	6.5475	6.7224	0.0232		0.2981	0.2981		0.2742	0.2742		2,246.5463	2,246.5463	0.7266		2,264.7107
Total	**0.8826**	**6.5475**	**6.7224**	**0.0232**		**0.2981**	**0.2981**		**0.2742**	**0.2742**		**2,246.5463**	**2,246.5463**	**0.7266**		**2,264.7107**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0230	0.0134	0.1762	5.8000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		58.9854	58.9854	1.5200e-003	1.6100e-003	59.5028
Total	**0.0230**	**0.0134**	**0.1762**	**5.8000e-004**	**3.2596**	**3.2000e-004**	**3.2599**	**0.3387**	**2.9000e-004**	**0.3389**		**58.9854**	**58.9854**	**1.5200e-003**	**1.6100e-003**	**59.5028**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.8826	6.5475	6.7224	0.0232		0.2981	0.2981		0.2742	0.2742	0.0000	2,246.5463	2,246.5463	0.7266		2,264.7107
Total	**0.8826**	**6.5475**	**6.7224**	**0.0232**		**0.2981**	**0.2981**		**0.2742**	**0.2742**	**0.0000**	**2,246.5463**	**2,246.5463**	**0.7266**		**2,264.7107**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0230	0.0134	0.1762	5.8000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		58.9854	58.9854	1.5200e-003	1.6100e-003	59.5028
Total	**0.0230**	**0.0134**	**0.1762**	**5.8000e-004**	**3.2596**	**3.2000e-004**	**3.2599**	**0.3387**	**2.9000e-004**	**0.3389**		**58.9854**	**58.9854**	**1.5200e-003**	**1.6100e-003**	**59.5028**

3.6 Fence and Gate Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.2978	8.3156	9.8858	0.0365		0.2898	0.2898		0.2666	0.2666		3,533.0376	3,533.0376	1.1427		3,561.6040
Total	**1.2978**	**8.3156**	**9.8858**	**0.0365**	**0.0000**	**0.2898**	**0.2898**	**0.0000**	**0.2666**	**0.2666**		**3,533.0376**	**3,533.0376**	**1.1427**		**3,561.6040**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0230	0.0134	0.1762	5.8000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		58.9854	58.9854	1.5200e-003	1.6100e-003	59.5028
Total	**0.0230**	**0.0134**	**0.1762**	**5.8000e-004**	**3.2596**	**3.2000e-004**	**3.2599**	**0.3387**	**2.9000e-004**	**0.3389**		**58.9854**	**58.9854**	**1.5200e-003**	**1.6100e-003**	**59.5028**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	1.2978	8.3156	9.8858	0.0365		0.2898	0.2898		0.2666	0.2666	0.0000	3,533.0376	3,533.0376	1.1427		3,561.6040
Total	**1.2978**	**8.3156**	**9.8858**	**0.0365**	**0.0000**	**0.2898**	**0.2898**	**0.0000**	**0.2666**	**0.2666**	**0.0000**	**3,533.0376**	**3,533.0376**	**1.1427**		**3,561.6040**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0230	0.0134	0.1762	5.8000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		58.9854	58.9854	1.5200e-003	1.6100e-003	59.5028
Total	**0.0230**	**0.0134**	**0.1762**	**5.8000e-004**	**3.2596**	**3.2000e-004**	**3.2599**	**0.3387**	**2.9000e-004**	**0.3389**		**58.9854**	**58.9854**	**1.5200e-003**	**1.6100e-003**	**59.5028**

3.7 Foundation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3677	11.6893	8.3465	0.0314		0.4696	0.4696		0.4321	0.4321		3,040.3772	3,040.3772	0.9833		3,064.9602
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3677**	**11.6893**	**8.3465**	**0.0314**		**0.4696**	**0.4696**		**0.4321**	**0.4321**		**3,040.3772**	**3,040.3772**	**0.9833**		**3,064.9602**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0461	0.0268	0.3524	1.1700e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		117.9708	117.9708	3.0300e-003	3.2200e-003	119.0055
Total	**0.0461**	**0.0268**	**0.3524**	**1.1700e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**117.9708**	**117.9708**	**3.0300e-003**	**3.2200e-003**	**119.0055**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3677	11.6893	8.3465	0.0314		0.4696	0.4696		0.4321	0.4321	0.0000	3,040.3772	3,040.3772	0.9833		3,064.9602
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.3677**	**11.6893**	**8.3465**	**0.0314**		**0.4696**	**0.4696**		**0.4321**	**0.4321**	**0.0000**	**3,040.3772**	**3,040.3772**	**0.9833**		**3,064.9602**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0461	0.0268	0.3524	1.1700e-003	6.5191	6.3000e-004	6.5197	0.6773	5.8000e-004	0.6779		117.9708	117.9708	3.0300e-003	3.2200e-003	119.0055
Total	**0.0461**	**0.0268**	**0.3524**	**1.1700e-003**	**6.5191**	**6.3000e-004**	**6.5197**	**0.6773**	**5.8000e-004**	**0.6779**		**117.9708**	**117.9708**	**3.0300e-003**	**3.2200e-003**	**119.0055**

3.8 Ground/Grid Circuit Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4805	3.6779	3.5608	9.3200e-003		0.1996	0.1996		0.1836	0.1836		902.0587	902.0587	0.2917		909.3523
Total	**0.4805**	**3.6779**	**3.5608**	**9.3200e-003**		**0.1996**	**0.1996**		**0.1836**	**0.1836**		**902.0587**	**902.0587**	**0.2917**		**909.3523**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.9809	0.2739	4.1100e-003	4.8740	6.2200e-003	4.8802	0.5141	5.9500e-003	0.5201		434.9690	434.9690	1.9300e-003	0.0654	454.5189
Worker	0.0230	0.0134	0.1762	5.8000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		58.9854	58.9854	1.5200e-003	1.6100e-003	59.5028
Total	**0.0438**	**0.9943**	**0.4501**	**4.6900e-003**	**8.1336**	**6.5400e-003**	**8.1401**	**0.8528**	**6.2400e-003**	**0.8590**		**493.9544**	**493.9544**	**3.4500e-003**	**0.0671**	**514.0216**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4805	3.6779	3.5608	9.3200e-003		0.1996	0.1996		0.1836	0.1836	0.0000	902.0587	902.0587	0.2917		909.3523
Total	**0.4805**	**3.6779**	**3.5608**	**9.3200e-003**		**0.1996**	**0.1996**		**0.1836**	**0.1836**	**0.0000**	**902.0587**	**902.0587**	**0.2917**		**909.3523**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.9809	0.2739	4.1100e-003	4.8740	6.2200e-003	4.8802	0.5141	5.9500e-003	0.5201		434.9690	434.9690	1.9300e-003	0.0654	454.5189
Worker	0.0230	0.0134	0.1762	5.8000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		58.9854	58.9854	1.5200e-003	1.6100e-003	59.5028
Total	**0.0438**	**0.9943**	**0.4501**	**4.6900e-003**	**8.1336**	**6.5400e-003**	**8.1401**	**0.8528**	**6.2400e-003**	**0.8590**		**493.9544**	**493.9544**	**3.4500e-003**	**0.0671**	**514.0216**

3.9 Transformer Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6062	10.8868	10.7247	0.0406		0.3947	0.3947		0.3656	0.3656		3,891.0050	3,891.0050	1.2102		3,921.2610
Total	**1.6062**	**10.8868**	**10.7247**	**0.0406**		**0.3947**	**0.3947**		**0.3656**	**0.3656**		**3,891.0050**	**3,891.0050**	**1.2102**		**3,921.2610**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.9809	0.2739	4.1100e-003	4.8740	6.2200e-003	4.8802	0.5141	5.9500e-003	0.5201		434.9690	434.9690	1.9300e-003	0.0654	454.5189
Worker	0.0369	0.0214	0.2820	9.3000e-004	5.2153	5.1000e-004	5.2158	0.5418	4.7000e-004	0.5423		94.3767	94.3767	2.4300e-003	2.5700e-003	95.2044
Total	**0.0576**	**1.0024**	**0.5559**	**5.0400e-003**	**10.0893**	**6.7300e-003**	**10.0960**	**1.0559**	**6.4200e-003**	**1.0624**		**529.3457**	**529.3457**	**4.3600e-003**	**0.0680**	**549.7233**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6062	10.8868	10.7247	0.0406		0.3947	0.3947		0.3656	0.3656	0.0000	3,891.0050	3,891.0050	1.2102		3,921.2609
Total	**1.6062**	**10.8868**	**10.7247**	**0.0406**		**0.3947**	**0.3947**		**0.3656**	**0.3656**	**0.0000**	**3,891.0050**	**3,891.0050**	**1.2102**		**3,921.2609**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.9809	0.2739	4.1100e-003	4.8740	6.2200e-003	4.8802	0.5141	5.9500e-003	0.5201		434.9690	434.9690	1.9300e-003	0.0654	454.5189
Worker	0.0369	0.0214	0.2820	9.3000e-004	5.2153	5.1000e-004	5.2158	0.5418	4.7000e-004	0.5423		94.3767	94.3767	2.4300e-003	2.5700e-003	95.2044
Total	**0.0576**	**1.0024**	**0.5559**	**5.0400e-003**	**10.0893**	**6.7300e-003**	**10.0960**	**1.0559**	**6.4200e-003**	**1.0624**		**529.3457**	**529.3457**	**4.3600e-003**	**0.0680**	**549.7233**

3.10 Steel/Bus Erection - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5930	3.7956	4.6030	0.0170		0.1284	0.1284		0.1181	0.1181		1,642.3962	1,642.3962	0.5312		1,655.6758
Total	**0.5930**	**3.7956**	**4.6030**	**0.0170**		**0.1284**	**0.1284**		**0.1181**	**0.1181**		**1,642.3962**	**1,642.3962**	**0.5312**		**1,655.6758**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.9809	0.2739	4.1100e-003	4.8740	6.2200e-003	4.8802	0.5141	5.9500e-003	0.5201		434.9690	434.9690	1.9300e-003	0.0654	454.5189
Worker	0.0230	0.0134	0.1762	5.8000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		58.9854	58.9854	1.5200e-003	1.6100e-003	59.5028
Total	**0.0438**	**0.9943**	**0.4501**	**4.6900e-003**	**8.1336**	**6.5400e-003**	**8.1401**	**0.8528**	**6.2400e-003**	**0.8590**		**493.9544**	**493.9544**	**3.4500e-003**	**0.0671**	**514.0216**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5930	3.7956	4.6030	0.0170		0.1284	0.1284		0.1181	0.1181	0.0000	1,642.3962	1,642.3962	0.5312		1,655.6758
Total	**0.5930**	**3.7956**	**4.6030**	**0.0170**		**0.1284**	**0.1284**		**0.1181**	**0.1181**	**0.0000**	**1,642.3962**	**1,642.3962**	**0.5312**		**1,655.6758**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.9809	0.2739	4.1100e-003	4.8740	6.2200e-003	4.8802	0.5141	5.9500e-003	0.5201		434.9690	434.9690	1.9300e-003	0.0654	454.5189
Worker	0.0230	0.0134	0.1762	5.8000e-004	3.2596	3.2000e-004	3.2599	0.3387	2.9000e-004	0.3389		58.9854	58.9854	1.5200e-003	1.6100e-003	59.5028
Total	**0.0438**	**0.9943**	**0.4501**	**4.6900e-003**	**8.1336**	**6.5400e-003**	**8.1401**	**0.8528**	**6.2400e-003**	**0.8590**		**493.9544**	**493.9544**	**3.4500e-003**	**0.0671**	**514.0216**

3.11 Yard Rock Installation - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5628	3.9042	4.9828	0.0162		0.1322	0.1322		0.1216	0.1216		1,563.3879	1,563.3879	0.5056		1,576.0287
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5628**	**3.9042**	**4.9828**	**0.0162**		**0.1322**	**0.1322**		**0.1216**	**0.1216**		**1,563.3879**	**1,563.3879**	**0.5056**		**1,576.0287**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0369	0.0214	0.2820	9.3000e-004	5.2153	5.1000e-004	5.2158	0.5418	4.7000e-004	0.5423		94.3767	94.3767	2.4300e-003	2.5700e-003	95.2044
Total	**0.0369**	**0.0214**	**0.2820**	**9.3000e-004**	**5.2153**	**5.1000e-004**	**5.2158**	**0.5418**	**4.7000e-004**	**0.5423**		**94.3767**	**94.3767**	**2.4300e-003**	**2.5700e-003**	**95.2044**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.5628	3.9042	4.9828	0.0162		0.1322	0.1322		0.1216	0.1216	0.0000	1,563.3879	1,563.3879	0.5056		1,576.0287
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.5628**	**3.9042**	**4.9828**	**0.0162**		**0.1322**	**0.1322**		**0.1216**	**0.1216**	**0.0000**	**1,563.3879**	**1,563.3879**	**0.5056**		**1,576.0287**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0369	0.0214	0.2820	9.3000e-004	5.2153	5.1000e-004	5.2158	0.5418	4.7000e-004	0.5423		94.3767	94.3767	2.4300e-003	2.5700e-003	95.2044
Total	**0.0369**	**0.0214**	**0.2820**	**9.3000e-004**	**5.2153**	**5.1000e-004**	**5.2158**	**0.5418**	**4.7000e-004**	**0.5423**		**94.3767**	**94.3767**	**2.4300e-003**	**2.5700e-003**	**95.2044**

3.12 Cleaning and Restoration 1 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6498	5.4570	3.9336	0.0164		0.1828	0.1828		0.1682	0.1682		1,590.9460	1,590.9460	0.5145		1,603.8096
Total	**0.6498**	**5.4570**	**3.9336**	**0.0164**		**0.1828**	**0.1828**		**0.1682**	**0.1682**		**1,590.9460**	**1,590.9460**	**0.5145**		**1,603.8096**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.9809	0.2739	4.1100e-003	4.8740	6.2200e-003	4.8802	0.5141	5.9500e-003	0.5201		434.9690	434.9690	1.9300e-003	0.0654	454.5189
Worker	0.0138	8.0400e-003	0.1057	3.5000e-004	1.9557	1.9000e-004	1.9559	0.2032	1.8000e-004	0.2034		35.3913	35.3913	9.1000e-004	9.7000e-004	35.7017
Total	**0.0345**	**0.9890**	**0.3796**	**4.4600e-003**	**6.8297**	**6.4100e-003**	**6.8361**	**0.7173**	**6.1300e-003**	**0.7234**		**470.3603**	**470.3603**	**2.8400e-003**	**0.0664**	**490.2205**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6498	5.4570	3.9336	0.0164		0.1828	0.1828		0.1682	0.1682	0.0000	1,590.9460	1,590.9460	0.5145		1,603.8096
Total	**0.6498**	**5.4570**	**3.9336**	**0.0164**		**0.1828**	**0.1828**		**0.1682**	**0.1682**	**0.0000**	**1,590.9460**	**1,590.9460**	**0.5145**		**1,603.8096**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.9809	0.2739	4.1100e-003	4.8740	6.2200e-003	4.8802	0.5141	5.9500e-003	0.5201		434.9690	434.9690	1.9300e-003	0.0654	454.5189
Worker	0.0138	8.0400e-003	0.1057	3.5000e-004	1.9557	1.9000e-004	1.9559	0.2032	1.8000e-004	0.2034		35.3913	35.3913	9.1000e-004	9.7000e-004	35.7017
Total	**0.0345**	**0.9890**	**0.3796**	**4.4600e-003**	**6.8297**	**6.4100e-003**	**6.8361**	**0.7173**	**6.1300e-003**	**0.7234**		**470.3603**	**470.3603**	**2.8400e-003**	**0.0664**	**490.2205**

3.13 Remaining Deliveries, Installations, Testing and Commissioning 1 - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9952	7.1777	7.0236	0.0259		0.2653	0.2653		0.2441	0.2441		2,510.7342	2,510.7342	0.8120		2,531.0348
Total	**0.9952**	**7.1777**	**7.0236**	**0.0259**		**0.2653**	**0.2653**		**0.2441**	**0.2441**		**2,510.7342**	**2,510.7342**	**0.8120**		**2,531.0348**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.9809	0.2739	4.1100e-003	4.8740	6.2200e-003	4.8802	0.5141	5.9500e-003	0.5201		434.9690	434.9690	1.9300e-003	0.0654	454.5189
Worker	0.0691	0.0402	0.5287	1.7500e-003	9.7786	9.5000e-004	9.7796	1.0159	8.8000e-004	1.0168		176.9563	176.9563	4.5500e-003	4.8300e-003	178.5083
Total	**0.0898**	**1.0211**	**0.8026**	**5.8600e-003**	**14.6526**	**7.1700e-003**	**14.6598**	**1.5301**	**6.8300e-003**	**1.5369**		**611.9253**	**611.9253**	**6.4800e-003**	**0.0703**	**633.0271**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9952	7.1777	7.0236	0.0259		0.2653	0.2653		0.2441	0.2441	0.0000	2,510.7342	2,510.7342	0.8120		2,531.0348
Total	**0.9952**	**7.1777**	**7.0236**	**0.0259**		**0.2653**	**0.2653**		**0.2441**	**0.2441**	**0.0000**	**2,510.7342**	**2,510.7342**	**0.8120**		**2,531.0348**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0207	0.9809	0.2739	4.1100e-003	4.8740	6.2200e-003	4.8802	0.5141	5.9500e-003	0.5201		434.9690	434.9690	1.9300e-003	0.0654	454.5189
Worker	0.0691	0.0402	0.5287	1.7500e-003	9.7786	9.5000e-004	9.7796	1.0159	8.8000e-004	1.0168		176.9563	176.9563	4.5500e-003	4.8300e-003	178.5083
Total	**0.0898**	**1.0211**	**0.8026**	**5.8600e-003**	**14.6526**	**7.1700e-003**	**14.6598**	**1.5301**	**6.8300e-003**	**1.5369**		**611.9253**	**611.9253**	**6.4800e-003**	**0.0703**	**633.0271**

3.14 Cleaning and Restoration 2 - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9644	9.0364	5.0782	0.0182		0.3536	0.3536		0.3253	0.3253		1,756.9497	1,756.9497	0.5682		1,771.1555
Total	**0.9644**	**9.0364**	**5.0782**	**0.0182**		**0.3536**	**0.3536**		**0.3253**	**0.3253**		**1,756.9497**	**1,756.9497**	**0.5682**		**1,771.1555**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**0.0000**			**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9644	9.0364	5.0782	0.0182		0.3536	0.3536		0.3253	0.3253	0.0000	1,756.9497	1,756.9497	0.5682		1,771.1555
Total	**0.9644**	**9.0364**	**5.0782**	**0.0182**		**0.3536**	**0.3536**		**0.3253**	**0.3253**	**0.0000**	**1,756.9497**	**1,756.9497**	**0.5682**		**1,771.1555**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**0.0000**			**0.0000**

3.15 Remaining Deliveries, Installations, Testing and Commissioning 2 - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9952	7.1777	7.0236	0.0259		0.2653	0.2653		0.2441	0.2441		2,510.7342	2,510.7342	0.8120		2,531.0348
Total	**0.9952**	**7.1777**	**7.0236**	**0.0259**		**0.2653**	**0.2653**		**0.2441**	**0.2441**		**2,510.7342**	**2,510.7342**	**0.8120**		**2,531.0348**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**0.0000**			**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9952	7.1777	7.0236	0.0259		0.2653	0.2653		0.2441	0.2441	0.0000	2,510.7342	2,510.7342	0.8120		2,531.0348
Total	**0.9952**	**7.1777**	**7.0236**	**0.0259**		**0.2653**	**0.2653**		**0.2441**	**0.2441**	**0.0000**	**2,510.7342**	**2,510.7342**	**0.8120**		**2,531.0348**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Vendor					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Worker					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**			**0.0000**			**0.0000**

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.554122	0.053376	0.171995	0.136171	0.022603	0.005710	0.012724	0.016721	0.000451	0.000316	0.021848	0.001050	0.002914

Lodi Substation - San Joaquin County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744
NaturalGas Unmitigated	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	6704.69	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744
Total		**0.0723**	**0.6573**	**0.5522**	**3.9400e-003**		**0.0500**	**0.0500**		**0.0500**	**0.0500**		**788.7870**	**788.7870**	**0.0151**	**0.0145**	**793.4744**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	6.70469	0.0723	0.6573	0.5522	3.9400e-003		0.0500	0.0500		0.0500	0.0500		788.7870	788.7870	0.0151	0.0145	793.4744
Total		**0.0723**	**0.6573**	**0.5522**	**3.9400e-003**		**0.0500**	**0.0500**		**0.0500**	**0.0500**		**788.7870**	**788.7870**	**0.0151**	**0.0145**	**793.4744**

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6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8397	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309
Unmitigated	2.8397	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8385					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2400e-003	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309
Total	**2.8397**	**1.2000e-004**	**0.0135**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0290**	**0.0290**	**8.0000e-005**		**0.0309**

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Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.8385					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.2400e-003	1.2000e-004	0.0135	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0290	0.0290	8.0000e-005		0.0309
Total	**2.8397**	**1.2000e-004**	**0.0135**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0290**	**0.0290**	**8.0000e-005**		**0.0309**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Off-Highway Trucks	1	4.00	12	402	0.38	Diesel

