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March 9, 2022

Heritage Environmental Consultants, LLC
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RE: Round Mountain 500 kV Dynamic Reactive Support Greenhouse Gas Screening Letter – Shasta County

The purpose of this letter is to provide Greenhouse Gas (GHG) analysis for the Round Mountain 500 kilovolt (kV) Dynamic Reactive Support Project (Proposed Project or Project). This study quantifies GHG emissions associated with construction and operation of the Project and includes a general analysis of both a Business as Usual (BAU) scenario project and an operational project assessment for the Proposed Project for 2025 or the first full year the Project would be operational. This analysis was prepared in accordance with the Unincorporated Shasta County component of the Regional Climate Action Plan (RCAP) which was initiated by Shasta County AQMD (AQMD) and approved in August 2012 (Shasta County AQMD, 2012).

GHGs analyzed in this study are Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O) and Sulfur Hexafluoride (SF₆). To simplify GHG calculations CH₄, N₂O and SF₆ are converted to equivalent amounts of CO₂ and are identified as carbon dioxide equivalent (MTCO_{2e}) using the 100 year periods of 25, 298, 22,800 respectively (IPCC, 2007).

Project Location

The proposed project would be located within an approximate 40 acre construction zone within an approximately 426-acre parcel located directly adjacent to the Round Mountain – Table Mountain #1 and #2 500 kV transmission line corridor. Actual disturbed construction areas would only be a small fraction of the 40 acre zone. The Proposed Project site is located east of Fern Road and east of the existing PG&E transmission right-of-way (ROW), approximately 1.6 miles northwest of the unincorporated community of Whitmore and approximately 9.3 miles north of State Highway 44 in unincorporated southern Shasta County. The Proposed Project site is zoned within a Habitat Protection District (HP-BA-80) and is currently used as grazing land.

Project Description

The proposed project which would be constructed and operated by LS Power Grid California (LSPGC). The main components of the Proposed Project's system consist of two new STATCOM

units that would be independently connected to the existing, adjacent PG&E Round Mountain – Table Mountain #1 and #2 500 kV transmission lines. The STATCOM units would be contained within the new Fern Road Substation facility and would have a rated real power output of zero mega-watts (MW) and a nominal terminal voltage of 500 kV. The STATCOM units would not increase existing system capacity and would not serve any additional users beyond those already being served by the existing system. The Fern Road Substation facility would support the regional transmission system by providing voltage support and grid stability at the PG&E Round Mountain Substation 500 kV bus.

The Fern Road Substation’s STATCOM units would be interconnected (i.e., looped-in) with the PG&E electrical transmission system via the Round Mountain – Table Mountain #1 and #2 500 kV transmission lines. The existing transmission lines would be reconfigured to connect to bays located on the north and west sides of the proposed Fern Road Substation. The point of ownership demarcation for the conductor would be the connection to LSPGC’s take-off towers on LSPGC property. All facilities would be installed during the initial buildout; therefore, there is no anticipated ultimate buildout scenario beyond the Proposed Project.

The project would also include upgrades at the existing PG&E Round Mountain Substation and the Table Mountain Substation. The Round Mountain Substation would require the reduction of the series capacitor banks and upgraded protection (i.e., adding additional relays) and PACI Remedial Action Scheme (RAS). The Table Mountain Substation would require additional series capacitor banks and upgraded protection and PACI RAS that would require the extension of an internal substation isolation fence.

Finally, a new PG&E microwave path communications are also planned as part of the upgrades, which would require the installation of two new microwave towers or monopoles. An approximately 30-foot-tall monopole would be constructed at the existing PG&E Redding Service Center and an approximately 100-foot-tall microwave tower at the existing PG&E Cottonwood Substation.

The Proposed Project was approved by the California Independent System Operator Corporation (CAISO) to ensure the reliability of a major portion of the CAISO controlled grid and accommodate maintenance and contingencies of the reactive device. This would be accomplished through the construction of a dynamic reactive device between two equally sized blocks.

The Project will be operated, monitored and dispatched remotely on a day-to-day basis. Crews of two to four persons will periodically visit the site (approximately twice per month) for routine inspection and maintenance of the facilities and site. The Developer will own and maintain the facility up to the point where the system enters PG&E property. Once the project lifecycle is completed, the project would be decommissioned but would not be expected for at least 30 years.

