



Appendix 4.3-A
Air Quality Modeling
Results

SDG&E Tie Line 695/6971 Reconductor Project
San Diego Air Basin and South Coast Air Basin, Total Annual Emissions

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	0.00	1000sqft	98.33	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2018
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MW hr)	720.49	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Selected General Light Industry as the most appropriate default land use type. Assumed that "Lot acreage" was equivalent to the total area of site disturbance as described in Section 4.3 within the document.

Construction Phase - The construction phasing is per the construction schedule within the PEA.

Off-road Equipment - Off-highway Truck = water truck, cement trucks, tractor trailer unit, bucket trucks, wire truck, pulling rig, spray rig

Other Construction Equipment = mowers

Crew trucks and pickup trucks are included within the worker VMT calculations.

Grading - Site preparation activities (e.g., vegetation removal and other non-grading activities to create the six construction staging yards) would occur at approximately 10.25 acres total. Assumed half that amount for total acres disturbed from demobilization activities. Trenching operations will generate up to approximately 2,900 cy total.

Trips and VMT - Worker trips/day estimated based upon the maximum number of anticipated workers per construction phase. Assumed 10 haul trips/day for trenching, and 2 haul trips/day for staging yard construction. Vendor trips estimated to be 2 trips/day for each water truck and cement truck. Assumed that water (in water trucks) comes from the City of Oceanside (30 miles one-way).

Construction Off-road Equipment Mitigation - Mitigation measures: water exposed areas for dust control, and replace ground cover of disturbed areas.

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					
2018	0.9991	9.2828	6.5292	0.0121	0.9480	0.4722	1.4202	0.4110	0.4395	0.8505	0.0000	1,081.995	1,081.9950	0.2682	0.0000	1,087.626
Total	0.9991	9.2828	6.5292	0.0121	0.9480	0.4722	1.4202	0.4110	0.4395	0.8505	0.0000	1,081.995	1,081.9950	0.2682	0.0000	1,087.626

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					
2018	0.9991	9.2828	6.5292	0.0121	0.2683	0.4722	0.7404	0.1077	0.4395	0.5472	0.0000	1,081.993	1,081.9938	0.2682	0.0000	1,087.625
Total	0.9991	9.2828	6.5292	0.0121	0.2683	0.4722	0.7404	0.1077	0.4395	0.5472	0.0000	1,081.993	1,081.9938	0.2682	0.0000	1,087.625

	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
Percent Reduction	0.00	0.00	0.00	0.00	71.7	0.00	47.87	73.8	0.00	35.66	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Staging Yard Setup, Road Refinishing, Vegetation Trimming, BMP Installation	Site Preparation	1/1/2018	2/9/2018	5	30	
2	Pier Foundation Construction	Building Construction	2/1/2018	4/11/2018	5	50	
3	Direct Bury Construction and Pole Installation	Building Construction	2/1/2018	6/6/2018	5	90	
4	Trenching for Installation of Underground Cables	Grading	5/1/2018	5/14/2018	5	10	
5	Stringing Activities/Transfer Conductor/Sagging Activities	Building Construction	5/1/2018	7/9/2018	5	50	
6	Demobilization/Clean Up/Road Refreshing	Site Preparation	8/1/2018	9/26/2018	5	41	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Staging Yard Setup, Road Refinishing, Vegetation Trimming, BMP Installation	Dumpers/Tenders	1	3.00	16	0.38
Staging Yard Setup, Road Refinishing, Vegetation Trimming, BMP Installation	Graders	2	6.00	174	0.41
Staging Yard Setup, Road Refinishing, Vegetation Trimming, BMP Installation	Off-Highway Tractors	0		122	0.44
Staging Yard Setup, Road Refinishing, Vegetation Trimming, BMP Installation	Off-Highway Trucks	4	3.00	400	0.38
Staging Yard Setup, Road Refinishing, Vegetation Trimming, BMP Installation	Other Construction Equipment	2	7.00	171	0.42
Staging Yard Setup, Road Refinishing, Vegetation Trimming, BMP Installation	Rubber Tired Dozers	3	8.00	255	0.40
Staging Yard Setup, Road Refinishing, Vegetation Trimming, BMP Installation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Pier Foundation Construction	Air Compressors	3	5.00	84	0.74
Pier Foundation Construction	Bore/Drill Rigs	3	7.00	89	0.20
Pier Foundation Construction	Cranes	1	7.00	97	0.37
Pier Foundation Construction	Forklifts	3	4.00	89	0.20
Pier Foundation Construction	Generator Sets	1	8.00	46	0.45
Pier Foundation Construction	Off-Highway Trucks	12	3.00	226	0.29
Pier Foundation Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Pier Foundation Construction	Welders	1	8.00	46	0.45
Direct Bury Construction and Pole Installation	Air Compressors	3	3.00	84	0.74
Direct Bury Construction and Pole Installation	Bore/Drill Rigs	3	7.00	89	0.20
Direct Bury Construction and Pole Installation	Cranes	3	5.00	97	0.37
Direct Bury Construction and Pole Installation	Forklifts	3	8.00	46	0.45
Direct Bury Construction and Pole Installation	Generator Sets	1	8.00	84	0.74
Direct Bury Construction and Pole Installation	Off-Highway Trucks	9	4.00	226	0.29