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Off-Highway Trucks	0.2388	1.4330	1.5927	6.6100e-003		0.0512	0.0512		0.0471	0.0471	0.0000	639.8377	639.8377	0.2069		645.0111
Total	**0.2388**	**1.4330**	**1.5927**	**6.6100e-003**		**0.0512**	**0.0512**		**0.0471**	**0.0471**	**0.0000**	**639.8377**	**639.8377**	**0.2069**		**645.0111**

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ProjectNar	LocationS	EMFAC_II	WindSpee	Precipitatic	ClimateZo	Urbanizati	Operationa	UtilityCom	CO2Intens	CH4Intens	N2OIntens	TotalPopu	TotalLotAc	UsingHistc	Constructi	UseAdjustedEMFACFactors
Lodi Subst C		SJ	2.7	51	2	Urban	2028		641.35	0.029	0.006	0	4.6	0	2027/03/0	0

PollutantS	PollutantF	PollutantName
1	Reactive C	ROG
1	Nitrogen C	NOX
1	Carbon Mo	CO
1	Sulfur Dio	SO2
1	Particulate	PM10
1	Particulate	PM2_5
1	Fugitive Pl	PM10_FUG
1	Fugitive Pl	PM25_FUG
1	Biogenic C	CO2_BIO
1	Non-Bioge	CO2_NBIO
1	Carbon Di	CO2
1	Methane (	CH4
1	Nitrous Ox	N2O
1	CO2 Equi	CO2E

LandUseT	LandUseS	LandUseU	LandUseS	LotAcreag	LandUseS	Population	BuildingSp	GreenSpa	RecSwimmingAreaAllowEdit
Industrial	General Li	132.64	1000sqft	4.6	132640.2	0	132640.2	0	0

PhaseNum	PhaseNam	PhaseTypi	PhaseStar	PhaseEnd	NumDays\	NumDays	PhaseDescription
1	Survey	Site Prepa	2027/02/0	2027/02/2	5	20	
2	Access Rc	Site Prepa	2027/03/0	2027/03/2	5	20	
3	Site Prepa	Site Prepa	2027/03/0	2027/03/2	5	20	
4	Undergrou	Trenching	2027/03/0	2027/03/1	5	10	
5	Fence and	Site Prepa	2027/04/0	2027/05/1	5	28	
6	Foundatio	Paving	2027/05/0	2027/06/2	5	40	
7	Ground/Gr	Building C	2027/06/0	2027/07/2	5	40	
8	Transform	Building C	2027/07/0	2027/08/2	5	40	
9	Steel/Bus	Building C	2027/07/0	2027/08/2	5	40	
10	Yard Rock	Paving	2027/09/0	2027/09/2	5	20	
11	Cleaning a	Building C	2027/10/0	2027/10/1	5	10	
12	Remaining	Building C	2027/11/0	2027/12/2	5	40	
13	Cleaning a	Building C	2028/02/0	2028/02/1	5	10	
14	Remaining	Building C	2028/02/0	2028/02/2	5	20	

PhaseNam	OffRoadEc	OffRoadEc	UsageHou	HorsePow	LoadFactor
Survey	Off-Highwa	2	6	275	0.38
Access Rc	Off-Highwa	4	6	275	0.38
Access Rc	Rubber Tir	2	6	203	0.36
Site Prepa	Graders	1	6	187	0.41
Site Prepa	Off-Highwa	9	6	275	0.38
Site Prepa	Rollers	2	6	80	0.38
Site Prepa	Rubber Tir	1	6	247	0.4
Site Prepa	Rubber Tir	1	6	203	0.36
Site Prepa	Scrapers	1	6	367	0.48
Undergrou	Bore/Drill F	1	6	221	0.5
Undergrou	Off-Highwa	2	6	275	0.38
Undergrou	Trenchers	1	6	78	0.5
Fence and	Off-Highwa	5	6	275	0.38
Fence and	Rough Ter	1	6	100	0.4
Foundatio	Bore/Drill F	1	6	221	0.5
Foundatio	Cranes	1	6	231	0.29
Foundatio	Off-Highwa	2	6	275	0.38
Foundatio	Rubber Tir	1	6	247	0.4
Ground/Gr	Off-Highwa	1	6	275	0.38
Ground/Gr	Trenchers	1	6	78	0.5
Transform	Cranes	1	6	231	0.29
Transform	Generator	1	6	34	0.74
Transform	Off-Highwa	5	6	275	0.38
Steel/Bus	Aerial Lifts	1	6	63	0.31
Steel/Bus	Off-Highwa	2	6	275	0.44
Yard Rock	Off-Highwa	2	6	275	0.38
Yard Rock	Rough Ter	1	6	100	0.4
Cleaning a	Graders	1	6	187	0.41
Cleaning a	Off-Highwa	1	6	275	0.38
Cleaning a	Rubber Tir	1	6	203	0.36
Remaining	Aerial Lifts	1	6	63	0.31
Remaining	Cranes	1	6	231	0.29
Remaining	Off-Highwa	3	6	275	0.38
Cleaning a	Graders	1	6	187	0.41
Cleaning a	Off-Highwa	1	6	275	0.38
Cleaning a	Rubber Tir	1	6	247	0.4
Remaining	Aerial Lifts	1	6	63	0.31
Remaining	Cranes	1	6	231	0.29
Remaining	Off-Highwa	3	6	275	0.38

PhaseNam	WorkerTrip	VendorTrip	HaulingTri	WorkerTrip	VendorTrip	HaulingTri	WorkerVel	VendorVel	HaulingVehicleClass
Survey	5	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Access Ro	20	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Site Prepa	20	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Undergrou	10	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Fence and	10	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Foundatio	20	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Ground/Gr	10	22	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Transform	16	22	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Steel/Bus	10	22	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Yard Rock	16	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Cleaning a	6	22	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Remaining	30	22	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT
Cleaning and Restoration 2									
Remaining Deliveries, Installations, Testing and Commissioning 2									

PhaseNam	WorkerPer	VendorPer	HaulingPe	RoadSiltLo	MaterialSil	MaterialMo	AverageVe	MeanVehicleSpeed
Survey	100	100	100	0.1	8.5	0.5	2.4	40
Access Ro	98	98	98	0.1	8.5	0.5	2.4	40
Site Prepa	98	98	98	0.1	8.5	0.5	2.4	40
Undergrou	98	98	98	0.1	8.5	0.5	2.4	40
Fence and	98	98	98	0.1	8.5	0.5	2.4	40
Foundatio	98	98	98	0.1	8.5	0.5	2.4	40
Ground/Gr	98	98	98	0.1	8.5	0.5	2.4	40
Transform	98	98	98	0.1	8.5	0.5	2.4	40
Steel/Bus	98	98	98	0.1	8.5	0.5	2.4	40
Yard Rock	98	98	98	0.1	8.5	0.5	2.4	40
Cleaning a	98	98	98	0.1	8.5	0.5	2.4	40
Remaining	98	98	98	0.1	8.5	0.5	2.4	40
Cleaning and Restoration 2								
Remaining Deliveries, Installations, Testing and Commissioning 2								

PhaseNam	Demolition	DemolitionUnitAmount

PhaseNan	MaterialIm	MaterialEx	GradingSi:	ImportExp	MeanVehi	AcresOfGr	MaterialM	MaterialM	MaterialSiltContent
Survey	0	0		0	7.1		7.9	12	6.9
Access Rc	0	0		0	7.1		7.9	12	6.9
Site Prepa	0	0		0	7.1	3.04	7.9	12	6.9
Fence and	0	0		0	7.1		7.9	12	6.9

PhaseNam	Architectu	Architectu	EF_Residc	ConstArea	EF_Residc	ConstArea	EF_Nonre	ConstArea	EF_Nonre	ConstArea	EF_Parkin	ConstArea_Parking

ParkingLotAcreage

VehicleTri	VehicleTri	WD_TR	ST_TR	SU_TR	HW_TL	HS_TL	HO_TL	CC_TL	CW_TL	CNW_TL	PR_TP	DV_TP	PB_TP	HW_TTP	HS_TTP	HO_TTP	CC_TTP	CW_TTP
General Li	1000sqft	0	0	0	0	0	0	7.3	9.5	7.3	92	5	3	0	0	0	28	59

CNW_TTP
13

Season	EmissionT	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLE	0	0	0	0	0.003951	0.002493	0.002452	0.022959	0.008621	0	0	0.026793	0
A	CH4_RUN	0.001115	0.00225	0.001902	0.002377	0.007029	0.006308	0.00095	0.005541	0.005582	3.537314	0.318968	0.004062	0.007627
A	CH4_STR	0.034185	0.047042	0.04874	0.058796	0.010218	0.005665	0.005358	0	0.022957	0.00787	0.25075	0.002096	0.020218
A	CO_IDLE)	0	0	0	0	0.16531	0.126754	0.371652	7.159657	0.557661	0	0	1.431583	0
A	CO_RUNE	0.418701	0.617867	0.562831	0.618519	0.685174	0.611184	0.160767	0.224357	0.607318	26.83861	19.2771	0.256639	0.618866
A	CO_STRE	1.814053	1.977715	2.367511	2.614992	0.844535	0.464348	0.587426	0.001615	2.598132	0.563655	9.091168	0.292733	1.729457
A	CO2_NBI(	0	0	0	0	8.974001	14.12017	76.63334	1081.533	73.49505	0	0	328.1865	0
A	CO2_NBI(	217.421	258.1934	267.5891	337.7884	719.6553	709.7751	1006.399	1209.927	1374.199	1638.848	212.0621	1056.022	1433.368
A	CO2_NBI(	45.24583	55.06708	57.52985	72.52717	9.328439	6.145683	5.414222	0.013171	19.65709	5.826933	60.63235	1.784206	16.15093
A	NOX_IDLE	0	0	0	0	0.074809	0.102438	0.407174	5.813879	0.290742	0	0	3.031208	0
A	NOX_RUN	0.021176	0.044669	0.038313	0.050072	0.862736	0.836547	1.605381	2.295284	1.1158	0.441033	1.156285	4.381932	1.537353
A	NOX_STR	0.138829	0.185523	0.195432	0.245091	0.237391	0.137553	1.884211	2.342217	0.763579	0.05902	0.268552	1.029864	0.237741
A	PM10_IDL	0	0	0	0	0.001051	0.001555	0.000204	0.002285	0.000098	0	0	0.002397	0
A	PM10_PM	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061209	0.13034	0.092205	0.01176	0.7448	0.13034
A	PM10_PM	0.008	0.008	0.008	0.008	0.010071	0.010927	0.012	0.035687	0.012	0.024183	0.004	0.011368	0.013258
A	PM10_RU	0.001031	0.001214	0.001098	0.001143	0.012787	0.017635	0.008089	0.025927	0.006718	0.003596	0.001991	0.029117	0.031166
A	PM10_STI	0.001472	0.001818	0.001533	0.00156	0.000199	0.000098	0.00007	0	0.000237	0.000068	0.002738	0.000024	0.00021
A	PM25_IDL	0	0	0	0	0.001006	0.001487	0.000196	0.002186	0.000094	0	0	0.002293	0
A	PM25_PM	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026233	0.05586	0.039516	0.00504	0.3192	0.05586
A	PM25_PM	0.002	0.002	0.002	0.002	0.002518	0.002732	0.003	0.008922	0.003	0.006046	0.001	0.002842	0.003315
A	PM25_RU	0.000949	0.001117	0.001011	0.001054	0.012192	0.016851	0.007735	0.024806	0.006402	0.003431	0.001859	0.02785	0.02978
A	PM25_STI	0.001354	0.001672	0.00141	0.001435	0.000183	0.00009	0.000065	0	0.000218	0.000063	0.002568	0.000022	0.000193
A	ROG_DIU	0.038506	0.091083	0.070651	0.097527	0.001968	0.000968	0.000268	0	0.002465	0.000331	1.287514	0.000298	0.663577
A	ROG_HTS	0.076579	0.145125	0.107534	0.145386	0.063795	0.03158	0.010338	0.000014	0.029598	0.003169	0.802283	0.001989	0.046893
A	ROG_IDLE	0	0	0	0	0.017585	0.013901	0.014301	0.485485	0.04985	0	0	0.133328	0
A	ROG_RES	0.030738	0.066716	0.059651	0.08555	0.000926	0.000478	0.00013	0	0.000883	0.000168	0.644107	0.000116	0.214727
A	ROG_RUN	0.003771	0.009135	0.007173	0.009498	0.09724	0.113512	0.012808	0.021929	0.031344	0.057159	2.143859	0.079989	0.0602
A	ROG_RUN	0.024305	0.071488	0.053235	0.071061	0.212018	0.08221	0.010208	0.000006	0.114355	0.000919	0.496712	0.00457	0.011498
A	ROG_STR	0.142903	0.221144	0.216887	0.281418	0.051629	0.027926	0.027175	0.000001	0.121461	0.032727	1.906007	0.01154	0.080561
A	SO2_IDLE	0	0	0	0	0.000087	0.000135	0.000726	0.010207	0.000701	0	0	0.003112	0
A	SO2_RUN	0.002151	0.002555	0.002647	0.003338	0.007002	0.006837	0.009559	0.011402	0.013358	0.004174	0.002099	0.010033	0.014048
A	SO2_STR	0.000448	0.000545	0.000569	0.000718	0.000092	0.000061	0.000054	0	0.000195	0.000058	0.0006	0.000018	0.00016
A	TOG_DIUI	0.038506	0.091083	0.070651	0.097527	0.001968	0.000968	0.000268	0	0.002465	0.000331	1.287514	0.000298	0.663577
A	TOG_HTS	0.076579	0.145125	0.107534	0.145386	0.063795	0.03158	0.010338	0.000014	0.029598	0.003169	0.802283	0.001989	0.046893
A	TOG_IDLE	0	0	0	0	0.024306	0.018329	0.018839	0.5531	0.066017	0	0	0.187125	0
A	TOG_RES	0.030738	0.066716	0.059651	0.08555	0.000926	0.000478	0.00013	0	0.000883	0.000168	0.644107	0.000116	0.214727
A	TOG_RUN	0.005483	0.013327	0.010438	0.013795	0.115442	0.13096	0.015227	0.029534	0.043653	3.617417	2.664622	0.091656	0.075844
A	TOG_RUN	0.024305	0.071488	0.053235	0.071061	0.212018	0.08221	0.010208	0.000006	0.114355	0.000919	0.496712	0.00457	0.011498
A	TOG_STR	0.156461	0.242125	0.237464	0.308117	0.056528	0.030575	0.029754	0.000001	0.132984	0.035832	2.074772	0.012634	0.088205
A	N2O_IDLE	0	0	0	0	0.000884	0.001857	0.011506	0.170053	0.009592	0	0	0.04871	0
A	N2O_RUN	0.003403	0.004504	0.004354	0.006233	0.046992	0.069141	0.141084	0.190296	0.094436	0.288174	0.06637	0.148396	0.06159
A	N2O_STR	0.020939	0.023617	0.024943	0.02724	0.018894	0.010921	0.004633	0	0.020275	0.005512	0.015166	0.002252	0.025892
S	CH4_IDLE	0	0	0	0	0.003963	0.0025	0.002328	0.024301	0.00871	0	0	0.026831	0
S	CH4_RUN	0.001288	0.002577	0.002187	0.002734	0.007128	0.006349	0.000966	0.005542	0.005759	3.537335	0.312813	0.004077	0.007807
S	CH4_STR	0.028774	0.039391	0.04094	0.049387	0.009657	0.005356	0.005068	0	0.021487	0.006977	0.212542	0.001725	0.0188
S	CO_IDLE)	0	0	0	0	0.16531	0.126754	0.330438	7.064876	0.553317	0	0	1.394653	0
S	CO_RUNE	0.512499	0.748683	0.684843	0.751196	0.694245	0.614391	0.162129	0.22453	0.624288	26.83964	19.08479	0.257675	0.635891
S	CO_STRE	1.4716	1.6013	1.911537	2.107148	0.783815	0.431258	0.541685	0.001489	2.350512	0.455877	7.966323	0.205503	1.56421
S	CO2_NBI(	0	0	0	0	8.974001	14.12017	76.04782	1067.822	72.69248	0	0	335.9864	0
S	CO2_NBI(	236.7495	277.9974	286.1633	357.144	719.6716	709.7809	1006.401	1209.927	1374.23	1638.85	211.5491	1056.024	1433.399
S	CO2_NBI(	44.62053	54.34012	56.68086	71.55817	9.222073	6.087768	5.336293	0.012972	19.23721	5.64319	57.83119	1.639033	15.87083
S	NOX_IDLE	0	0	0	0	0.074809	0.102438	0.392011	5.532581	0.276313	0	0	3.08306	0
S	NOX_RUN	0.019295	0.040397	0.034758	0.04545	0.819137	0.796538	1.526859	2.188788	1.047776	0.438116	1.001088	4.164607	1.448257
S	NOX_STR	0.126622	0.169171	0.178244	0.223516	0.222245	0.128778	1.88089	2.342217	0.746111	0.0551	0.247736	1.028098	0.22237
S	PM10_IDL	0	0	0	0	0.001051	0.001555	0.000176	0.00202	0.000087	0	0	0.002031	0
S	PM10_PM	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061209	0.13034	0.092205	0.01176	0.7448	0.13034
S	PM10_PM	0.008	0.008	0.008	0.008	0.010071	0.010927	0.012	0.035687	0.012	0.024183	0.004	0.011368	0.013258
S	PM10_RU	0.001031	0.001214	0.001098	0.001143	0.012787	0.017635	0.008089	0.025927	0.006718	0.003596	0.001991	0.029117	0.031166
S	PM10_STI	0.001472	0.001818	0.001533	0.00156	0.000199	0.000098	0.00007	0	0.000237	0.000068	0.002738	0.000024	0.00021
S	PM25_IDL	0	0	0	0	0.001006	0.001487	0.000169	0.001933	0.000084	0	0	0.001943	0
S	PM25_PM	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026233	0.05586	0.039516	0.00504	0.3192	0.05586
S	PM25_PM	0.002	0.002	0.002	0.002	0.002518	0.002732	0.003	0.008922	0.003	0.006046	0.001	0.002842	0.003315
S	PM25_RU	0.000949	0.001117	0.001011	0.001054	0.012192	0.016851	0.007735	0.024806	0.006402	0.003431	0.001859	0.02785	0.02978
S	PM25_STI	0.001354	0.001672	0.00141	0.001435	0.000183	0.00009	0.000065	0	0.000218	0.000063	0.002568	0.000022	0.000193
S	ROG_DIU	0.092728	0.221282	0.168215	0.230413	0.004729	0.002317	0.000653	0.000001	0.006014	0.000826	3.375098	0.000716	1.62486
S	ROG_HTS	0.086399	0.171273	0.122743	0.163628	0.073054	0.036246	0.012043	0.000016	0.032811	0.003854	1.219824	0.002089	0.053417
S	ROG_IDLE	0	0	0	0	0.017585	0.013901	0.014085	0.514287	0.051107	0	0	0.133308	0
S	ROG_RES	0.063571	0.139127	0.121287	0.172331	0.001846	0.000948	0.000267	0	0.001666	0.000347	1.675015	0.000215	0.406285
S	ROG_RUN	0.004279	0.010319	0.008114	0.010735	0.097691	0.113677	0.012872	0.021931	0.032137	0.057219	2.086045	0.080051	0.061026
S	ROG_RUN	0.023271	0.068153	0.050751	0.067922	0.208303	0.080799	0.010046	0.000006	0.112779	0.000862	0.475823	0.003915	0.011321
S	ROG_STR	0.118329	0.182322	0.179279	0.232549	0.048614	0.026298	0.025559	0.000001	0.113304	0.028881	1.59978	0.009482	0.075148
S	SO2_IDLE	0	0	0	0	0.000087	0.000135	0.00072	0.010078	0.000693	0	0	0.003185	0
S	SO2_RUN	0.002342	0.002751	0.002831	0.00353	0.007003	0.006837	0.009559	0.011402	0.013358	0.004174	0.002093	0.010033	0.014049
S	SO2_STR	0.000442	0.000538	0.000561	0.000708	0.000091	0.00006	0.000053	0	0.00019	0.000056	0.000572	0.000016	0.000157
S	TOG_DIUI	0.092728	0.221282	0.168215	0.230413	0.004729	0.002317	0.000653	0.000001	0.006014	0.000826	3.375098	0.000716	1.62486
S	TOG_HTS	0.086399	0.171273	0.122743	0.163628	0.073054	0.036246	0.012043	0.000016	0.032811	0.003854	1.219824	0.002089	0.053417
S	TOG_IDLE	0	0	0	0	0.024306	0.018329	0.018412	0.585893	0.067448	0	0	0.187102	0
S	TOG_RES	0.063571	0.139127	0.121287	0.172331	0.001846	0.000948	0.000267	0	0.001666	0.000347	1.675015	0.000215	0.406285
S	TOG_RUN	0.006224	0.015054	0.01181	0.0156	0.1161	0.1312	0.01532	0.029537	0.04481	3.617505	2.594578	0.091747	0.07705
S	TOG_RUN	0.023271	0.068153	0.050751	0.067922	0.208303	0.080799	0.010046	0.000006	0.112779	0.000862	0.475823	0.003915	0.011321
S	TOG_STR	0.129555	0.19962	0.196288	0.254611	0.053227	0.028793	0.027984	0.000001	0.124054	0.031621	1.741508	0.010382	0.082278
S	N2O_IDLE	0	0	0	0	0.000886	0.001858	0.011389	0.167898	0.009472	0	0	0.049968	0
S	N2O_RUN	0.003208	0.004207	0.004091	0.005925	0.046619	0.068887	0.140994	0.190293	0.093489	0.28798	0.059951	0.1482	0.060392
S	N2O_STR	0.01964	0.022163	0.023406	0.025561	0.018103	0.010494	0.004468	0	0.019552	0.005341	0.014599	0.002146	0.025204
W	CH4_IDLE	0	0	0	0	0.003939	0.002486	0.002569	0.021105	0.008514	0	0	0.026756	0
W	CH4_RUN	0.001044	0.002115	0.001784	0.002229	0.006934	0.006269	0.000934	0.005541	0.005411	3.537295	0.32923	0.004048	0.007454
W	CH4_STR	0.038936	0.053788	0.055604	0.067084	0.010776	0.005973	0.00565	0	0.024327	0.008731	0.29347	0.00245	0.021559
W	CO_IDLE)	0	0	0	0	0.16531	0.126754	0.414509	7.290544	0.563661	0	0	1.482581	0
W	CO_RUNE	0.394971	0.585198	0.532148	0.585282	0.676848	0.608242	0.15948	0.224194	0.591272	26.8377	20.75736	0.255704	0.60293
W	CO_STRE	2.18282	2.382286	2.855125	3.156808	0.910767	0.500484	0.636933	0.001751	2.846381	0.674891	10.58314	0.384401	1.895434
W	CO2_NBI(	0	0	0	0	8.974001	14.12017	77.51424	1100.467	74.60336	0	0	317.4152	0
W	CO2_NBI(	211.34	251.9668	261.7487	331.7031	719.6403	709.7697	1006.397	1209.926	1374.17	1638.846	214.7369	1056.02	1433.34
W	CO2_NBI(	45.90542	55.8277	58.41791	73.53574	9.443567	6.208436	5.498194	0.013387	20.07622	6.015827	64.16452	1.936108	16.43104
W	NOX_IDLE	0	0	0	0	0.074809	0.102438	0.428124	6.202338	0.310667	0	0	2.959603	0
W	NOX_RUN	0.023201	0.049089	0.042049	0.05492	0.881064	0.852513	1.634108	2.336316	1.147021	0.442764	1.253471	4.464369	1.575634
W	NOX_STR	0.15293	0.204327	0.215259	0.269962	0.253421	0.146844	1.88771	2.342217	0.78199	0.062854	0.289017	1.031544	0.253943
W	PM10_IDL	0	0	0	0	0.001051	0.001555	0.000243	0.002651	0.000113	0	0	0.002902	0

Season	EmissionT	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
W	PM10_PM	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061209	0.13034	0.092205	0.01176	0.7448	0.13034
W	PM10_PM	0.008	0.008	0.008	0.008	0.010071	0.010927	0.012	0.035687	0.012	0.024183	0.004	0.011368	0.013258
W	PM10_RU	0.001031	0.001214	0.001098	0.001143	0.012787	0.017635	0.008089	0.025927	0.006718	0.003596	0.001991	0.029117	0.031166
W	PM10_STI	0.001472	0.001818	0.001533	0.00156	0.000199	0.000098	0.00007	0	0.000237	0.000068	0.002738	0.000024	0.00021
W	PM25_IDL	0	0	0	0	0.001006	0.001487	0.000233	0.002536	0.000108	0	0	0.002777	0
W	PM25_PM	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026233	0.05586	0.039516	0.00504	0.3192	0.05586
W	PM25_PM	0.002	0.002	0.002	0.002	0.002518	0.002732	0.003	0.008922	0.003	0.006046	0.001	0.002842	0.003315
W	PM25_RU	0.000949	0.001117	0.001011	0.001054	0.012192	0.016851	0.007735	0.024806	0.006402	0.003431	0.001859	0.02785	0.02978
W	PM25_STI	0.001354	0.001672	0.00141	0.001435	0.000183	0.00009	0.000065	0	0.000218	0.000063	0.002568	0.000022	0.000193
W	ROG_DIU	0.013337	0.030918	0.025151	0.035376	0.000706	0.000358	0.000095	0	0.000929	0.000122	0.346822	0.000117	0.240354
W	ROG_HTS	0.077435	0.148356	0.108919	0.146844	0.068502	0.032731	0.010482	0.000014	0.029966	0.003203	0.850081	0.001995	0.05036
W	ROG_IDLE	0	0	0	0	0.017585	0.013901	0.014382	0.44571	0.048114	0	0	0.133355	0
W	ROG_RES	0.013153	0.028491	0.025897	0.03742	0.000441	0.00023	0.00006	0	0.000476	0.000082	0.205715	0.000064	0.116136
W	ROG_RUN	0.003584	0.008702	0.006827	0.009048	0.096811	0.113355	0.012745	0.021927	0.030574	0.057105	2.234529	0.079932	0.059413
W	ROG_RUN	0.028632	0.086738	0.064115	0.084975	0.233421	0.09115	0.011477	0.000007	0.124229	0.001125	0.592793	0.005869	0.012355
W	ROG_STF	0.165268	0.256702	0.251196	0.326032	0.054652	0.029557	0.028814	0.000001	0.1291	0.036474	2.257118	0.013507	0.085634
W	SO2_IDLE	0	0	0	0	0.000087	0.000135	0.000734	0.010386	0.000711	0	0	0.00301	0
W	SO2_RUN	0.002091	0.002493	0.002589	0.003278	0.007002	0.006837	0.009559	0.011402	0.013357	0.004174	0.002125	0.010033	0.014048
W	SO2_STR	0.000454	0.000552	0.000578	0.000728	0.000094	0.000061	0.000054	0	0.000199	0.00006	0.000635	0.000019	0.000163
W	TOG_DIUI	0.013337	0.030918	0.025151	0.035376	0.000706	0.000358	0.000095	0	0.000929	0.000122	0.346822	0.000117	0.240354
W	TOG_HTS	0.077435	0.148356	0.108919	0.146844	0.068502	0.032731	0.010482	0.000014	0.029966	0.003203	0.850081	0.001995	0.05036
W	TOG_IDLE	0	0	0	0	0.024306	0.018329	0.019114	0.507814	0.064041	0	0	0.187156	0
W	TOG_RES	0.013153	0.028491	0.025897	0.03742	0.000441	0.00023	0.00006	0	0.000476	0.000082	0.205715	0.000064	0.116136
W	TOG_RUN	0.00521	0.012695	0.009932	0.013138	0.114816	0.130731	0.015136	0.029532	0.042529	3.617338	2.775131	0.091573	0.074696
W	TOG_RUN	0.028632	0.086738	0.064115	0.084975	0.233421	0.09115	0.011477	0.000007	0.124229	0.001125	0.592793	0.005869	0.012355
W	TOG_STR	0.180948	0.281056	0.275028	0.356964	0.059837	0.032361	0.031548	0.000001	0.141349	0.039934	2.456853	0.014788	0.093759
W	N2O_IDLE	0	0	0	0	0.000882	0.001856	0.01167	0.173028	0.009761	0	0	0.046997	0
W	N2O_RUN	0.003607	0.004804	0.004622	0.006547	0.047207	0.069277	0.141136	0.190297	0.09498	0.288283	0.070221	0.148511	0.06231
W	N2O_STR	0.022417	0.02528	0.026699	0.029158	0.019781	0.011425	0.004841	0	0.021199	0.005747	0.015922	0.002368	0.027035

RoadPercc	RoadSiltLc	MaterialSil	MaterialMc	MobileAve	MeanVehic	CARB_PM_VMT
100	0.1	4.3	0.5	2.4	40	0

Woodstov	NumberCc	NumberCa	NumberNc	NumberPe	Woodstov	WoodstoveWoodMass

Fireplaces	NumberWo	NumberGa	NumberPr	NumberNc	FireplaceH	FireplaceD	FireplaceWoodMass

ROG_EF	ROG_EF_	ROG_EF_PesticidesFertilizers
2.14E-05	3.54E-07	5.15E-08

Area_EF_I	Area_Resi	Area_EF_I	Area_Resi	Area_EF_I	Area_Noni	Area_EF_I	Area_Noni	Reapplicat	Area_EF_I	Area_Parking
150	0	150	0	150	198960	150	66320	0	150	0

NumberSn	NumberSummerDays
0	180

EnergyUse	T24E	NT24E	LightingEl	T24NG	NT24NG
General Li	1.48	4.2	2.6	18.39	0.06

WaterLanc	WaterLanc	IndoorWat	OutdoorW	ElectricityI	ElectricityI	ElectricityI	ElectricityI	SepticTan	AerobicPe	Anaerobic	AnaDigest	AnaDigestCogen	CombDigestGasPercent
General Li	1000sqft	0	0	2117	111	1272	1911	10.33	87.46	2.21	100	0	

SolidWast	SolidWast	SolidWast	LandfillNo	LandfillCa	LandfillCaptureGasEnergyRecovery
General Li	1000sqft	0	6	94	0

Vegetation	Vegetation	AcresBegi	AcresEnd	CO2peracre

BroadSpec	NumberOf	CO2perTree

ConstMitig	FuelType	Tier	NumberOf	TotalNumb	DPF	OxidationCatalyst
Aerial Lifts	Diesel	No Change	0	2	No Change	0
Bore/Drill F	Diesel	No Change	0	2	No Change	0
Cranes	Diesel	No Change	0	3	No Change	0
Generator	Diesel	No Change	0	1	No Change	0
Graders	Diesel	No Change	0	2	No Change	0
Off-Highwa	Diesel	No Change	0	38	No Change	0
Rollers	Diesel	No Change	0	2	No Change	0
Rough Ter	Diesel	No Change	0	2	No Change	0
Rubber Tir	Diesel	No Change	0	2	No Change	0
Rubber Tir	Diesel	No Change	0	4	No Change	0
Scrapers	Diesel	No Change	0	1	No Change	0
Trenchers	Diesel	No Change	0	2	No Change	0

SoilStabiliz	SoilStabiliz	SoilStabiliz	ReplaceGr	ReplaceGr	ReplaceGr	WaterExpo	WaterExpo	WaterExpo	WaterExpo	WaterUnpa	WaterUnpa	WaterUnpa	WaterUnpa	CleanPavedRoadPercentReduction
0	0	0	0	0	0	1	2	55	55	0	0	0.5	40	0

ProjectSet	IncreaseD	IncreaseD	IncreaseD	IncreaseD	ImproveW	ImproveW	ImproveDe	ImproveDe	IncreaseTr	IncreaseTr	IntegrateB	IntegrateB	ImprovePe	ImprovePe	ProvideTra	ProvideTra	ProvideTra	Implement

LimitParkir	LimitParkir	UnbundleF	UnbundleF	OnStreetM	OnStreetM	ProvideBR	ProvideBR	ExpandTra	ExpandTra	IncreaseTı	IncreaseTı	IncreaseTransitFrequencyHeadwaysPercentReduction

Implement	Implement	Implement	TransitSub	TransitSub	TransitSub	Implement	Implement	Workplace	Workplace	Workplace	Encourage	Encourage	Encourage	Encourage	MarketCor	MarketCor	Employee	Employee
0			0			0		0			0				0		0	

Employee\	ProvideRic	ProvideRic	Implement	ImplementSchoolBusProgram	PercentFamilyUsing
2	0		0		

Landscape	Landscape	Landscape	Landscape	Landscape	Landscape	UseLowVO	UseLowVO	UseLowVO	UseLowVO
0		0		0		0	150	0	150

UseLowVC	UseLowVC	UseLowVC	UseLowVC	HearthOnl	NoHearthC	UseLowVC	UseLowVC	UseLowVOCPaintParkingValue
0	150	0	150	0	0	0	0	150

ExceedTitl ExceedTitl InstallHigh InstallHigh OnSiteRer KwhGener KwhGener PercentOfl PercentOfElectricityUseGenerated

Appliance~	Appliancel PercentImprovement
ClothWasher	30
DishWasher	15
Fan	50
Refrigerator	15

tblWaterMitigation

ApplyWate	ApplyWate	ApplyWate	UseReclai	PercentOu	PercentInc	UseGreyW	PercentOu	PercentInc	InstallLowI	PercentRe	InstallLowI	PercentRe	InstallLowI	PercentRe	InstallLowI	PercentRe	TurfReduc	TurfReduc
0			0			0			0	32	0	18	0	20	0	20	0	

TurfReduc	UseWaterI	UseWaterI	WaterEffic	MAWA	ETWU
	0	6.1	0		

InstituteRe InstituteRecyclingAndCompostingServicesWastePercentReduction

OperOffRc	OperOffRc	OperHours	OperDaysI	OperHorse	OperLoadI	OperFuelType
Off-Highwa	1	4	12	402	0.38	Diesel

FleetMixLa	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Li	0.554122	0.053376	0.171995	0.136171	0.022603	0.00571	0.012724	0.016721	0.000451	0.000316	0.021848	0.00105	0.002914

Generator	NumberOf	Generator	HorsePow	Load_Fact	HoursPerD	HoursPerY	GeneratorsPumpsEquipmentDescription

BoilerEqui	NumberOf	BoilerFuel	BoilerRatir	DailyHeatl	AnnualHe	BoilerEquipmentDescription

UserDefine	UserDefine	TOG_lb_d	TOG_tpy	ROG_lb_d	ROG_tpy	CO_lb_day	CO_tpy	NOX_lb_d	NOX_tpy	SO2_lb_d	SO2_tpy	PM10_lb_	PM10_tpy	PM2_5_lb	PM2_5_tp	CO2_lb_d	CO2_tpy	CH4_lb_d

CH4_tpy

Generator	TOG_EF	TOG_EF_	ROG_EF	ROG_EF_	CO_EF	CO_EF_U	NOX_EF	NOX_EF_	SO2_EF	SO2_EF_I	PM10_EF	PM10_EF_	PM2_5_EF	PM2_5_EF	CO2_EF	CO2_EF_I	CH4_EF	CH4_EF_U

JOM

BoilerEqui	TOG_EF	TOG_EF_	ROG_EF	ROG_EF_	CO_EF	CO_EF_U	NOX_EF	NOX_EF_	SO2_EF	SO2_EF_I	PM10_EF	PM10_EF_	PM2_5_EF	PM2_5_EF	CO2_EF	CO2_EF_I	CH4_EF	CH4_EF_U

JOM

SubModul	PhaseNan	Season	Remarks
1			Project specific info
3			4.6 acres of disturbed area per grading plan
4			Project-specific timeline.
5	Access Roads		Project-specific Information.
5	Architectural Coating		
5	Building Construction		Project-specific information used in lieu of CalEEMod defaults.
5	Cleaning and Restora		Project-specific information
5	Cleaning and Restora		Project specific information
5	Cleaning and Restora		Project specific equipment
5	Demolition		
5	Fence and Gate Insta		Project-specific info
5	Foundation		Project-specific
5	Grading		
5	Ground/Grid Circuit In		Project-specific information
5	Paving		Project-specific information used in lieu of CalEEMod defaults.
5	Remaining Deliveries		Project-specific information
5	Remaining Deliveries		Project specific equipment
5	Remaining Deliveries		Project specific equipment
5	Site Preparation		Project-specific equipment list used in lieu of CalEEMod defaults.
5	Steel/Bus Erection		project-specific information
5	Survey		Site-specific value
5	Transformer Installatio		project-specific information
5	Underground 12 kV Li		Site-specific info
5	Yard Rock Installation		Project-specific information
6			Project-specific worker trips
7			Only a small portion of the construction access road surfaces surrounding the project will be unpaved, therefore 98% pavement is assumed.
9			Site-specific area.
12			Unmanned operation and no daily worker trips will occur
13		A	
13		S	
13		W	
17			No consumer product utilization was assumed for the project
18			No architectural coating is assumed for the project.
19			
20			
21			Unmanned facility - no water use is expected
22			Unmanned facility - no solid waste generation is expected
			Tier 3 compliant engines are assumed for the project
25			Watering of exposed areas is assumed
34			Assumes monthly inspection utilizing one off-highway truck 4 hours per day.
35			

3. Screening HRA Methodology

Air dispersion of the DPM was modeled using the American Meteorological Society/U.S. Environmental Protection Agency (EPA) Regulatory Model (AERMOD). The modeled output (maximum ground-level concentrations), along with equations from the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015), were used to estimate the health risks for cancer and chronic (non-cancer) disease for residential and worker exposure to DPM emissions. DPM does not have OEHHA approved risk values from acute (non-cancer) exposure. Details regarding model selection, inputs, and calculation methodology are presented in the following sections.

3.1 Model Selection

The air dispersion modeling was conducted based on guidance presented in the *Guideline on Air Quality Models* (EPA 2017) and the EPA-approved dispersion model, AERMOD (Version 22112). The AERMOD model is a steady-state, multiple-source dispersion model that incorporates hourly meteorological data inputs and local surface characteristics. The AERMOD model is well suited for this assessment based on its ability to handle the various physical characteristics of project emission sources, including point, area, and volume source types. The required emission source data inputs to AERMOD include source locations, source elevations, stack heights, stack diameters, stack exit temperatures, stack exit velocities, and pollutant emission rates. The source locations are specified for a Cartesian coordinate system (x, y) where x and y are distances east and north in meters, respectively. The Cartesian coordinate system used for this analysis is the Universal Transverse Mercator Projection (UTM), 1983 North American Datum (NAD 83) Zone 10.

3.2 Model Options

The technical options selected for the AERMOD model include the following:

- Regulatory default control options
- Rural dispersion mode
- Receptor elevations and controlling hill heights obtained from AERMAP (Version 18081) output

No buildings were included in the air dispersion model, therefore building downwash was not included.

3.3 Meteorological Data

In the absence of site-specific meteorological data, the EPA requires the use of 5 years of representative National Weather Service (NWS) meteorological data. According to EPA's *Guideline on Air Quality Models* (EPA 2017), representativeness of meteorological data used in dispersion modeling depends on (1) the proximity of the meteorological monitoring site to the area under consideration, (2) the complexity of the terrain, (3) the exposure of the meteorological monitoring site, and (4) the period of time during which data are collected.

AERMOD-ready NWS meteorological data were acquired from the San Joaquin Valley Air Pollution Control District (SJVAPCD) for the Stockton Station for years 2013 through 2017. The Stockton Station data were considered representative of the project area and accordingly selected for use based on the following reasons:

- The SJVAPCD Stockton Station meteorological site is located approximately 16.5 miles from the Thurman/Guild location and 16.1 miles from the Lockeford location.
- There are no complex terrain features between the meteorological site and either project construction site.

D3

Health Risk Assessment
Technical Memorandum

Health Risk Assessment for PG&E's Northern San Joaquin 230 kV Transmission Project

Date:	July 21, 2023
Project name:	Northern San Joaquin 230 kV Transmission Project
Attention:	Erin Rice
Client:	Pacific Gas and Electric Company
Prepared by:	Michelle Neumann
Reviewed by:	Jerry Salamy
Copies to:	Colleen Taylor

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1. Background

Pacific Gas and Electric Company (PG&E) has conducted a screening Health Risk Assessment (HRA) to evaluate the potential health risks from construction of the PG&E Northern San Joaquin 230 kilovolt (kV) Transmission Project (project). This HRA will support the findings in Section 5.3, Air Quality, in the project's Proponent's Environmental Assessment (PEA). The City of Lodi's Lodi Electric Utility (LEU) is a participating utility in the project and LEU's portion of the project is included in this assessment. This technical memorandum presents a list of the air toxics expected to be emitted during project construction, the methodology for conducting the screening HRA, and the results.

Work within the City of Lodi includes (1) construction of the new PG&E Thurman Switching Station, the new LEU Guild Substation, and approximately 0.3 mile of the new PG&E 230 kV line; and (2) modification to the existing LEU Industrial Substation, existing LEU 12 kV lines, existing PG&E 12 kV line, and existing PG&E 60 kV lines along East Lodi Avenue and East Sargent Road.

PG&E Thurman Switching Station and LEU Guild Substation will be constructed on the property at East Thurman Road and South Guild Avenue, adjacent to the existing LEU Industrial Substation. Consistent with guidance from the Office of Environmental Health Hazard Assessment (OEHHA), the screening HRA was performed only for construction activities lasting longer than 2 months in duration (OEHHA 2015). Two locations total – one at PG&E Lockeford Substation and one at the property at East Thurman Road and South Guild Avenue in Lodi – were selected where sensitive receptors are near construction and construction activities are expected to last more than 2 months. Based on the OEHHA guidance, construction activities occurring at PG&E Lockeford Substation and PG&E Thurman Switching Station, were included in the HRA. PG&E Thurman Switching Station construction activities include construction activities at the adjacent LEU Guild and LEU Industrial substations and LEU 12 kV line modification, and the construction of a PG&E microwave tower. If a specific facility is not being discussed, the two locations where sensitive receptors are nearby are referred to as "Thurman/Guild" and "Lockeford," respectively.