Direct Bury Construction and Pole Installation	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Direct Bury Construction and Pole Installation	Welders	1	8.00	46	0.45
Trenching for Installation of Underground Cables	Bore/Drill Rigs	1	6.00	174	0.41
Trenching for Installation of Underground Cables	Excavators	2	8.00	162	0.38
Trenching for Installation of Underground Cables	Graders	1	8.00	255	0.40
Trenching for Installation of Underground Cables	Off-Highway Trucks	3	3.00	400	0.38
Trenching for Installation of Underground Cables	Rubber Tired Dozers	1	8.00	255	0.40
Trenching for Installation of Underground Cables	Scrapers	2	8.00	361	0.48
Trenching for Installation of Underground Cables	Scrapers	2	8.00	361	0.48
Trenching for Installation of Underground Cables	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Stringing Activities/Transfer Conductor/Sagging Activities	Cranes	1	7.00	226	0.29
Stringing Activities/Transfer Conductor/Sagging Activities	Forklifts	3	8.00	89	0.20
Stringing Activities/Transfer Conductor/Sagging Activities	Generator Sets	1	8.00	84	0.74
Stringing Activities/Transfer Conductor/Sagging Activities	Off-Highway Trucks	11	4.00	400	0.38
Stringing Activities/Transfer Conductor/Sagging Activities	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Stringing Activities/Transfer Conductor/Sagging Activities	Welders	1	8.00	46	0.45
Demobilization/Clean Up/Road Refreshing	Graders	1	7.00	174	0.41
Demobilization/Clean Up/Road Refreshing	Off-Highway Trucks	2	6.00	400	0.38
Demobilization/Clean Up/Road Refreshing	Rubber Tired Dozers	3	8.00	255	0.40
Demobilization/Clean Up/Road Refreshing	Rubber Tired Dozers	3	8.00	255	0.40
Demobilization/Clean Up/Road Refreshing	Tractors/Loaders/Backhoes	1	6.00	97	0.37

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
Staging Yard Setup, Road Refinishing, Vegetation Trimming, BMP Installation	16	14.00	2.00	0.00	10.80	30	20.00	LD_Mix	HDT_Mix	HHDT
Pier Foundation Construction	27	12.00	8.00	2.00	10.80	30	20.00	LD_Mix	HDT_Mix	HHDT
Direct Bury Construction and Pole Installation	26	50.00	24.00	1.00	10.80	30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching for Installation of Underground Cables	15	32.00	2.00	8.00	10.80	30	20.00	LD_Mix	HDT_Mix	HHDT
Stringing Activities/Transfer Conductor/Sagging	20	24.00	6.00	0.00	10.80	30	20.00	LD_Mix	HDT_Mix	HHDT
Demobilization/Clean Up/Road Refreshing	10	14.00	2.00	0.00	10.80	30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Replace Ground Cover
- Water Exposed Area
- Clean Paved Roads

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