Construction activities associated with the new PG&E 230 kV transmission lines, PG&E 12 kV service line extension, PG&E remote-end substations (PG&E Brighton, PG&E Rio Oso, PG&E Bellota substations, and PG&E Clayton Hill Repeater Station), and PG&E 60 kV power line reconfigurations are expected to last less than 2 months at a given location and were not included.

2. Emissions of Air Toxics

Diesel particulate matter (DPM) is used a surrogate of the toxic air contaminant (TAC) expected to be emitted during construction. DPM emissions result from exhaust of diesel-fueled construction equipment and vehicles operated within the project area.

DPM emissions for PG&E Lockeford Substation, PG&E Thurman Switching Station, and LEU construction activities were derived from PEA construction emission estimates (Section 5.3.4.4), as follows:

- DPM was assumed to be best represented by particulate matter with aerodynamic diameter less than 10 microns (PM_{10}) emitted as a result of diesel fuel combustion. Therefore, fugitive dust emissions were excluded, as they are not expected to include DPM.
- PM_{10} emissions resulting from diesel-fueled construction equipment and vehicles exhaust were estimated using California Emission Estimator Model (CalEEMod) and were used as DPM emissions in the HRA.
- Offsite contributions resulting from material haul truck trips, worker commute trips, short-haul dump truck trips, long-haul dump truck trips, inspector vehicle trips, and mechanics truck trips were excluded, as they are not expected to significantly contribute to localized impacts of DPM from the construction site.

For the air dispersion modeling of the HRA, DPM emissions during the project construction duration were annualized over the construction period and spatially distributed within the construction area. Specifically, emissions were spatially distributed in (1) the area associated with construction of PG&E Lockeford Substation, averaged over 3 years, and (2) the area associated with construction of PG&E Thurman Switching Station and LEU Guild Substation, averaged one year. The emissions from PG&E Thurman Switching Station, the PG&E Microwave Tower within Thurman Switching Station, the PG&E 12 kV Extension, and LEU portion of the project substations were assumed to occur concurrently. These emission rates are presented in Table 1.

Table 1. DPM Emission Rates Modeled for Project Construction

Construction Sites	DPM Exhaust Emissions				
	Construction Year	Duration (months)	Total (lb/ construction year)[c]	Annualized (lb/year)	Modeled Rate (g/s)
PG&E Lockeford Substation Site [a]	2026	6	68.78	67.73	0.00097
	2027	9	49.14		
	2028	12	64.11		
	2029	4	21.16		
PG&E Thurman Switching Station Site (includes Thurman Switching Station, Microwave Tower, and the 12 KV Line Extension)[b]	2026	2	22.15	118.45	0.00170
	2027	9	96.30		
LEU Portion of the Project at Guild Substation Site [b]	2027	11	104.44	113.28	0.00163
	2028	1	8.84		

[a]Annualized emissions are based on the total construction emissions per year divided by the number of months per year of construction, allocating 0 emissions to months without construction, averaged over 36 months, then multiplied by 12 months.

[b] Annualized emissions are based on the total construction emissions per year divided by the number of months per year of construction, allocating 0 emissions to months without construction, averaged over 12 months, then multiplied by 12 months.

e.g., calculation: 67.7 = (61.99+41.39+78.56+21.16) / 36 * 12

Notes:

g/s = gram(s) per second

lb/construction year = pound(s) per construction year

lb/year = pound(s) per year

3. Screening HRA Methodology

Air dispersion of the DPM was modeled using the American Meteorological Society/U.S. Environmental Protection Agency (EPA) Regulatory Model (AERMOD). The modeled output (maximum ground-level concentrations), along with equations from the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015), were used to estimate the health risks for cancer and chronic (non-cancer) disease for residential and worker exposure to DPM emissions. DPM does not have OEHHA approved risk values from acute (non-cancer) exposure. Details regarding model selection, inputs, and calculation methodology are presented in the following sections.

3.1 Model Selection

The air dispersion modeling was conducted based on guidance presented in the *Guideline on Air Quality Models* (EPA 2017) and the EPA-approved dispersion model, AERMOD (Version 22112). The AERMOD model is a steady-state, multiple-source dispersion model that incorporates hourly meteorological data inputs and local surface characteristics. The AERMOD model is well suited for this assessment based on its ability to handle the various physical characteristics of project emission sources, including point, area, and volume source types. The required emission source data inputs to AERMOD include source locations, source elevations, stack heights, stack diameters, stack exit temperatures, stack exit velocities, and pollutant emission rates. The source locations are specified for a Cartesian coordinate system (x, y) where x and y are distances east and north in meters, respectively. The Cartesian coordinate system used for this analysis is the Universal Transverse Mercator Projection (UTM), 1983 North American Datum (NAD 83) Zone 10.

3.2 Model Options

The technical options selected for the AERMOD model include the following:

- Regulatory default control options
- Rural dispersion mode
- Receptor elevations and controlling hill heights obtained from AERMAP (Version 18081) output

No buildings were included in the air dispersion model, therefore building downwash was not included.

3.3 Meteorological Data

In the absence of site-specific meteorological data, the EPA requires the use of 5 years of representative National Weather Service (NWS) meteorological data. According to EPA's *Guideline on Air Quality Models* (EPA 2017), representativeness of meteorological data used in dispersion modeling depends on (1) the proximity of the meteorological monitoring site to the area under consideration, (2) the complexity of the terrain, (3) the exposure of the meteorological monitoring site, and (4) the period of time during which data are collected.

AERMOD-ready NWS meteorological data were acquired from the San Joaquin Valley Air Pollution Control District (SJVAPCD) for the Stockton Station for years 2013 through 2017. The Stockton Station data were considered representative of the project area and accordingly selected for use based on the following reasons:

- The SJVAPCD Stockton Station meteorological site is located approximately 16.5 miles from the Thurman/Guild location and 16.1 miles from the Lockeford location.
- There are no complex terrain features between the meteorological site and either project construction site.

- The land uses surrounding the meteorological site and the project construction sites are similar.

3.4 Receptor Grid Spacing

The receptor grid for the AERMOD modeling consists of receptors that are placed at the ambient air boundary (the project's property boundary) and Cartesian-grid receptors that are placed beyond the project's property boundary at spacing that increases with distance from the origin, as presented in Appendix A, Figure 1. Property boundary receptors were placed at 25-meter intervals. Beyond the project's property boundary, receptor spacing was as follows:

- 25-meter spacing from property boundary to 100 meters from the origin
- 50-meter spacing from beyond 100 meters to 250 meters from the origin
- 100-meter spacing from beyond 250 meters to 500 meters from the origin
- 250-meter spacing from beyond 500 meters to 1,000 meters from the origin
- 500-meter spacing from beyond 1,000 meters to 2,000 meters from the origin

All receptors and source locations were expressed in a UTM NAD 83, Zone 10 coordinate system. AERMAP was used to calculate the receptor elevations and the controlling hill heights. Terrain in the vicinity of the project was accounted for by assigning base elevations to each receptor. National Elevation Dataset files from the United States Geological Survey were obtained in one third arc-second resolution for the 2kilometer grid. The AERMAP domain was large enough to encompass the 10% slope factor required for calculating the controlling hill height.

3.5 Source Parameters

For each of the locations, the construction exhaust emissions were modeled as a set of point sources spaced approximately 25 meters apart over the construction areas with a horizontal stack release. The horizontal release type is an AERMOD option, which negates mechanical plume rise. This conservative approach was used because it is unknown whether the construction equipment will have vertically oriented exhaust stacks. Stack release parameters consisted of a stack release temperature of 533 degrees Kelvin (ºK; 500 degrees Fahrenheit [°F]), an exit velocity of 18 meters per section (59.1 feet per second), a stack diameter of 0.127 meters (5 inches), and a release height of 4.6 meters (15 feet) based on data for typical construction equipment. The Modeled Rate in Table 1 was equally divided and allocated to each of the sources per station. A detailed summary of the AERMOD modeling inputs is presented in Appendix A, Table 1 and Table 2.

3.6 Health Risk Estimates

Because the Lockeford and Thurman/Guild locations are several miles apart and have different construction schedules, the screening HRA for Lockeford estimated the 3-year rolling cancer risks during a 30-year exposure duration (starting with exposure during the third trimester) for residential exposure and a 25-year exposure duration (from age 16 to 40) for worker exposure, aligned with the expected construction duration, Maximally Exposed Individual Resident (MEIR), Maximally Exposed Individual Worker (MEIW), and maximum exposed sensitive receptor (preschool, K-12 school, or medical facility). If a maximum exposed sensitive receptor was not within the receptor grid used in the modeling, the lowest concentration receptor was evaluated. The screening HRA for Thurman/Guild estimated a 1-year exposure duration. The excess cancer risks were estimated using the following:

- Equations 5.4.1.1 and 8.2.4A from the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA, 2015) for residential exposure

- Equations 5.4.1.2A, 5.4.1.2B, and 8.2.4B from the *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015) for worker exposure
- The maximum annual ground-level concentrations used to estimate risk were determined through dispersion modeling with AERMOD
- The construction emission estimates modeled are presented in Table 1

Chronic risks also were estimated for the MEIR, MEIW, and maximum exposed sensitive receptor, based on the same emission rates and ground-level concentrations previously described. To calculate chronic risk, as characterized by the chronic hazard index, the maximum annual ground-level concentration was divided by the DPM reference exposure level of 5 micrograms per cubic meter (μg/m^3) (OEHHA and CARB 2020). Details on how cancer and chronic risks were calculated are included in Appendix B.

4. Results

The results of the screening HRA for construction activities associated with the project are shown in Table 2. The HRA results are compared to the SJVAPCD CEQA project analysis level recommended thresholds of significant impact. The excess cancer risks are less than the significance threshold of 20 in 1 million. The chronic hazard indices are less than the significance threshold of 1.0. Therefore, predicted impacts associated with the finite construction activities are less than significant. The model input and output files are provided digitally and identified as Appendix C.

Table 2. HRA Results

Construction Location	Risk	MEIR	MEIW	Maximum Exposed Sensitive Receptor
PG&E Portion of the Project at Thurman Switching Station Site	Cancer Risk (in a million) *Significance Threshold = 20 in 1 million*	1.23	0.18	0.40
	Chronic Hazard Index *Significance Threshold = 1.0*	0.0018	0.0144	0.0006
LEU Portion of the Project at Guild Substation Site	Cancer Risk (in a million) *Significance Threshold = 20 in 1 million*	1.23	0.13	0.37
	Chronic Hazard Index *Significance Threshold = 1.0*	0.0018	0.0102	0.0005
PG&E & LEU Combined at Thurman/Guild Sites	Cancer Risk (in a million) *Significance Threshold = 20 in 1 million*	2.46	0.28	0.77
	Chronic Hazard Index *Significance Threshold = 1.0*	0.035	0.0227	0.0011
PG&E Lockeford Substation Site	Cancer Risk (in a million) *Significance Threshold = 20 in 1 million*	7.43	0.19	0.07
	Chronic Hazard Index *Significance Threshold = 1.0*	0.0047	0.0053	0.00005

MEIR = Maximally Exposed Individual Resident

MEIW = Maximally Exposed Individual Worker

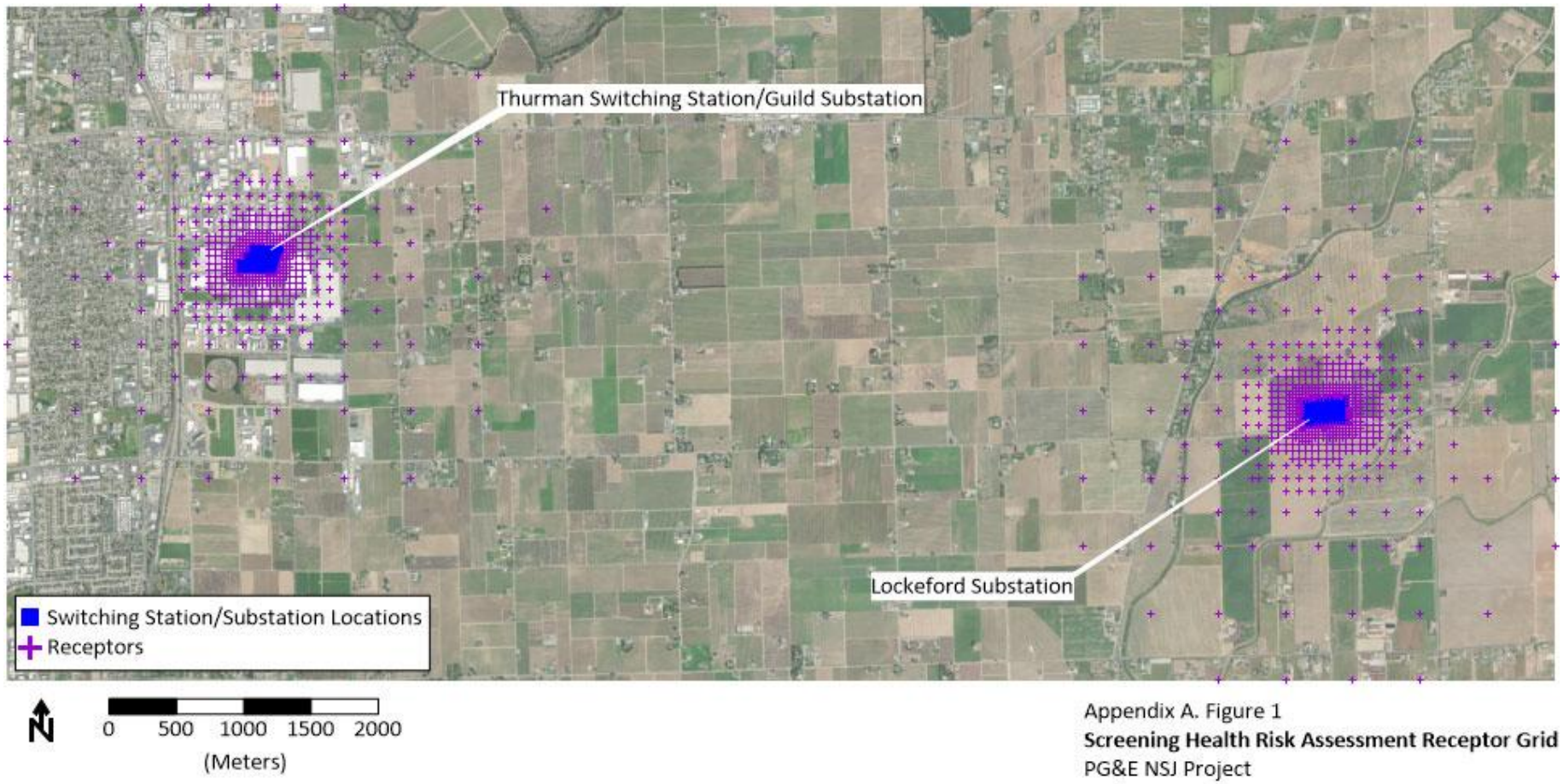
5. References

Office of Environmental Health Hazard Assessment (OEHHA). 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.* February.

Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB). 2020. *Consolidated Table of OEHHA/CARB Approved Risk Assessment Health Values.* October.

U.S. Environmental Protection Agency (EPA). 2017. *Guideline on Air Quality Models*, 40 CFR 51, Appendix W. November.

Appendix A
AERMOD



Appendix A. Figure 1
Screening Health Risk Assessment Receptor Grid
PG&E NSJ Project
Lodi, CA

APPENDIX A, TABLE 1

AERMOD Source Inputs – PG&E Thurman Switching Station/LEU Portion of the Project ("Guild")

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Source Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	DPM Emission Rate (g/s)
G001	HORIZONTAL	Guild	653311.6	4221577	17.91	4.6	533	18	0.127	5.25603E-05
G002	HORIZONTAL	Guild	653336.6	4221577	17.96	4.6	533	18	0.127	5.25603E-05
G003	HORIZONTAL	Guild	653361.6	4221577	18.11	4.6	533	18	0.127	5.25603E-05
G004	HORIZONTAL	Guild	653311.6	4221602	18.04	4.6	533	18	0.127	5.25603E-05
G005	HORIZONTAL	Guild	653336.6	4221602	18.05	4.6	533	18	0.127	5.25603E-05
G006	HORIZONTAL	Guild	653361.6	4221602	18.13	4.6	533	18	0.127	5.25603E-05
G007	HORIZONTAL	Guild	653286.6	4221627	18.15	4.6	533	18	0.127	5.25603E-05
G008	HORIZONTAL	Guild	653311.6	4221627	18.15	4.6	533	18	0.127	5.25603E-05
G009	HORIZONTAL	Guild	653336.6	4221627	18.13	4.6	533	18	0.127	5.25603E-05
G010	HORIZONTAL	Guild	653361.6	4221627	18.15	4.6	533	18	0.127	5.25603E-05
G011	HORIZONTAL	Guild	653286.6	4221652	18.16	4.6	533	18	0.127	5.25603E-05
G012	HORIZONTAL	Guild	653311.6	4221652	18.18	4.6	533	18	0.127	5.25603E-05
G013	HORIZONTAL	Guild	653336.6	4221652	18.15	4.6	533	18	0.127	5.25603E-05
G014	HORIZONTAL	Guild	653361.6	4221652	18.18	4.6	533	18	0.127	5.25603E-05
G015	HORIZONTAL	Guild	653311.6	4221677	18.15	4.6	533	18	0.127	5.25603E-05
G016	HORIZONTAL	Guild	653336.6	4221677	18.15	4.6	533	18	0.127	5.25603E-05
G017	HORIZONTAL	Guild	653361.6	4221677	18.21	4.6	533	18	0.127	5.25603E-05
G018	HORIZONTAL	Guild	653311.6	4221702	18.15	4.6	533	18	0.127	5.25603E-05

APPENDIX A, TABLE 1

AERMOD Source Inputs – PG&E Thurman Switching Station/LEU Portion of the Project ("Guild")

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Source Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	DPM Emission Rate (g/s)
G019	HORIZONTAL	Guild	653336.6	4221702	18.17	4.6	533	18	0.127	5.25603E-05
G020	HORIZONTAL	Guild	653361.6	4221702	18.22	4.6	533	18	0.127	5.25603E-05
G021	HORIZONTAL	Guild	653386.6	4221702	18.28	4.6	533	18	0.127	5.25603E-05
G022	HORIZONTAL	Guild	653411.6	4221702	18.27	4.6	533	18	0.127	5.25603E-05
G023	HORIZONTAL	Guild	653436.6	4221702	18.34	4.6	533	18	0.127	5.25603E-05
G024	HORIZONTAL	Guild	653461.6	4221702	18.42	4.6	533	18	0.127	5.25603E-05
G025	HORIZONTAL	Guild	653486.6	4221702	18.44	4.6	533	18	0.127	5.25603E-05
G026	HORIZONTAL	Guild	653511.6	4221702	18.43	4.6	533	18	0.127	5.25603E-05
G027	HORIZONTAL	Guild	653536.6	4221702	18.54	4.6	533	18	0.127	5.25603E-05
G028	HORIZONTAL	Guild	653311.6	4221727	18.11	4.6	533	18	0.127	5.25603E-05
G029	HORIZONTAL	Guild	653336.6	4221727	18.07	4.6	533	18	0.127	5.25603E-05
G030	HORIZONTAL	Guild	653361.6	4221727	18.13	4.6	533	18	0.127	5.25603E-05
G031	HORIZONTAL	Guild	653386.6	4221727	18.13	4.6	533	18	0.127	5.25603E-05
T001	HORIZONTAL	Thurman	653236.6	4221552	17.71	4.6	533	18	0.127	3.78524E-05
T002	HORIZONTAL	Thurman	653261.6	4221552	17.78	4.6	533	18	0.127	3.78524E-05
T003	HORIZONTAL	Thurman	653286.6	4221552	17.82	4.6	533	18	0.127	3.78524E-05
T004	HORIZONTAL	Thurman	653311.6	4221552	17.89	4.6	533	18	0.127	3.78524E-05
T005	HORIZONTAL	Thurman	653336.6	4221552	18.05	4.6	533	18	0.127	3.78524E-05

APPENDIX A, TABLE 1

AERMOD Source Inputs – PG&E Thurman Switching Station/LEU Portion of the Project ("Guild")

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Source Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	DPM Emission Rate (g/s)
T006	HORIZONTAL	Thurman	653361.6	4221552	18.12	4.6	533	18	0.127	3.78524E-05
T007	HORIZONTAL	Thurman	653386.6	4221552	18.23	4.6	533	18	0.127	3.78524E-05
T008	HORIZONTAL	Thurman	653411.6	4221552	18.24	4.6	533	18	0.127	3.78524E-05
T009	HORIZONTAL	Thurman	653436.6	4221552	18.34	4.6	533	18	0.127	3.78524E-05
T010	HORIZONTAL	Thurman	653461.6	4221552	18.34	4.6	533	18	0.127	3.78524E-05
T011	HORIZONTAL	Thurman	653486.6	4221552	18.43	4.6	533	18	0.127	3.78524E-05
T012	HORIZONTAL	Thurman	653236.6	4221577	17.79	4.6	533	18	0.127	3.78524E-05
T013	HORIZONTAL	Thurman	653261.6	4221577	17.83	4.6	533	18	0.127	3.78524E-05
T014	HORIZONTAL	Thurman	653286.6	4221577	17.86	4.6	533	18	0.127	3.78524E-05
T015	HORIZONTAL	Thurman	653386.6	4221577	18.16	4.6	533	18	0.127	3.78524E-05
T016	HORIZONTAL	Thurman	653411.6	4221577	18.24	4.6	533	18	0.127	3.78524E-05
T017	HORIZONTAL	Thurman	653436.6	4221577	18.24	4.6	533	18	0.127	3.78524E-05
T018	HORIZONTAL	Thurman	653461.6	4221577	18.34	4.6	533	18	0.127	3.78524E-05
T019	HORIZONTAL	Thurman	653486.6	4221577	18.37	4.6	533	18	0.127	3.78524E-05
T020	HORIZONTAL	Thurman	653236.6	4221602	17.97	4.6	533	18	0.127	3.78524E-05
T021	HORIZONTAL	Thurman	653261.6	4221602	17.98	4.6	533	18	0.127	3.78524E-05
T022	HORIZONTAL	Thurman	653286.6	4221602	18	4.6	533	18	0.127	3.78524E-05
T023	HORIZONTAL	Thurman	653386.6	4221602	18.17	4.6	533	18	0.127	3.78524E-05

APPENDIX A, TABLE 1

AERMOD Source Inputs – PG&E Thurman Switching Station/LEU Portion of the Project ("Guild")

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Source Description	Easting (X) (m)	Northing (Y) (m)	Base Elevation (m)	Stack Height (m)	Temperature (K)	Exit Velocity (m/s)	Stack Diameter (m)	DPM Emission Rate (g/s)
T024	HORIZONTAL	Thurman	653411.6	4221602	18.25	4.6	533	18	0.127	3.78524E-05
T025	HORIZONTAL	Thurman	653436.6	4221602	18.25	4.6	533	18	0.127	3.78524E-05
T026	HORIZONTAL	Thurman	653461.6	4221602	18.34	4.6	533	18	0.127	3.78524E-05
T027	HORIZONTAL	Thurman	653486.6	4221602	18.37	4.6	533	18	0.127	3.78524E-05
T028	HORIZONTAL	Thurman	653386.6	4221627	18.24	4.6	533	18	0.127	3.78524E-05
T029	HORIZONTAL	Thurman	653411.6	4221627	18.25	4.6	533	18	0.127	3.78524E-05
T030	HORIZONTAL	Thurman	653436.6	4221627	18.34	4.6	533	18	0.127	3.78524E-05
T031	HORIZONTAL	Thurman	653461.6	4221627	18.34	4.6	533	18	0.127	3.78524E-05
T032	HORIZONTAL	Thurman	653486.6	4221627	18.43	4.6	533	18	0.127	3.78524E-05
T033	HORIZONTAL	Thurman	653511.6	4221627	18.51	4.6	533	18	0.127	3.78524E-05
T034	HORIZONTAL	Thurman	653386.6	4221652	18.24	4.6	533	18	0.127	3.78524E-05
T035	HORIZONTAL	Thurman	653411.6	4221652	18.25	4.6	533	18	0.127	3.78524E-05
T036	HORIZONTAL	Thurman	653436.6	4221652	18.34	4.6	533	18	0.127	3.78524E-05
T037	HORIZONTAL	Thurman	653461.6	4221652	18.34	4.6	533	18	0.127	3.78524E-05
T038	HORIZONTAL	Thurman	653486.6	4221652	18.46	4.6	533	18	0.127	3.78524E-05
T039	HORIZONTAL	Thurman	653511.6	4221652	18.53	4.6	533	18	0.127	3.78524E-05
T040	HORIZONTAL	Thurman	653386.6	4221677	18.26	4.6	533	18	0.127	3.78524E-05
T041	HORIZONTAL	Thurman	653411.6	4221677	18.26	4.6	533	18	0.127	3.78524E-05

APPENDIX A, TABLE 1

AERMOD Source Inputs – PG&E Thurman Switching Station/LEU Portion of the Project ("Guild")

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Source Description	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	DPM Emission Rate
			(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)
T042	HORIZONTAL	Thurman	653436.6	4221677	18.34	4.6	533	18	0.127	3.78524E-05
T043	HORIZONTAL	Thurman	653461.6	4221677	18.36	4.6	533	18	0.127	3.78524E-05
T044	HORIZONTAL	Thurman	653486.6	4221677	18.53	4.6	533	18	0.127	3.78524E-05
T045	HORIZONTAL	Thurman	653511.6	4221677	18.46	4.6	533	18	0.127	3.78524E-05

APPENDIX A, TABLE 2

AERMOD Source Inputs – PG&E Lockeford Substation

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	DPM Emission Rate
		(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)
L001	HORIZONTAL	661153.2	4220383	25.06	4.6	533	18	0.127	7.91665E-06
L002	HORIZONTAL	661178.2	4220383	25.08	4.6	533	18	0.127	7.91665E-06
L003	HORIZONTAL	661203.2	4220383	25.11	4.6	533	18	0.127	7.91665E-06
L004	HORIZONTAL	661228.2	4220383	25.12	4.6	533	18	0.127	7.91665E-06
L005	HORIZONTAL	661253.2	4220383	25.13	4.6	533	18	0.127	7.91665E-06
L006	HORIZONTAL	661128.2	4220408	25	4.6	533	18	0.127	7.91665E-06
L007	HORIZONTAL	661153.2	4220408	25.04	4.6	533	18	0.127	7.91665E-06
L008	HORIZONTAL	661178.2	4220408	25.08	4.6	533	18	0.127	7.91665E-06
L009	HORIZONTAL	661203.2	4220408	25.11	4.6	533	18	0.127	7.91665E-06
L010	HORIZONTAL	661228.2	4220408	25.14	4.6	533	18	0.127	7.91665E-06
L011	HORIZONTAL	661253.2	4220408	25.24	4.6	533	18	0.127	7.91665E-06
L012	HORIZONTAL	661278.2	4220408	25.32	4.6	533	18	0.127	7.91665E-06
L013	HORIZONTAL	661303.2	4220408	25.28	4.6	533	18	0.127	7.91665E-06
L014	HORIZONTAL	661328.2	4220408	24.93	4.6	533	18	0.127	7.91665E-06
L015	HORIZONTAL	661353.2	4220408	24.83	4.6	533	18	0.127	7.91665E-06
L016	HORIZONTAL	661378.2	4220408	24.85	4.6	533	18	0.127	7.91665E-06
L017	HORIZONTAL	661403.2	4220408	24.86	4.6	533	18	0.127	7.91665E-06
L018	HORIZONTAL	661428.2	4220408	24.9	4.6	533	18	0.127	7.91665E-06

APPENDIX A, TABLE 2

AERMOD Source Inputs – PG&E Lockeford Substation

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	DPM Emission Rate
		(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)
L019	HORIZONTAL	661453.2	4220408	24.96	4.6	533	18	0.127	7.91665E-06
L020	HORIZONTAL	661128.2	4220433	24.99	4.6	533	18	0.127	7.91665E-06
L021	HORIZONTAL	661153.2	4220433	25.03	4.6	533	18	0.127	7.91665E-06
L022	HORIZONTAL	661178.2	4220433	25.08	4.6	533	18	0.127	7.91665E-06
L023	HORIZONTAL	661203.2	4220433	25.11	4.6	533	18	0.127	7.91665E-06
L024	HORIZONTAL	661228.2	4220433	25.15	4.6	533	18	0.127	7.91665E-06
L025	HORIZONTAL	661253.2	4220433	25.27	4.6	533	18	0.127	7.91665E-06
L026	HORIZONTAL	661278.2	4220433	25.37	4.6	533	18	0.127	7.91665E-06
L027	HORIZONTAL	661303.2	4220433	25.37	4.6	533	18	0.127	7.91665E-06
L028	HORIZONTAL	661328.2	4220433	25.2	4.6	533	18	0.127	7.91665E-06
L029	HORIZONTAL	661353.2	4220433	25.08	4.6	533	18	0.127	7.91665E-06
L030	HORIZONTAL	661378.2	4220433	25.07	4.6	533	18	0.127	7.91665E-06
L031	HORIZONTAL	661403.2	4220433	25.07	4.6	533	18	0.127	7.91665E-06
L032	HORIZONTAL	661428.2	4220433	25.08	4.6	533	18	0.127	7.91665E-06
L033	HORIZONTAL	661453.2	4220433	25.11	4.6	533	18	0.127	7.91665E-06
L034	HORIZONTAL	661128.2	4220458	25.01	4.6	533	18	0.127	7.91665E-06
L035	HORIZONTAL	661153.2	4220458	25.05	4.6	533	18	0.127	7.91665E-06
L036	HORIZONTAL	661178.2	4220458	25.08	4.6	533	18	0.127	7.91665E-06

APPENDIX A, TABLE 2

AERMOD Source Inputs – PG&E Lockeford Substation

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	DPM Emission Rate
		(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)
L037	HORIZONTAL	661203.2	4220458	25.11	4.6	533	18	0.127	7.91665E-06
L038	HORIZONTAL	661228.2	4220458	25.14	4.6	533	18	0.127	7.91665E-06
L039	HORIZONTAL	661253.2	4220458	25.23	4.6	533	18	0.127	7.91665E-06
L040	HORIZONTAL	661278.2	4220458	25.29	4.6	533	18	0.127	7.91665E-06
L041	HORIZONTAL	661303.2	4220458	25.33	4.6	533	18	0.127	7.91665E-06
L042	HORIZONTAL	661328.2	4220458	25.34	4.6	533	18	0.127	7.91665E-06
L043	HORIZONTAL	661353.2	4220458	25.28	4.6	533	18	0.127	7.91665E-06
L044	HORIZONTAL	661378.2	4220458	25.2	4.6	533	18	0.127	7.91665E-06
L045	HORIZONTAL	661403.2	4220458	25.17	4.6	533	18	0.127	7.91665E-06
L046	HORIZONTAL	661428.2	4220458	25.17	4.6	533	18	0.127	7.91665E-06
L047	HORIZONTAL	661453.2	4220458	25.16	4.6	533	18	0.127	7.91665E-06
L048	HORIZONTAL	661128.2	4220483	25.05	4.6	533	18	0.127	7.91665E-06
L049	HORIZONTAL	661153.2	4220483	25.08	4.6	533	18	0.127	7.91665E-06
L050	HORIZONTAL	661178.2	4220483	25.1	4.6	533	18	0.127	7.91665E-06
L051	HORIZONTAL	661203.2	4220483	25.11	4.6	533	18	0.127	7.91665E-06
L052	HORIZONTAL	661228.2	4220483	25.14	4.6	533	18	0.127	7.91665E-06
L053	HORIZONTAL	661253.2	4220483	25.18	4.6	533	18	0.127	7.91665E-06
L054	HORIZONTAL	661278.2	4220483	25.24	4.6	533	18	0.127	7.91665E-06

APPENDIX A, TABLE 2

AERMOD Source Inputs – PG&E Lockeford Substation

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	DPM Emission Rate
		(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)
L055	HORIZONTAL	661303.2	4220483	25.3	4.6	533	18	0.127	7.91665E-06
L056	HORIZONTAL	661328.2	4220483	25.35	4.6	533	18	0.127	7.91665E-06
L057	HORIZONTAL	661353.2	4220483	25.38	4.6	533	18	0.127	7.91665E-06
L058	HORIZONTAL	661378.2	4220483	25.31	4.6	533	18	0.127	7.91665E-06
L059	HORIZONTAL	661403.2	4220483	25.25	4.6	533	18	0.127	7.91665E-06
L060	HORIZONTAL	661428.2	4220483	25.23	4.6	533	18	0.127	7.91665E-06
L061	HORIZONTAL	661453.2	4220483	25.18	4.6	533	18	0.127	7.91665E-06
L062	HORIZONTAL	661128.2	4220508	25.08	4.6	533	18	0.127	7.91665E-06
L063	HORIZONTAL	661153.2	4220508	25.11	4.6	533	18	0.127	7.91665E-06
L064	HORIZONTAL	661178.2	4220508	25.12	4.6	533	18	0.127	7.91665E-06
L065	HORIZONTAL	661203.2	4220508	25.15	4.6	533	18	0.127	7.91665E-06
L066	HORIZONTAL	661228.2	4220508	25.16	4.6	533	18	0.127	7.91665E-06
L067	HORIZONTAL	661253.2	4220508	25.18	4.6	533	18	0.127	7.91665E-06
L068	HORIZONTAL	661278.2	4220508	25.22	4.6	533	18	0.127	7.91665E-06
L069	HORIZONTAL	661303.2	4220508	25.29	4.6	533	18	0.127	7.91665E-06
L070	HORIZONTAL	661328.2	4220508	25.35	4.6	533	18	0.127	7.91665E-06
L071	HORIZONTAL	661353.2	4220508	25.37	4.6	533	18	0.127	7.91665E-06
L072	HORIZONTAL	661378.2	4220508	25.35	4.6	533	18	0.127	7.91665E-06

APPENDIX A, TABLE 2

AERMOD Source Inputs – PG&E Lockeford Substation

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	DPM Emission Rate
		(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)
L073	HORIZONTAL	661403.2	4220508	25.29	4.6	533	18	0.127	7.91665E-06
L074	HORIZONTAL	661428.2	4220508	25.23	4.6	533	18	0.127	7.91665E-06
L075	HORIZONTAL	661453.2	4220508	25.19	4.6	533	18	0.127	7.91665E-06
L076	HORIZONTAL	661128.2	4220533	25.11	4.6	533	18	0.127	7.91665E-06
L077	HORIZONTAL	661153.2	4220533	25.12	4.6	533	18	0.127	7.91665E-06
L078	HORIZONTAL	661178.2	4220533	25.16	4.6	533	18	0.127	7.91665E-06
L079	HORIZONTAL	661203.2	4220533	25.18	4.6	533	18	0.127	7.91665E-06
L080	HORIZONTAL	661228.2	4220533	25.2	4.6	533	18	0.127	7.91665E-06
L081	HORIZONTAL	661253.2	4220533	25.2	4.6	533	18	0.127	7.91665E-06
L082	HORIZONTAL	661278.2	4220533	25.23	4.6	533	18	0.127	7.91665E-06
L083	HORIZONTAL	661303.2	4220533	25.28	4.6	533	18	0.127	7.91665E-06
L084	HORIZONTAL	661328.2	4220533	25.32	4.6	533	18	0.127	7.91665E-06
L085	HORIZONTAL	661353.2	4220533	25.34	4.6	533	18	0.127	7.91665E-06
L086	HORIZONTAL	661378.2	4220533	25.33	4.6	533	18	0.127	7.91665E-06
L087	HORIZONTAL	661403.2	4220533	25.28	4.6	533	18	0.127	7.91665E-06
L088	HORIZONTAL	661428.2	4220533	25.25	4.6	533	18	0.127	7.91665E-06
L089	HORIZONTAL	661453.2	4220533	25.21	4.6	533	18	0.127	7.91665E-06
L090	HORIZONTAL	661128.2	4220558	25.13	4.6	533	18	0.127	7.91665E-06

APPENDIX A, TABLE 2

AERMOD Source Inputs – PG&E Lockeford Substation

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	DPM Emission Rate
		(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)
L091	HORIZONTAL	661153.2	4220558	25.15	4.6	533	18	0.127	7.91665E-06
L092	HORIZONTAL	661178.2	4220558	25.17	4.6	533	18	0.127	7.91665E-06
L093	HORIZONTAL	661203.2	4220558	25.21	4.6	533	18	0.127	7.91665E-06
L094	HORIZONTAL	661228.2	4220558	25.22	4.6	533	18	0.127	7.91665E-06
L095	HORIZONTAL	661253.2	4220558	25.24	4.6	533	18	0.127	7.91665E-06
L096	HORIZONTAL	661278.2	4220558	25.25	4.6	533	18	0.127	7.91665E-06
L097	HORIZONTAL	661303.2	4220558	25.28	4.6	533	18	0.127	7.91665E-06
L098	HORIZONTAL	661328.2	4220558	25.29	4.6	533	18	0.127	7.91665E-06
L099	HORIZONTAL	661353.2	4220558	25.31	4.6	533	18	0.127	7.91665E-06
L100	HORIZONTAL	661378.2	4220558	25.31	4.6	533	18	0.127	7.91665E-06
L101	HORIZONTAL	661403.2	4220558	25.29	4.6	533	18	0.127	7.91665E-06
L102	HORIZONTAL	661428.2	4220558	25.25	4.6	533	18	0.127	7.91665E-06
L103	HORIZONTAL	661453.2	4220558	25.24	4.6	533	18	0.127	7.91665E-06
L104	HORIZONTAL	661128.2	4220583	25.16	4.6	533	18	0.127	7.91665E-06
L105	HORIZONTAL	661153.2	4220583	25.18	4.6	533	18	0.127	7.91665E-06
L106	HORIZONTAL	661178.2	4220583	25.21	4.6	533	18	0.127	7.91665E-06
L107	HORIZONTAL	661203.2	4220583	25.22	4.6	533	18	0.127	7.91665E-06
L108	HORIZONTAL	661228.2	4220583	25.24	4.6	533	18	0.127	7.91665E-06

APPENDIX A, TABLE 2

AERMOD Source Inputs – PG&E Lockeford Substation

PG&E: Northern San Joaquin 230 kV Transmission Project

Source ID	Stack Release Type	Easting (X)	Northing (Y)	Base Elevation	Stack Height	Temperature	Exit Velocity	Stack Diameter	DPM Emission Rate
		(m)	(m)	(m)	(m)	(K)	(m/s)	(m)	(g/s)
L109	HORIZONTAL	661253.2	4220583	25.26	4.6	533	18	0.127	7.91665E-06
L110	HORIZONTAL	661278.2	4220583	25.27	4.6	533	18	0.127	7.91665E-06
L111	HORIZONTAL	661303.2	4220583	25.28	4.6	533	18	0.127	7.91665E-06
L112	HORIZONTAL	661328.2	4220583	25.29	4.6	533	18	0.127	7.91665E-06
L113	HORIZONTAL	661353.2	4220583	25.29	4.6	533	18	0.127	7.91665E-06
L114	HORIZONTAL	661378.2	4220583	25.29	4.6	533	18	0.127	7.91665E-06
L115	HORIZONTAL	661403.2	4220583	25.28	4.6	533	18	0.127	7.91665E-06
L116	HORIZONTAL	661428.2	4220583	25.28	4.6	533	18	0.127	7.91665E-06
L117	HORIZONTAL	661453.2	4220583	25.28	4.6	533	18	0.127	7.91665E-06
L118	HORIZONTAL	661328.2	4220608	25.29	4.6	533	18	0.127	7.91665E-06
L119	HORIZONTAL	661353.2	4220608	25.3	4.6	533	18	0.127	7.91665E-06
L120	HORIZONTAL	661378.2	4220608	25.3	4.6	533	18	0.127	7.91665E-06
L121	HORIZONTAL	661403.2	4220608	25.31	4.6	533	18	0.127	7.91665E-06
L122	HORIZONTAL	661428.2	4220608	25.31	4.6	533	18	0.127	7.91665E-06
L123	HORIZONTAL	661453.2	4220608	25.32	4.6	533	18	0.127	7.91665E-06

APPENDIX A, TABLE 3

AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661131.1	4220389	25.03	25.03
661131.1	4220370	25.08	25.08
661153.4	4220373	25.08	25.08
661175.7	4220375	25.08	25.08
661198	4220377	25.1	25.1
661220.3	4220380	25.11	25.11
661242.6	4220382	25.12	25.12
661264.9	4220384	25.18	25.18
661287.1	4220386	25.13	25.13
661309.4	4220389	24.87	24.87
661332.9	4220391	24.9	24.9
661356.4	4220393	24.95	24.95
661379.9	4220395	24.99	24.99
661403.3	4220397	25.03	25.03
661426.8	4220399	25.03	25.03
661450.3	4220401	25.03	25.03
661473.8	4220403	25.04	25.04
661473.4	4220425	25.05	25.05
661473	4220447	25.12	25.12
661472.5	4220468	25.13	25.13
661472.1	4220490	25.14	25.14
661471.7	4220512	25.18	25.18
661471.3	4220533	25.21	25.21
661470.6	4220555	25.24	25.24
661469.8	4220576	25.28	25.28
661469.1	4220598	25.32	25.32
661468.3	4220619	25.35	25.35

APPENDIX A, TABLE 3

AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661448	4220618	25.34	25.34
661427.7	4220617	25.33	25.33
661407.4	4220616	25.32	25.32
661382.9	4220613	25.3	25.3
661358.4	4220611	25.3	25.3
661333.9	4220609	25.29	25.29
661309.4	4220607	25.29	25.29
661284.9	4220604	25.29	25.29
661260.4	4220602	25.27	25.27
661235.9	4220600	25.26	25.26
661211.4	4220598	25.24	25.24
661186.9	4220595	25.23	25.23
661166.4	4220593	25.2	25.2
661145.9	4220591	25.18	25.18
661125.3	4220589	25.16	25.16
661104.8	4220586	25.15	25.15
661106.1	4220561	25.12	25.12
661107.4	4220537	25.1	25.1
661108.8	4220512	25.07	25.07
661110.1	4220487	25.04	25.04
661111.4	4220462	25	25
661112.8	4220437	24.97	24.97
661114.1	4220413	24.97	24.97
661115.4	4220388	25.02	25.02
661125	4220275	24.77	24.77
661150	4220275	24.76	24.76
661175	4220275	24.73	24.73
661075	4220300	24.81	24.81

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AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661100	4220300	24.87	24.87
661125	4220300	24.89	24.89
661150	4220300	24.89	24.89
661175	4220300	24.87	24.87
661200	4220300	24.83	24.83
661225	4220300	24.77	24.77
661250	4220300	24.68	24.68
661275	4220300	24.56	24.56
661300	4220300	24.53	24.53
661325	4220300	25.42	25.42
661350	4220300	25.47	25.47
661375	4220300	25.48	25.48
661400	4220300	25.47	25.47
661425	4220300	25.49	25.49
661050	4220325	24.78	24.78
661075	4220325	24.88	24.88
661100	4220325	24.97	24.97
661125	4220325	25.01	25.01
661150	4220325	25	25
661175	4220325	24.97	24.97
661200	4220325	24.95	24.95
661225	4220325	24.92	24.92
661250	4220325	24.85	24.85
661275	4220325	24.7	24.7
661300	4220325	24.6	24.6
661325	4220325	25.4	25.4
661350	4220325	25.45	25.45
661375	4220325	25.47	25.47

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AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661400	4220325	25.46	25.46
661425	4220325	25.46	25.46
661450	4220325	25.46	25.46
661475	4220325	25.45	25.45
661500	4220325	25.44	25.44
661525	4220325	25.42	25.42
661025	4220350	24.75	24.75
661050	4220350	24.82	24.82
661075	4220350	24.91	24.91
661100	4220350	25.03	25.03
661125	4220350	25.08	25.08
661150	4220350	25.07	25.07
661175	4220350	25.07	25.07
661200	4220350	25.05	25.05
661225	4220350	25.04	25.04
661250	4220350	25.02	25.02
661275	4220350	24.96	24.96
661300	4220350	24.69	24.69
661325	4220350	25.3	25.3
661350	4220350	25.37	25.37
661375	4220350	25.41	25.41
661400	4220350	25.41	25.41
661425	4220350	25.39	25.39
661450	4220350	25.38	25.38
661475	4220350	25.38	25.38
661500	4220350	25.37	25.37
661525	4220350	25.36	25.36
661550	4220350	25.36	25.36

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AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661025	4220375	24.78	24.78
661050	4220375	24.84	24.84
661075	4220375	24.93	24.93
661100	4220375	25.02	25.02
661125	4220375	25.07	25.07
661200	4220375	25.1	25.1
661225	4220375	25.11	25.11
661250	4220375	25.11	25.11
661275	4220375	25.17	25.17
661300	4220375	24.78	24.78
661325	4220375	25	25
661350	4220375	25.25	25.25
661375	4220375	25.25	25.25
661400	4220375	25.24	25.24
661425	4220375	25.24	25.24
661450	4220375	25.23	25.23
661475	4220375	25.23	25.23
661500	4220375	25.24	25.24
661525	4220375	25.25	25.25
661550	4220375	25.28	25.28
661025	4220400	24.82	24.82
661050	4220400	24.87	24.87
661075	4220400	24.93	24.93
661100	4220400	24.97	24.97
661450	4220400	25.05	25.05
661475	4220400	25.07	25.07
661500	4220400	25.09	25.09
661525	4220400	25.12	25.12

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AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661550	4220400	25.19	25.19
661025	4220425	24.85	24.85
661050	4220425	24.89	24.89
661075	4220425	24.92	24.92
661100	4220425	24.95	24.95
661475	4220425	25.05	25.05
661500	4220425	25.02	25.02
661525	4220425	25.12	25.12
661550	4220425	25.17	25.17
661025	4220450	24.88	24.88
661050	4220450	24.91	24.91
661075	4220450	24.94	24.94
661100	4220450	24.97	24.97
661475	4220450	25.12	25.12
661500	4220450	25.08	25.08
661525	4220450	25.11	25.11
661550	4220450	25.15	25.15
661025	4220475	24.91	24.91
661050	4220475	24.94	24.94
661075	4220475	24.98	24.98
661100	4220475	25	25
661475	4220475	25.12	25.12
661500	4220475	25.1	25.1
661525	4220475	25.13	25.13
661550	4220475	25.18	25.18
661025	4220500	24.94	24.94
661050	4220500	24.98	24.98
661075	4220500	25.01	25.01

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AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661100	4220500	25.04	25.04
661475	4220500	25.16	25.16
661500	4220500	25.15	25.15
661525	4220500	25.18	25.18
661550	4220500	25.22	25.22
661025	4220525	24.98	24.98
661050	4220525	25.02	25.02
661075	4220525	25.05	25.05
661100	4220525	25.08	25.08
661475	4220525	25.2	25.2
661500	4220525	25.2	25.2
661525	4220525	25.23	25.23
661550	4220525	25.27	25.27
661025	4220550	25.02	25.02
661050	4220550	25.05	25.05
661075	4220550	25.08	25.08
661100	4220550	25.11	25.11
661475	4220550	25.24	25.24
661500	4220550	25.24	25.24
661525	4220550	25.28	25.28
661550	4220550	25.31	25.31
661025	4220575	25.06	25.06
661050	4220575	25.09	25.09
661075	4220575	25.11	25.11
661100	4220575	25.13	25.13
661475	4220575	25.28	25.28
661500	4220575	25.29	25.29
661525	4220575	25.32	25.32

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AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661550	4220575	25.35	25.35
661025	4220600	25.09	25.09
661050	4220600	25.12	25.12
661075	4220600	25.14	25.14
661100	4220600	25.16	25.16
661125	4220600	25.17	25.17
661150	4220600	25.2	25.2
661175	4220600	25.22	25.22
661200	4220600	25.24	25.24
661225	4220600	25.24	25.24
661475	4220600	25.33	25.33
661500	4220600	25.34	25.34
661525	4220600	25.37	25.37
661550	4220600	25.39	25.39
661025	4220625	25.12	25.12
661050	4220625	25.14	25.14
661075	4220625	25.17	25.17
661100	4220625	25.19	25.19
661125	4220625	25.21	25.21
661150	4220625	25.23	25.23
661175	4220625	25.24	25.24
661200	4220625	25.25	25.25
661225	4220625	25.26	25.26
661250	4220625	25.28	25.28
661275	4220625	25.3	25.3
661300	4220625	25.3	25.3
661325	4220625	25.31	25.31
661350	4220625	25.31	25.31

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AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661375	4220625	25.31	25.31
661400	4220625	25.33	25.33
661425	4220625	25.34	25.34
661450	4220625	25.35	25.35
661475	4220625	25.37	25.37
661500	4220625	25.38	25.38
661525	4220625	25.41	25.41
661550	4220625	25.44	25.44
661050	4220650	25.17	25.17
661075	4220650	25.19	25.19
661100	4220650	25.22	25.22
661125	4220650	25.23	25.23
661150	4220650	25.24	25.24
661175	4220650	25.26	25.26
661200	4220650	25.28	25.28
661225	4220650	25.29	25.29
661250	4220650	25.3	25.3
661275	4220650	25.31	25.31
661300	4220650	25.32	25.32
661325	4220650	25.32	25.32
661350	4220650	25.33	25.33
661375	4220650	25.34	25.34
661400	4220650	25.35	25.35
661425	4220650	25.37	25.37
661450	4220650	25.39	25.39
661475	4220650	25.41	25.41
661500	4220650	25.43	25.43
661525	4220650	25.47	25.47

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AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661550	4220650	25.51	25.51
661075	4220675	25.21	25.21
661100	4220675	25.23	25.23
661125	4220675	25.25	25.25
661150	4220675	25.27	25.27
661175	4220675	25.29	25.29
661200	4220675	25.31	25.31
661225	4220675	25.32	25.32
661250	4220675	25.32	25.32
661275	4220675	25.33	25.33
661300	4220675	25.33	25.33
661325	4220675	25.34	25.34
661350	4220675	25.35	25.35
661375	4220675	25.37	25.37
661400	4220675	25.39	25.39
661425	4220675	25.41	25.41
661450	4220675	25.44	25.44
661475	4220675	25.45	25.45
661500	4220675	25.47	25.47
661525	4220675	25.52	25.52
661550	4220675	25.56	25.56
661250	4220700	25.35	25.35
661275	4220700	25.35	25.35
661300	4220700	25.35	25.35
661325	4220700	25.36	25.36
661350	4220700	25.38	25.38
661375	4220700	25.4	25.4
661400	4220700	25.42	25.42

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PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661425	4220700	25.45	25.45
661450	4220700	25.48	25.48
661475	4220700	25.5	25.5
661500	4220700	25.52	25.52
661525	4220700	25.57	25.57
661050	4220150	24.24	24.24
661100	4220150	24.22	24.22
661150	4220150	24.2	24.2
661200	4220150	24.15	24.15
661250	4220150	24.16	24.16
661300	4220150	24.17	24.17
661350	4220150	24.51	24.51
661400	4220150	24.91	24.91
660950	4220200	24.34	24.34
661000	4220200	24.37	24.37
661050	4220200	24.4	24.4
661100	4220200	24.4	24.4
661150	4220200	24.37	24.37
661200	4220200	24.31	24.31
661250	4220200	24.26	24.26
661300	4220200	24.28	24.28
661350	4220200	25	25
661400	4220200	25.18	25.18
661450	4220200	25.37	25.37
661500	4220200	25.46	25.46
661550	4220200	25.47	25.47
661600	4220200	25.6	25.6
660950	4220250	24.43	24.43

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AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661000	4220250	24.5	24.5
661050	4220250	24.57	24.57
661100	4220250	24.63	24.63
661150	4220250	24.61	24.61
661200	4220250	24.53	24.53
661250	4220250	24.43	24.43
661300	4220250	24.37	24.37
661350	4220250	25.31	25.31
661400	4220250	25.35	25.35
661450	4220250	25.46	25.46
661500	4220250	25.49	25.49
661550	4220250	25.49	25.49
661600	4220250	25.5	25.5
661650	4220250	25.45	25.45
660900	4220300	24.46	24.46
660950	4220300	24.52	24.52
661000	4220300	24.61	24.61
661050	4220300	24.73	24.73
661450	4220300	25.49	25.49
661500	4220300	25.47	25.47
661550	4220300	25.46	25.46
661600	4220300	25.43	25.43
661650	4220300	25.4	25.4
661700	4220300	25.33	25.33
660900	4220350	24.54	24.54
660950	4220350	24.6	24.6
661000	4220350	24.69	24.69
661600	4220350	25.35	25.35

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PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661650	4220350	25.31	25.31
661700	4220350	25.31	25.31
660900	4220400	24.62	24.62
660950	4220400	24.69	24.69
661000	4220400	24.78	24.78
661600	4220400	25.24	25.24
661650	4220400	25.23	25.23
661700	4220400	25.18	25.18
660900	4220450	24.7	24.7
660950	4220450	24.78	24.78
661000	4220450	24.84	24.84
661600	4220450	25.2	25.2
661650	4220450	25.25	25.25
661700	4220450	25.23	25.23
660900	4220500	24.78	24.78
660950	4220500	24.85	24.85
661000	4220500	24.91	24.91
661600	4220500	25.28	25.28
661650	4220500	25.3	25.3
661700	4220500	25.32	25.32
660900	4220550	24.84	24.84
660950	4220550	24.91	24.91
661000	4220550	24.98	24.98
661600	4220550	25.39	25.39
661650	4220550	25.45	25.45
661700	4220550	25.49	25.49
660900	4220600	24.91	24.91
660950	4220600	24.98	24.98

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AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661000	4220600	25.05	25.05
661600	4220600	25.47	25.47
661650	4220600	25.54	25.54
661700	4220600	25.66	25.66
660900	4220650	24.96	24.96
660950	4220650	25.05	25.05
661000	4220650	25.12	25.12
661600	4220650	25.59	25.59
661650	4220650	25.68	25.68
661700	4220650	25.8	25.8
660900	4220700	25.02	25.02
660950	4220700	25.11	25.11
661000	4220700	25.16	25.16
661050	4220700	25.21	25.21
661100	4220700	25.26	25.26
661150	4220700	25.3	25.3
661200	4220700	25.33	25.33
661550	4220700	25.61	25.61
661600	4220700	25.69	25.69
661650	4220700	25.75	25.75
661700	4220700	25.88	25.88
660950	4220750	25.14	25.14
661000	4220750	25.19	25.19
661050	4220750	25.26	25.26
661100	4220750	25.31	25.31
661150	4220750	25.35	25.35
661200	4220750	25.38	25.38
661250	4220750	25.39	25.39

APPENDIX A, TABLE 3

AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661300	4220750	25.41	25.41
661350	4220750	25.44	25.44
661400	4220750	25.49	25.49
661450	4220750	25.56	25.56
661500	4220750	25.62	25.62
661550	4220750	25.69	25.69
661600	4220750	25.76	25.76
661650	4220750	25.83	25.83
661000	4220800	25.25	25.25
661050	4220800	25.3	25.3
661100	4220800	25.35	25.35
661150	4220800	25.4	25.4
661200	4220800	25.42	25.42
661250	4220800	25.45	25.45
661300	4220800	25.48	25.48
661350	4220800	25.51	25.51
661400	4220800	25.58	25.58
661450	4220800	25.65	25.65
661500	4220800	25.71	25.71
661550	4220800	25.78	25.78
661600	4220800	25.86	25.86
661250	4220850	25.51	25.51
661300	4220850	25.56	25.56
661350	4220850	25.62	25.62
661400	4220850	25.68	25.68
661450	4220850	25.75	25.75
661500	4220850	25.82	25.82
661550	4220850	25.9	25.9

APPENDIX A, TABLE 3

AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661000	4219900	23.89	23.89
661100	4219900	23.82	23.82
661200	4219900	23.74	23.74
661300	4219900	23.7	23.7
661400	4219900	23.64	23.64
660800	4220000	24	24
660900	4220000	24.03	24.03
661000	4220000	23.98	23.98
661100	4220000	23.91	23.91
661200	4220000	23.86	23.86
661300	4220000	23.88	23.88
661400	4220000	23.61	23.61
661500	4220000	23.86	23.86
661600	4220000	24.77	24.77
661700	4220000	25.11	25.11
660800	4220100	24.09	24.09
660900	4220100	24.14	24.14
661000	4220100	24.15	24.15
661100	4220100	24.09	24.09
661200	4220100	24.04	24.04
661300	4220100	24.07	24.07
661400	4220100	24.33	24.33
661500	4220100	24.66	24.66
661600	4220100	23.03	24.6
661700	4220100	25.3	25.3
661800	4220100	25.45	25.45
660700	4220200	24.08	24.08
660800	4220200	24.21	24.21

APPENDIX A, TABLE 3

AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
660900	4220200	24.3	24.3
661700	4220200	23.46	25.14
661800	4220200	25.27	25.27
661900	4220200	25.54	25.54
660700	4220300	24.16	24.16
660800	4220300	24.33	24.33
661800	4220300	24.75	24.75
661900	4220300	25.5	25.5
660700	4220400	24.27	24.27
660800	4220400	24.44	24.44
661800	4220400	23.14	23.14
661900	4220400	24.75	25.24
660700	4220500	24.33	24.33
660800	4220500	24.58	24.58
661800	4220500	25.25	25.25
661900	4220500	25.24	25.24
660700	4220600	24.43	24.43
660800	4220600	24.71	24.71
661800	4220600	26.07	26.07
661900	4220600	26.19	26.19
660700	4220700	24.52	24.52
660800	4220700	24.82	24.82
661800	4220700	26.41	26.41
661900	4220700	26.64	26.64
660700	4220800	24.65	24.65
660800	4220800	24.95	24.95
660900	4220800	25.13	25.13
661700	4220800	26.02	26.02

APPENDIX A, TABLE 3

AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661800	4220800	26.47	26.47
661900	4220800	26.62	26.62
660800	4220900	25.1	25.1
660900	4220900	25.26	25.26
661000	4220900	25.36	25.36
661100	4220900	25.43	25.43
661200	4220900	25.52	25.52
661300	4220900	25.64	25.64
661400	4220900	25.8	25.8
661500	4220900	25.97	25.97
661600	4220900	26.11	26.11
661700	4220900	26.22	26.22
661800	4220900	26.47	26.47
660900	4221000	25.34	25.34
661000	4221000	25.38	25.38
661100	4221000	25.44	25.44
661200	4221000	25.59	25.59
661300	4221000	25.8	25.8
661400	4221000	25.99	25.99
661500	4221000	26.16	26.16
661600	4221000	26.34	26.34
661700	4221000	26.44	26.44
661300	4221100	25.71	25.71
661400	4221100	25.96	25.96
661500	4221100	26.14	26.14
661600	4221100	26.32	26.32
660750	4219500	22.87	22.87
661000	4219500	23.86	23.86

APPENDIX A, TABLE 3

AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661250	4219500	24.12	24.12
661500	4219500	24.09	24.09
661750	4219500	24.28	24.28
660500	4219750	23.49	23.49
660750	4219750	23.74	23.74
661000	4219750	23.78	23.78
661250	4219750	24.01	24.01
661500	4219750	24.32	24.32
661750	4219750	24.36	24.36
662000	4219750	24.67	24.67
660250	4220000	20.18	22.99
660500	4220000	23.76	23.76
660750	4220000	23.98	23.98
662000	4220000	25.58	25.58
662250	4220000	25.78	25.78
660250	4220250	20.27	23.66
660500	4220250	23.87	23.87
662000	4220250	26.01	26.01
662250	4220250	26.3	26.3
660250	4220500	23.81	23.81
660500	4220500	23.93	23.93
662000	4220500	25.24	25.24
662250	4220500	23.45	23.45
660250	4220750	24.57	24.57
660500	4220750	23.72	23.72
662000	4220750	26.28	26.28
662250	4220750	25.42	25.42
660250	4221000	25.03	25.03

APPENDIX A, TABLE 3

AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
660500	4221000	23.15	23.15
660750	4221000	25.1	25.1
662000	4221000	26.21	26.21
662250	4221000	26	26
660500	4221250	23.86	23.86
660750	4221250	23.43	23.43
661000	4221250	23.8	23.8
661250	4221250	24.67	24.67
661500	4221250	25.93	25.93
661750	4221250	26.46	26.46
662000	4221250	26.54	26.54
660750	4221500	25.44	25.44
661000	4221500	23.33	25.08
661250	4221500	25.75	25.75
661500	4221500	26.82	26.82
661750	4221500	26.53	26.53
660500	4218500	22.53	22.53
661000	4218500	22.47	22.47
661500	4218500	23.17	23.17
662000	4218500	23.61	23.61
660000	4219000	22.61	22.61
660500	4219000	22.65	22.65
661000	4219000	22.79	22.79
661500	4219000	23.81	23.81
662000	4219000	24.48	24.48
662500	4219000	25.41	25.41
659500	4219500	22.09	22.09
660000	4219500	22.42	22.42

APPENDIX A, TABLE 3

AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
660500	4219500	23.13	23.13
662000	4219500	24.1	24.1
662500	4219500	25.55	25.55
663000	4219500	26.89	26.89
659500	4220000	22.83	22.83
660000	4220000	23.53	23.53
662500	4220000	26.6	26.6
663000	4220000	25.51	25.51
659500	4220500	23.31	23.31
660000	4220500	23.85	23.85
662500	4220500	26.8	26.8
663000	4220500	26.99	26.99
659500	4221000	23.91	23.91
660000	4221000	24.63	24.63
662500	4221000	25.34	25.34
663000	4221000	28.03	28.03
659500	4221500	24.43	24.43
660000	4221500	25.03	25.03
660500	4221500	25.25	25.25
662000	4221500	27.14	27.14
662500	4221500	27.65	27.65
663000	4221500	28.02	28.02
660000	4222000	25.23	25.23
660500	4222000	25.19	25.19
661000	4222000	26.63	26.63
661500	4222000	26.63	26.63
662000	4222000	26.55	26.55
662500	4222000	27.89	27.89

APPENDIX A, TABLE 3

AERMOD Receptor – Thurman / Guild

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
661000	4222500	27.05	27.05
661500	4222500	27.2	27.2
662000	4222500	27.43	27.43

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653206.9	4221620	18.02	18.02
653213.4	4221603	17.97	17.97
653212.9	4221581	17.79	17.79
653212.4	4221559	17.73	17.73
653211.9	4221537	17.76	17.76
653233.9	4221536	17.71	17.71
653256	4221536	17.75	17.75
653278.1	4221535	17.83	17.83
653300.1	4221535	17.89	17.89
653322.2	4221534	18.03	18.03
653344.3	4221534	18.08	18.08
653366.3	4221534	18.2	18.2
653390.4	4221534	18.23	18.23
653414.5	4221534	18.27	18.27
653438.5	4221534	18.34	18.34
653462.6	4221534	18.34	18.34
653486.7	4221534	18.43	18.43
653492.9	4221555	18.43	18.43
653499.1	4221577	18.44	18.44
653505.3	4221599	18.43	18.43
653511.5	4221620	18.52	18.52
653519.9	4221642	18.53	18.53
653528.2	4221664	18.42	18.42
653536.5	4221685	18.47	18.47
653545.4	4221703	18.54	18.54
653548.3	4221721	18.38	18.38
653524.4	4221722	18.33	18.33
653500.5	4221723	18.33	18.33

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653476.5	4221724	18.32	18.32
653452.6	4221725	18.23	18.23
653428.7	4221726	18.21	18.21
653404.7	4221727	18.18	18.18
653380.8	4221728	18.11	18.11
653356.8	4221729	18.14	18.14
653332.9	4221730	18.07	18.07
653309	4221731	18.12	18.12
653306.2	4221712	18.1	18.1
653306.1	4221691	18.14	18.14
653306	4221669	18.16	18.16
653286.8	4221669	18.15	18.15
653267.6	4221669	18.13	18.13
653267.4	4221644	18.1	18.1
653267.1	4221620	18.09	18.09
653247	4221620	18.09	18.09
653227	4221620	18.07	18.07
653175	4221450	18.01	18.01
653200	4221450	18.07	18.07
653225	4221450	18.14	18.14
653250	4221450	18.21	18.21
653275	4221450	18.2	18.2
653300	4221450	18.2	18.2
653325	4221450	18.22	18.22
653350	4221450	18.33	18.33
653375	4221450	18.4	18.4
653400	4221450	18.36	18.36
653425	4221450	18.36	18.36

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653450	4221450	18.39	18.39
653475	4221450	18.42	18.42
653500	4221450	18.53	18.53
653525	4221450	18.53	18.53
653150	4221475	18.02	18.02
653175	4221475	18	18
653200	4221475	18.11	18.11
653225	4221475	18.17	18.17
653250	4221475	18.19	18.19
653275	4221475	18.2	18.2
653300	4221475	18.2	18.2
653325	4221475	18.15	18.15
653350	4221475	18.21	18.21
653375	4221475	18.2	18.2
653400	4221475	18.33	18.33
653425	4221475	18.43	18.43
653450	4221475	18.43	18.43
653475	4221475	18.43	18.43
653500	4221475	18.53	18.53
653525	4221475	18.53	18.53
653550	4221475	18.58	18.58
653125	4221500	17.89	17.89
653150	4221500	17.97	17.97
653175	4221500	17.98	17.98
653200	4221500	17.99	17.99
653225	4221500	17.99	17.99
653250	4221500	18	18
653275	4221500	18.08	18.08

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653300	4221500	18.13	18.13
653325	4221500	18.15	18.15
653350	4221500	18.19	18.19
653375	4221500	18.21	18.21
653400	4221500	18.29	18.29
653425	4221500	18.34	18.34
653450	4221500	18.45	18.45
653475	4221500	18.43	18.43
653500	4221500	18.54	18.54
653525	4221500	18.53	18.53
653550	4221500	18.53	18.53
653575	4221500	18.63	18.63
653125	4221525	17.93	17.93
653150	4221525	17.97	17.97
653175	4221525	17.88	17.88
653200	4221525	17.78	17.78
653225	4221525	17.79	17.79
653250	4221525	17.81	17.81
653275	4221525	17.86	17.86
653300	4221525	17.95	17.95
653325	4221525	18.06	18.06
653350	4221525	18.1	18.1
653375	4221525	18.22	18.22
653400	4221525	18.23	18.23
653425	4221525	18.33	18.33
653450	4221525	18.33	18.33
653475	4221525	18.38	18.38
653500	4221525	18.49	18.49

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653525	4221525	18.53	18.53
653550	4221525	18.53	18.53
653575	4221525	18.63	18.63
653125	4221550	17.99	17.99
653150	4221550	18.02	18.02
653175	4221550	17.8	17.8
653200	4221550	17.78	17.78
653500	4221550	18.43	18.43
653525	4221550	18.39	18.39
653550	4221550	18.55	18.55
653575	4221550	18.6	18.6
653125	4221575	18.16	18.16
653150	4221575	18.11	18.11
653175	4221575	17.86	17.86
653200	4221575	17.82	17.82
653500	4221575	18.43	18.43
653525	4221575	18.43	18.43
653550	4221575	18.43	18.43
653575	4221575	18.45	18.45
653600	4221575	18.6	18.6
653125	4221600	18.22	18.22
653150	4221600	18.16	18.16
653175	4221600	17.97	17.97
653200	4221600	17.93	17.93
653525	4221600	18.42	18.42
653550	4221600	18.45	18.45
653575	4221600	18.42	18.42
653600	4221600	18.43	18.43

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653125	4221625	18.15	18.15
653150	4221625	18.15	18.15
653175	4221625	18.05	18.05
653200	4221625	18.03	18.03
653225	4221625	18.11	18.11
653250	4221625	18.13	18.13
653525	4221625	18.53	18.53
653550	4221625	18.53	18.53
653575	4221625	18.53	18.53
653600	4221625	18.53	18.53
653125	4221650	18.13	18.13
653150	4221650	18.05	18.05
653175	4221650	18.04	18.04
653200	4221650	18.02	18.02
653225	4221650	18.08	18.08
653250	4221650	18.1	18.1
653525	4221650	18.47	18.47
653550	4221650	18.53	18.53
653575	4221650	18.53	18.53
653600	4221650	18.52	18.52
653625	4221650	18.56	18.56
653125	4221675	18.13	18.13
653150	4221675	18.05	18.05
653175	4221675	17.99	17.99
653200	4221675	18.09	18.09
653225	4221675	18.08	18.08
653250	4221675	18.08	18.08
653275	4221675	18.16	18.16

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AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653300	4221675	18.14	18.14
653550	4221675	18.53	18.53
653575	4221675	18.53	18.53
653600	4221675	18.63	18.63
653625	4221675	18.63	18.63
653150	4221700	18.19	18.19
653175	4221700	18.07	18.07
653200	4221700	18.05	18.05
653225	4221700	18.11	18.11
653250	4221700	18.12	18.12
653275	4221700	18.15	18.15
653300	4221700	18.13	18.13
653550	4221700	18.54	18.54
653575	4221700	18.56	18.56
653600	4221700	18.63	18.63
653625	4221700	18.65	18.65
653200	4221725	18.05	18.05
653225	4221725	18.04	18.04
653250	4221725	18.11	18.11
653275	4221725	18.12	18.12
653300	4221725	18.08	18.08
653475	4221725	18.32	18.32
653500	4221725	18.33	18.33
653525	4221725	18.33	18.33
653550	4221725	18.39	18.39
653575	4221725	18.42	18.42
653600	4221725	18.53	18.53
653625	4221725	18.53	18.53

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653225	4221750	18.04	18.04
653250	4221750	18.07	18.07
653275	4221750	18.12	18.12
653300	4221750	18.12	18.12
653325	4221750	18.19	18.19
653350	4221750	18.08	18.08
653375	4221750	18.12	18.12
653400	4221750	18.19	18.19
653425	4221750	18.18	18.18
653450	4221750	18.24	18.24
653475	4221750	18.26	18.26
653500	4221750	18.29	18.29
653525	4221750	18.33	18.33
653550	4221750	18.36	18.36
653575	4221750	18.43	18.43
653600	4221750	18.49	18.49
653625	4221750	18.53	18.53
653225	4221775	18.04	18.04
653250	4221775	18.08	18.08
653275	4221775	18.1	18.1
653300	4221775	18.13	18.13
653325	4221775	18.13	18.13
653350	4221775	18.18	18.18
653375	4221775	18.15	18.15
653400	4221775	18.19	18.19
653425	4221775	18.17	18.17
653450	4221775	18.24	18.24
653475	4221775	18.22	18.22

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653500	4221775	18.23	18.23
653525	4221775	18.33	18.33
653550	4221775	18.33	18.33
653575	4221775	18.43	18.43
653600	4221775	18.49	18.49
653625	4221775	18.53	18.53
653250	4221800	18.07	18.07
653275	4221800	18.08	18.08
653300	4221800	18.1	18.1
653325	4221800	18.13	18.13
653350	4221800	18.16	18.16
653375	4221800	18.23	18.23
653400	4221800	18.19	18.19
653425	4221800	18.18	18.18
653450	4221800	18.12	18.12
653475	4221800	18.19	18.19
653500	4221800	18.23	18.23
653525	4221800	18.32	18.32
653550	4221800	18.36	18.36
653575	4221800	18.43	18.43
653600	4221800	18.49	18.49
653300	4221825	18.07	18.07
653325	4221825	18.13	18.13
653350	4221825	18.11	18.11
653375	4221825	18.23	18.23
653400	4221825	18.2	18.2
653425	4221825	18.19	18.19
653450	4221825	18.04	18.04

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653150	4221300	17.57	17.57
653200	4221300	17.71	17.71
653250	4221300	17.97	17.97
653300	4221300	18.18	18.18
653350	4221300	18.1	18.1
653400	4221300	18.09	18.09
653450	4221300	18.33	18.33
653500	4221300	18.52	18.52
653550	4221300	18.59	18.59
653050	4221350	17.34	17.34
653100	4221350	17.56	17.56
653150	4221350	17.67	17.67
653200	4221350	17.81	17.81
653250	4221350	18.03	18.03
653300	4221350	18.13	18.13
653350	4221350	18.33	18.33
653400	4221350	18.2	18.2
653450	4221350	18.3	18.3
653500	4221350	18.44	18.44
653550	4221350	18.54	18.54
653600	4221350	18.64	18.64
653650	4221350	18.69	18.69
653050	4221400	17.46	17.46
653100	4221400	17.73	17.73
653150	4221400	17.74	17.74
653200	4221400	17.88	17.88
653250	4221400	18.03	18.03
653300	4221400	18.12	18.12

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653350	4221400	18.21	18.21
653400	4221400	18.22	18.22
653450	4221400	18.33	18.33
653500	4221400	18.48	18.48
653550	4221400	18.59	18.59
653600	4221400	18.63	18.63
653650	4221400	18.73	18.73
653000	4221450	17.25	17.25
653050	4221450	17.62	17.62
653100	4221450	17.88	17.88
653150	4221450	17.95	17.95
653550	4221450	18.59	18.59
653600	4221450	18.66	18.66
653650	4221450	18.8	18.8
653700	4221450	18.73	18.73
653000	4221500	17.22	17.22
653050	4221500	17.59	17.59
653100	4221500	17.76	17.76
653600	4221500	18.63	18.63
653650	4221500	18.74	18.74
653700	4221500	18.83	18.83
653000	4221550	17.09	17.09
653050	4221550	17.46	17.46
653100	4221550	17.74	17.74
653600	4221550	18.63	18.63
653650	4221550	18.73	18.73
653700	4221550	18.79	18.79
653750	4221550	18.93	18.93

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653000	4221600	16.72	16.72
653050	4221600	17.26	17.26
653100	4221600	17.9	17.9
653650	4221600	18.67	18.67
653700	4221600	18.73	18.73
653750	4221600	18.86	18.86
653000	4221650	16.73	16.73
653050	4221650	17.21	17.21
653100	4221650	17.81	17.81
653650	4221650	18.63	18.63
653700	4221650	18.73	18.73
653750	4221650	18.66	18.66
653000	4221700	16.69	16.69
653050	4221700	17.32	17.32
653100	4221700	17.99	17.99
653650	4221700	18.71	18.71
653700	4221700	18.65	18.65
653750	4221700	18.53	18.53
653000	4221750	16.5	16.5
653050	4221750	17.28	17.28
653100	4221750	18.07	18.07
653150	4221750	18.47	18.47
653200	4221750	18.06	18.06
653650	4221750	18.53	18.53
653700	4221750	18.43	18.43
653750	4221750	18.53	18.53
653050	4221800	17.15	17.15
653100	4221800	17.9	17.9

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653150	4221800	18.53	18.53
653200	4221800	18.22	18.22
653650	4221800	18.33	18.33
653700	4221800	18.33	18.33
653750	4221800	18.57	18.57
653100	4221850	17.65	17.65
653150	4221850	18.27	18.27
653200	4221850	18.4	18.4
653250	4221850	18.04	18.04
653300	4221850	18.06	18.06
653350	4221850	18.09	18.09
653400	4221850	18.21	18.21
653450	4221850	18.04	18.04
653500	4221850	18.22	18.22
653550	4221850	18.3	18.3
653600	4221850	18.23	18.23
653650	4221850	18.26	18.26
653700	4221850	18.41	18.41
653750	4221850	18.51	18.51
653150	4221900	18.01	18.01
653200	4221900	18.36	18.36
653250	4221900	18.17	18.17
653300	4221900	17.96	17.96
653350	4221900	18.04	18.04
653400	4221900	18.04	18.04
653450	4221900	18.02	18.02
653500	4221900	18.15	18.15
653550	4221900	18.06	18.06

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653600	4221900	18.13	18.13
653650	4221900	18.25	18.25
653700	4221900	18.37	18.37
653200	4221950	18.29	18.29
653250	4221950	18.23	18.23
653300	4221950	18.07	18.07
653350	4221950	18.01	18.01
653400	4221950	17.85	17.85
653450	4221950	17.9	17.9
653500	4221950	17.93	17.93
653550	4221950	18.03	18.03
653600	4221950	18.08	18.08
653000	4221100	17.44	17.44
653100	4221100	17.43	17.43
653200	4221100	17.54	17.54
653300	4221100	17.75	17.75
653400	4221100	17.99	17.99
653500	4221100	18.15	18.15
653600	4221100	18.23	18.23
653700	4221100	18.43	18.43
652900	4221200	17.45	17.45
653000	4221200	17.36	17.36
653100	4221200	17.35	17.35
653200	4221200	17.62	17.62
653300	4221200	17.84	17.84
653400	4221200	18.22	18.22
653500	4221200	18.4	18.4
653600	4221200	18.38	18.38

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653700	4221200	18.54	18.54
653800	4221200	18.73	18.73
652800	4221300	17.04	17.04
652900	4221300	17.11	17.11
653000	4221300	17.12	17.12
653100	4221300	17.38	17.38
653600	4221300	18.59	18.59
653700	4221300	18.64	18.64
653800	4221300	18.8	18.8
653900	4221300	18.92	18.92
652800	4221400	16.22	16.22
652900	4221400	16.82	16.82
653000	4221400	17.24	17.24
653700	4221400	18.73	18.73
653800	4221400	18.83	18.83
653900	4221400	18.83	18.83
652800	4221500	16.22	16.22
652900	4221500	16.71	16.71
653800	4221500	18.83	18.83
653900	4221500	18.89	18.89
654000	4221500	19.03	19.03
652800	4221600	16.22	16.22
652900	4221600	16.35	16.35
653800	4221600	18.73	18.73
653900	4221600	18.94	18.94
654000	4221600	19.03	19.03
652800	4221700	15.95	15.95
652900	4221700	15.95	15.95

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653800	4221700	18.73	18.73
653900	4221700	19.03	19.03
654000	4221700	19.03	19.03
652800	4221800	15.95	15.95
652900	4221800	15.95	15.95
653000	4221800	16.38	16.38
653800	4221800	18.73	18.73
653900	4221800	18.83	18.83
654000	4221800	19.04	19.04
652800	4221900	15.95	15.95
652900	4221900	15.95	15.95
653000	4221900	15.96	15.96
653100	4221900	17.35	17.35
653800	4221900	18.63	18.63
653900	4221900	18.83	18.83
654000	4221900	19.04	19.04
652900	4222000	15.95	15.95
653000	4222000	15.95	15.95
653100	4222000	16.9	16.9
653200	4222000	18.03	18.03
653300	4222000	18.11	18.11
653400	4222000	17.79	17.79
653500	4222000	17.92	17.92
653600	4222000	18.05	18.05
653700	4222000	18.33	18.33
653800	4222000	18.63	18.63
653900	4222000	18.83	18.83
653000	4222100	15.95	15.95

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653100	4222100	16.4	16.4
653200	4222100	17.37	17.37
653300	4222100	17.79	17.79
653400	4222100	17.71	17.71
653500	4222100	17.83	17.83
653600	4222100	18.03	18.03
653700	4222100	18.33	18.33
653800	4222100	18.53	18.53
653200	4222200	17.02	17.02
653300	4222200	17.57	17.57
653400	4222200	17.66	17.66
653500	4222200	17.71	17.71
653600	4222200	18.01	18.01
652750	4220750	17.4	17.4
653000	4220750	17.61	17.61
653250	4220750	17.43	17.43
653500	4220750	17.58	17.58
653750	4220750	18.02	18.02
654000	4220750	18.51	18.51
652500	4221000	16.52	16.52
652750	4221000	17.4	17.4
653000	4221000	17.4	17.4
653250	4221000	17.6	17.6
653500	4221000	17.95	17.95
653750	4221000	18.34	18.34
654000	4221000	18.79	18.79
654250	4221000	19.02	19.02
652500	4221250	16.59	16.59

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
652750	4221250	17.49	17.49
654000	4221250	19.02	19.02
654250	4221250	19.04	19.04
652250	4221500	15.95	15.95
652500	4221500	15.95	15.95
654250	4221500	19.33	19.33
654500	4221500	19.46	19.46
652250	4221750	15.95	15.95
652500	4221750	15.95	15.95
654250	4221750	19.43	19.43
654500	4221750	19.73	19.73
652500	4222000	15.95	15.95
652750	4222000	15.95	15.95
654000	4222000	19.09	19.09
654250	4222000	19.44	19.44
654500	4222000	19.83	19.83
652500	4222250	15.95	15.95
652750	4222250	15.95	15.95
653000	4222250	15.95	15.95
653250	4222250	17.36	17.36
653500	4222250	17.63	17.63
653750	4222250	18.45	18.45
654000	4222250	19.13	19.13
654250	4222250	19.56	19.56
652750	4222500	15.95	15.95
653000	4222500	15.95	15.95
653250	4222500	17.38	17.38
653500	4222500	17.74	17.74

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
653750	4222500	18.77	18.77
654000	4222500	19.23	19.23
652000	4220000	15.11	15.11
652500	4220000	16.01	16.01
653000	4220000	16.64	16.64
653500	4220000	17.05	17.05
654000	4220000	17.66	17.66
654500	4220000	18.18	18.18
652000	4220500	15.4	15.4
652500	4220500	16.44	16.44
653000	4220500	17.88	17.88
653500	4220500	17.42	17.42
654000	4220500	18.19	18.19
654500	4220500	18.66	18.66
655000	4220500	19.19	19.19
651500	4221000	14.5	14.5
652000	4221000	15.29	15.29
654500	4221000	19.11	19.11
655000	4221000	19.72	19.72
651500	4221500	14.89	14.89
652000	4221500	15.75	15.75
655000	4221500	20.21	20.21
655500	4221500	20.53	20.53
651500	4222000	15.35	15.35
652000	4222000	15.75	15.75
655000	4222000	20.59	20.59
655500	4222000	20.63	20.63
651500	4222500	15.95	15.95

APPENDIX A, TABLE 4

AERMOD Receptor - Lockeford

PG&E: Northern San Joaquin 230 kV Transmission Project

East (x) (m)	North (y) (m)	Elevation (m)	Terrain Max (m)
652000	4222500	16	16
652500	4222500	15.95	15.95
654500	4222500	20.33	20.33
655000	4222500	20.73	20.73
652000	4223000	16.19	16.19
652500	4223000	19.14	19.14
653000	4223000	16.93	16.93
653500	4223000	18.04	18.04
654000	4223000	18.86	18.86
654500	4223000	20.07	20.07
655000	4223000	20.54	20.54
652500	4223500	17.85	17.85
653000	4223500	16.86	16.86
653500	4223500	16.36	16.36
654000	4223500	15.54	15.54

Appendix B

HRA Calculations

Appendix B Table 1
Cancer Impacts due to Diesel Particulate Matter - PG&E Thurman Switching Station
PG&E: Northern San Joaquin 230 kV Transmission Project

Modeled Concentrations
Maximum annual impact of annualized project emissions

				Receptor Location	
				East (x, meters)	North (y, meters)
MEIR	0.00879	$\mu g/m^3$	Diesel PM	653,900.00	4,221,700.00
Sensitive	0.00284	$\mu g/m^3$	Diesel PM	652,500.00	4,221,500.00
MEIW	0.07181	$\mu g/m^3$	Diesel PM	653,525.00	4,221,575.00

All locations expressed in UTM NAD83 Zone 10 projection and datum.
Sensitive receptor based on highest receptor concentration near Heritage Elementary School

Construction HRA per the 2015 OEHHA Guidance
Residential Calculation Procedure for Cancer Risks

MEIR

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	3.05E-06	9.20E-06	9.20E-06	7.27E-06	7.27E-06	7.27E-06	7.27E-06	7.27E-06	7.27E-06	6.29E-06	6.29E-06	6.29E-06	6.29E-06	6.29E-06	6.29E-06	6.29E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06	2.83E-06
Risk	1.02E-07	1.23E-06	1.23E-06	2.47E-07	2.47E-07	2.47E-07	2.47E-07	2.47E-07	2.47E-07	2.13E-07	2.13E-07	2.13E-07	2.13E-07	2.13E-07	2.13E-07	2.13E-07	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08
1-yr Risk	1.02E-07	1.23E-06	1.23E-06	2.47E-07	2.47E-07	2.47E-07	2.47E-07	2.47E-07	2.47E-07	2.13E-07	2.13E-07	2.13E-07	2.13E-07	2.13E-07	2.13E-07	2.13E-07	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08	3.24E-08
Risk per Million	0.10	1.23	1.23	0.25	0.25	0.25	0.25	0.25	0.25	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03

Sensitive

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	9.84E-07	2.97E-06	2.97E-06	2.35E-06	2.35E-06	2.35E-06	2.35E-06	2.35E-06	2.35E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	2.03E-06	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07	9.13E-07
Risk	3.29E-08	3.97E-07	3.97E-07	7.97E-08	7.97E-08	7.97E-08	7.97E-08	7.97E-08	7.97E-08	6.89E-08	6.89E-08	6.89E-08	6.89E-08	6.89E-08	6.89E-08	6.89E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08
1-yr Risk	3.29E-08	3.97E-07	3.97E-07	7.97E-08	7.97E-08	7.97E-08	7.97E-08	7.97E-08	7.97E-08	6.89E-08	6.89E-08	6.89E-08	6.89E-08	6.89E-08	6.89E-08	6.89E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08	1.05E-08
Risk per Million	0.03	0.40	0.40	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Worker Calculation Procedure for Cancer Risks

MEIW

Year	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Dose (mg/kg/day)	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05	1.12E-05
Risk	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07
1-yr Risk	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07	1.76E-07
Risk per Million	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18

Appendix B Table 2

Chronic Impacts due to Diesel Particulate Matter - PG&E Thurman Switching Station

PG&E: Northern San Joaquin 230 kV Transmission Project

Construction HRA per the 2015 OEHHA Guidance

Calculation Procedure for Chronic Hazard Index

Receptor Type	Pollutant	Maximum Annual Modeled Concentration ($\mu g/m^3$) [a]	REL ($\mu g/m^3$) [b]	Chronic Hazard Index
MEIR	Diesel PM	0.00879	5	0.0018
Sensitive	Diesel PM	0.00284	5	0.0006
MEIW	Diesel PM	0.07181	5	0.0144

Notes:

[a] Maximum Annual Modeled Concentrations taken from Appendix B, Table 1.

[b] REL taken from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* (OEHHA and ARB, 2020).

Appendix B Table 3

Cancer Impacts due to Diesel Particulate Matter - LEU Guild Substation, LEU Industrial Substation and 12 kV Lines

PG&E: Northern San Joaquin 230 kV Transmission Project

Modeled Concentrations

Maximum annual impact of annualized project emissions

				Receptor Location	
				East (x, meters)	North (y, meters)
MEIR	0.00883	$\mu g/m^3$	Diesel PM	653,900.00	4,221,700.00
Sensitive	0.00264	$\mu g/m^3$	Diesel PM	652,500.00	4,221,500.00
MEIW	0.05097	$\mu g/m^3$	Diesel PM	653414.46	4221533.6

All locations expressed in UTM NAD83 Zone 10 projection and datum.

Sensitive receptor based on highest receptor concentration near Heritage Elementary School

Construction HRA per the 2015 OEHHA Guidance

Residential Calculation Procedure for Cancer Risks

MEIR

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	3.06E-06	9.24E-06	9.24E-06	7.30E-06	7.30E-06	7.30E-06	7.30E-06	7.30E-06	7.30E-06	6.32E-06	6.32E-06	6.32E-06	6.32E-06	6.32E-06	6.32E-06	6.32E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06	2.84E-06
Risk	1.02E-07	1.23E-06	1.23E-06	2.48E-07	2.48E-07	2.48E-07	2.48E-07	2.48E-07	2.48E-07	2.14E-07	2.14E-07	2.14E-07	2.14E-07	2.14E-07	2.14E-07	2.14E-07	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08
1-yr Risk	1.02E-07	1.23E-06	1.23E-06	2.48E-07	2.48E-07	2.48E-07	2.48E-07	2.48E-07	2.48E-07	2.14E-07	2.14E-07	2.14E-07	2.14E-07	2.14E-07	2.14E-07	2.14E-07	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08	3.26E-08
Risk per Million	0.10	1.23	1.23	0.25	0.25	0.25	0.25	0.25	0.25	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03

Sensitive

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	9.15E-07	2.76E-06	2.76E-06	2.18E-06	2.18E-06	2.18E-06	2.18E-06	2.18E-06	2.18E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	1.89E-06	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07	8.49E-07
Risk	3.06E-08	3.69E-07	3.69E-07	7.41E-08	7.41E-08	7.41E-08	7.41E-08	7.41E-08	7.41E-08	6.41E-08	6.41E-08	6.41E-08	6.41E-08	6.41E-08	6.41E-08	6.41E-08	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09
1-yr Risk	3.06E-08	3.69E-07	3.69E-07	7.41E-08	7.41E-08	7.41E-08	7.41E-08	7.41E-08	7.41E-08	6.41E-08	6.41E-08	6.41E-08	6.41E-08	6.41E-08	6.41E-08	6.41E-08	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09	9.74E-09
Risk per Million	0.03	0.37	0.37	0.07	0.07	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01

Worker Calculation Procedure for Cancer Risks

MEIW

Year	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Dose (mg/kg/day)	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06	7.97E-06
Risk	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07
1-yr Risk	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07	1.25E-07
Risk per Million	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13

Appendix B Table 4

Chronic Impacts due to Diesel Particulate Matter -LEU Guild Substation, LEU Industrial Substation and 12 kV Lines

PG&E: Northern San Joaquin 230 kV Transmission Project

Construction HRA per the 2015 OEHHA Guidance

Calculation Procedure for Chronic Hazard Index

Receptor Type	Pollutant	Maximum Annual Modeled Concentration ($\mu g/m^3$) [a]	REL ($\mu g/m^3$) [b]	Chronic Hazard Index
MEIR	Diesel PM	0.00883	5	0.0018
Sensitive	Diesel PM	0.00264	5	0.0005
MEIW	Diesel PM	0.05097	5	0.0102

Notes:

[a] Maximum Annual Modeled Concentrations taken from Appendix B, Table 3.

[b] REL taken from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* (OEHHA and ARB, 2020).

Appendix B Table 5

Cancer Impacts due to Diesel Particulate Matter - PG&E Thurman Switching Station & LEU Portion of the Project

PG&E: Northern San Joaquin 230 kV Transmission Project

Modeled Concentrations

Maximum annual impact of annualized project emissions

				Receptor Location	
				East (x, meters)	North (y, meters)
MEIR	0.01762	$\mu g/m^3$	Diesel PM	653,900.00	4,221,700.00
Sensitive	0.00548	$\mu g/m^3$	Diesel PM	652,500.00	4,221,500.00
MEIW	0.11326	$\mu g/m^3$	Diesel PM	653,505.32	4,221,598.53

All locations expressed in UTM NAD83 Zone 10 projection and datum.

Sensitive receptor based on highest receptor concentration near Heritage Elementary School

Construction HRA per the 2015 OEHHA Guidance

Residential Calculation Procedure for Cancer Risks

MEIR

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	6.11E-06	1.84E-05	1.84E-05	1.46E-05	1.46E-05	1.46E-05	1.46E-05	1.46E-05	1.46E-05	1.26E-05	1.26E-05	1.26E-05	1.26E-05	1.26E-05	1.26E-05	1.26E-05	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06	5.67E-06
Risk	2.04E-07	2.46E-06	2.46E-06	4.94E-07	4.94E-07	4.94E-07	4.94E-07	4.94E-07	4.94E-07	4.28E-07	4.28E-07	4.28E-07	4.28E-07	4.28E-07	4.28E-07	4.28E-07	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08
1-yr Risk	2.04E-07	2.46E-06	2.46E-06	4.94E-07	4.94E-07	4.94E-07	4.94E-07	4.94E-07	4.94E-07	4.28E-07	4.28E-07	4.28E-07	4.28E-07	4.28E-07	4.28E-07	4.28E-07	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08	6.50E-08
Risk per Million	0.20	2.46	2.46	0.49	0.49	0.49	0.49	0.49	0.49	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07

Sensitive

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	1.90E-06	5.73E-06	5.73E-06	4.53E-06	4.53E-06	4.53E-06	4.53E-06	4.53E-06	4.53E-06	3.92E-06	3.92E-06	3.92E-06	3.92E-06	3.92E-06	3.92E-06	3.92E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06	1.76E-06
Risk	6.34E-08	7.66E-07	7.66E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	1.33E-07	1.33E-07	1.33E-07	1.33E-07	1.33E-07	1.33E-07	1.33E-07	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08
1-yr Risk	6.34E-08	7.66E-07	7.66E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	1.54E-07	1.33E-07	1.33E-07	1.33E-07	1.33E-07	1.33E-07	1.33E-07	1.33E-07	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08	2.02E-08
Risk per Million	0.06	0.77	0.77	0.15	0.15	0.15	0.15	0.15	0.15	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02

Worker Calculation Procedure for Cancer Risks

MEIW

Year	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Dose (mg/kg/day)	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05	1.77E-05
Risk	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07
1-yr Risk	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07	2.78E-07
Risk per Million	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28

Appendix B Table 6

Chronic Impacts due to Diesel Particulate Matter - Thurman Switching Stations & LEU Guild Substation

PG&E: NSJ Project

Construction HRA per the 2015 OEHHA Guidance

Calculation Procedure for Chronic Hazard Index

Receptor Type	Pollutant	Maximum Annual Modeled Concentration ($\mu g/m^3$) [a]	REL ($\mu g/m^3$) [b]	Chronic Hazard Index
MEIR	Diesel PM	0.01762	5	0.0035
Sensitive	Diesel PM	0.00548	5	0.0011
MEIW	Diesel PM	0.11326	5	0.0227

Notes:

[a] Maximum Annual Modeled Concentrations taken from Appendix B, Table 5.

[b] REL taken from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* (OEHHA and ARB, 2020).

Appendix B Table 7
Cancer Impacts due to Diesel Particulate Matter - PG&E Lockeford Substation
PG&E: Northern San Joaquin 230 kV Transmission Project

Modeled Concentrations
Maximum annual impact of annualized project emissions

				Receptor Location	
				East (x, meters)	North (y, meters)
MEIR	0.02327	$\mu g/m^3$	Diesel PM	661,450.00	4,220,375.00
Sensitive	0.00025	$\mu g/m^3$	Diesel PM	662,000.00	4,222,500.00
MEIW	0.02636	$\mu g/m^3$	Diesel PM	661,473.36	4,220,425.13

All locations expressed in UTM NAD83 Zone 10 projection and datum.
No sensitive receptor is located within the receptor grid, therefore the is the lowest receptor concentration is used for the sensitive receptor calculation.

Construction HRA per the 2015 OEHHA Guidance
Residential Calculation Procedure for Cancer Risks

MEIR

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	8.06E-06	2.43E-05	2.43E-05	1.92E-05	1.92E-05	1.92E-05	1.92E-05	1.92E-05	1.92E-05	1.66E-05	1.66E-05	1.66E-05	1.66E-05	1.66E-05	1.66E-05	1.66E-05	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06	7.48E-06
Risk	2.69E-07	3.25E-06	3.25E-06	6.53E-07	6.53E-07	6.53E-07	6.53E-07	6.53E-07	6.53E-07	5.65E-07	5.65E-07	5.65E-07	5.65E-07	5.65E-07	5.65E-07	5.65E-07	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08	8.58E-08
Rolling 3-yr Risk				7.43E-06	4.56E-06	1.96E-06	1.96E-06	1.96E-06	1.96E-06	1.87E-06	1.78E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.69E-06	1.22E-06	7.37E-07	2.58E-07	2.58E-07	2.58E-07	2.58E-07	2.58E-07	2.58E-07	2.58E-07	2.58E-07	2.58E-07	2.58E-07	2.58E-07	2.58E-07	2.58E-07
Risk per Million				7.43	4.56	1.96	1.96	1.96	1.96	1.87	1.78	1.69	1.69	1.69	1.69	1.69	1.22	0.74	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26

Sensitive

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Dose (mg/kg/day)	8.66E-08	2.62E-07	2.62E-07	2.07E-07	2.07E-07	2.07E-07	2.07E-07	2.07E-07	2.07E-07	1.79E-07	1.79E-07	1.79E-07	1.79E-07	1.79E-07	1.79E-07	1.79E-07	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08	8.04E-08
Risk	2.89E-09	3.49E-08	3.49E-08	7.01E-09	7.01E-09	7.01E-09	7.01E-09	7.01E-09	7.01E-09	6.07E-09	6.07E-09	6.07E-09	6.07E-09	6.07E-09	6.07E-09	6.07E-09	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10	9.22E-10
Rolling 3-yr Risk			7.28E-08	4.20E-08	1.40E-08	1.40E-08	1.40E-08	1.40E-08	1.40E-08	1.31E-08	1.21E-08	1.21E-08	1.21E-08	1.21E-08	1.21E-08	1.21E-08	6.99E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09	1.84E-09
Risk per Million			0.07	0.04	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Worker Calculation Procedure for Cancer Risks

MEIW

Year	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Dose (mg/kg/day)	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06	4.12E-06
Risk	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08	6.48E-08
Rolling 3-yr Risk			1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07	1.94E-07
Risk per Million			0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19

Appendix B Table 8

Chronic Impacts due to Diesel Particulate Matter - PG&E Lockeford Substation

PG&E: Northern San Joaquin 230 kV Transmission Project

Construction HRA per the 2015 OEHHA Guidance

Calculation Procedure for Chronic Hazard Index

Receptor Type	Pollutant	Maximum Annual Modeled Concentration ($\mu g/m^3$) [a]	REL ($\mu g/m^3$) [b]	Chronic Hazard Index
MEIR	Diesel PM	0.02327	5	0.0047
Sensitive	Diesel PM	0.00025	5	5.00E-05
MEIW	Diesel PM	0.02636	5	0.0053

Notes:

[a] Maximum Annual Modeled Concentrations taken from Appendix B, Table 7.

[b] REL taken from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values* (OEHHA and ARB, 2020).

Table 3
Residential Constants for Cancer Risk
PG&E: Northern San Joaquin 230 kV Transmission Project

Dose Constants

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
BR/BW	361	1090	1090	861	861	861	861	861	861	745	745	745	745	745	745	745	335	335	335	335	335	335	335	335	335	335	335	335	335	335	335
A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Conversion	1E-06	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001

Risk Constants

Year	0 (3rd tri)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CPF (Diesel PM)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
ASF	10	10	10	3	3	3	3	3	3	3	3	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ED	0.25	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
AT	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
FAH	0.85	0.85	0.85	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73	0.73

A. Equation 5.4.1.1: $\text{Dose-air} = C_{air} \times \{BR/BW\} \times A \times EF \times 10^{-6}$

1. Dose-air = Dose through inhalation (mg/kg/d)
2. C_{air} = Concentration in air ($\mu g/m^3$)
3. {BR/BW} = Daily Breathing rate normalized to body weight (L/kg body weight - day)
4. A = Inhalation absorption factor (unitless)
5. EF = Exposure frequency (unitless), days/365 days
6. 10^{-6} = Micrograms to milligrams conversion, liters to cubic meters conversion

a: Recommended default values for EQ 5.4.1.1:

1. {BR/BW} = Daily breathing rates by age groupings, see As supplemental information, the assessor may wish to evaluate the inhalation dose by using the mean point estimates in Table 5.6 to provide a range of breathing rates for cancer risk assessment to the risk manager.
2. Table (point estimates) and Table 5.7 (parametric model distributions for Tier III stochastic risk assessment). For Tier 1 residential estimates, use 95th percentile breathing rates in Table 5.6.
3. A = 1
4. EF = 0.96 (350 days/365 days in a year for a resident)

A. Equation 8.2.4 A: $RISK_{inh\text{-}res} = DOSE_{air} \times CPF \times ASF \times ED/AT \times FAH$

7. $RISK_{inh\text{-}res}$ = Residential inhalation cancer risk
8. $DOSE_{air}$ = Daily inhalation dose (mg/kg-day)
9. CPF = Inhalation cancer potency factor (mg/kg-day^{-1})
10. ASF = Age sensitivity factor for a specified age group (unitless)
11. ED = Exposure duration (in years) for a specified age group
12. AT = Averaging time for lifetime cancer risk (years)
13. FAH = Fraction of time spent at home (unitless)

a: Recommended default values for EQ 8.2.4 A:

5. $DOSE_{air}$ = Calculated for each age group from Eq. 5.4.1
6. CPF = Substance-specific (see Table 7.1)
7. ASF = See Section 8.2.1
8. ED = 0.25 years for 3rd trimester, 2 years for 0<2, 7 years for 2<9, 14 years for 2<16, 14 years for 16<30, 54 years for 16-70
9. AT = 70 years*
10. FAH = See Table 8.4

Table 4
Worker Constants for Cancer Risk
PG&E: Northern San Joaquin 230 kV Transmission Project

Dose Constants

Year	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
WAF	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
BR/BW	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230	230
A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EF	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Conversion	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001	0.000001

Risk Constants

Year	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
CPF (Diesel PM)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
ASF	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ED	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
AT	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70

A. Equation 5.4.1.2 A: $\text{Dose-air} = (C_{air} \times WAF) \times \{BR/BW\} \times A \times EF \times 10^{-6}$

1. Dose-air = Dose through inhalation (mg/kg/d)
2. C_{air} = Annual average concentration in air ($\mu g/m^3$)
3. WAF = Worker air concentration adjustment factor (unitless)
4. {BR/BW} = Eight-hour breathing rate normalized to body weight (L/kg body weight - day)
5. A = Inhalation absorption factor (unitless)
6. EF = Exposure frequency (unitless), days/365 days)
7. 10^{-6} = Micrograms to milligrams conversion, Liters to cubic meters conversion

a: Recommended default values for EQ 5.4.1.2 A:

1. WAF = See EQ. 5.4.1.2 B for formula to calculate WAF, or App. M for refined post-processing modeling to calculate WAF.
2. {BR/BW} = For workers, use age16-70 year, 95th percentile, moderate intensity 8-hour point estimate breathing rates (see Table 5.8). No worker breathing rate distributions exist for stochastic risk assessment.
3. A = 1
4. EF = 0.68 (250 days / 365 days). Equivalent to working 5 days/week, 50 weeks/year.

b: Assumption for EQ 5.4.1.2 A:

1. The fraction of chemical absorbed (A) through the lungs is the same fraction absorbed in the study on which the cancer potency factor is based.
2. The source emits during the daylight hours. Calculate WAF (EQ 5.4.1.2 B) if a special post-processing modeling run described in App. M was not completed. For nighttime emissions and exposure scenarios, see Appendix N.

B. Equation 5.4.1.2 B: $WAF = (H_{res} / H_{source}) \times (D_{res} / D_{source}) \times DF$

1. WAF = Worker adjustment factor (unitless)
2. H_{res} = Number of hours per day the annual average residential air concentration is based on (always 24 hours)
3. H_{source} = Number of hours the source operates per day
4. D_{res} = Number of days per week the annual average residential air concentration is based on (always 7 days)
5. D_{source} = Number of days the emitting source operates per week
6. DF = Discount factor, for when the offsite worker's schedule partially overlaps the source's emission schedule

b: Recommended default values for EQ 5.4.1.2 B:

1. DF = 1 for offsite worker's schedule occurring within the source's emission schedule. A site-specific survey may be used to adjust the DF using EQ 5.4.1.2 C.

C. Equation 5.4.1.2 C: $DF = (H_{coincident} / H_{worker}) \times (D_{coincident} / D_{worker})$

1. $H_{coincident}$ = Number of hours per day the offsite worker's schedule and the source's emission schedule coincide
2. H_{worker} = Number of hours the offsite worker works per day
3. $D_{coincident}$ = Number of days per week the offsite worker's schedule and the source's emission schedule coincide
4. D_{worker} = Number of days the offsite worker works per week

B. Equation 8.2.4 B: $RISK_{inh\text{-}work} = DOSE_{air} \times CPF \times ASF \times ED/AT$

1. $RISK_{inh\text{-}work}$ = Worker inhalation cancer risk

a: Recommended default values for EQ 8.2.4 B:

1. DOSEair = Calculated for workers in Eq. 5.4.1.2
2. CPF = Substance specific (see Table 7.1)
3. ASF = 1 for working age 16-70 yrs (See Section 8.2.1)
4. ED = 25 years
5. AT = 70 yrs for lifetime cancer risk

Appendix C
HRA Model and Output Files
(provided digitally)