Project construction includes site preparation and grading, installation of drainage and retention basins, foundations/supports, setting of equipment, wiring and electrical system installation, and assembly of the accessory components.

The Proposed Project area would be roughly 40 acres but specific construction areas would encompass no more than 9 acres of which a 1.4-acre staging area located immediately north of the proposed Fern Road Substation is proposed. The construction of the substation would require grading, fill, and the installation of silt fencing that would extend beyond the proposed permanent impact area. In addition, work areas would be needed around the perimeter of the Fern Road Substation facility to facilitate construction and access.

It is anticipated that all major electrical and Fern Road Substation equipment such as power transformers, power circuit breakers, control enclosures, capacitors, and reactors would be delivered to the substation site and placed directly on previously constructed foundations. Other substation equipment, such as disconnect switches, instrument transformers, transmission structures, insulators, conductors, bus, connectors, conduit, cable trench, rebar, etc. would be received and temporarily stored at the staging area prior to installation. All construction equipment and vehicles associated with Fern Road Substation construction would be parked within the staging area while inactive and at the completion of each workday, where practical.

The Project would require the grading of approximately 9 acres cumulatively and will require an import of roughly 19,000 CY of suitable site materials and export of roughly 21,000 CY of excess material. The Proposed Project plans to start grading and construction in the first quarter of 2023 and be completed in the last quarter of 2024. Additionally, the project will require 900,000 gallons of water which would be trucked to the site daily. Material hauling/truck details along with worker trips were provided within the project description (See Table 3-7) and was manually updated within the CalEEMod software. The estimated Equipment List and construction durations are shown in Table 1.

Once operational, the Project would generate very few GHG emissions from daily operations. Operational emissions sources would include the consumption of energy onsite from Project auxiliary equipment, such as control room HVAC units, communications equipment and lighting. It is assumed that the total demand on-site would be 22 kilowatts (kW) for the GIS enclosure, and 87 kW for each of the two STATCOM enclosures; this would equate to roughly 1,716,960 kilowatt hours (kWH) per year and was modeled as such within CalEEMod.

The Project would include nine SPS2 550 kV gas circuit breakers or similar, which utilize roughly 595 pounds (lb) of SF₆ per breaker for insulation purposes and will be contained within a 10,500 square foot GIS building. While the SF₆ is contained within the circuit breakers, a very small amount leaks over time. SF₆ has strong global warming potential of 23,900.

Table 1: Anticipated Construction Equipment and Durations

Equipment Identification	Estimated Start	Estimated Completion	Quantity	HP
Survey	03/2023	08/2023		
Pick-up – ½ ton			2	395
Site Prep/Roadway Work/Staging	03/2023	06/2023		
Graders			1	250
Off-Highway Trucks (Dump Truck)			6	415
Off-Highway Trucks (Water Truck)			4	300
Rollers			1	405
Rubber Tired Loaders (4-5 yard)			2	275
Pick-up – ½ ton			1	395
Pick-up – 1 ton			1	410
PG&E Substation Upgrade	03/2023	09/2024		
Aerial Lifts			1	49
Bore/Drill Rigs/ Pressure digger			2	125
Mini Excavators			1	70
Forklifts			1	130
Rubber Tired Loaders (4-5 yard)			1	275
Welders			2	395
Pick-up – 1 ton			3	410
Below-Grade Construction	06/2023	12/2023		
Bore/Drill Rig/Pressure Digger			2	125
Excavators			2	108
Mini Excavators			1	70
Forklifts			2	100
Generator Sets			2	84
Off-Highway Trucks (Water Truck)			2	300
Off-Highway Trucks (Dump Truck)			3	415
Rubber Tired Loaders (4-5 yard)			2	275
Skid Steer Loaders			2	74
Tractors/Loaders/Backhoes			2	68
Trenchers			2	75
Pick-up truck – 1/2 ton			4	395
Pick-up truck – 1 ton			4	410
Tool van			6	N/A
Above-Grade Construction	12/2023	08/2024		
Aerial Lifts (40-foot)			3	49
Aerial Lifts (120-foot)			2	74
Cranes (35 ton)			2	250
Forklifts			3	130
Generator Sets			2	84
Welders			2	395
Wire Trailer/ Tensioner			2	N/A
Wire Puller			2	N/A

Equipment Identification	Estimated Start	Estimated Completion	Quantity	HP
Pick-up truck – ½ ton			4	395
Pick-up truck – 1 ton			4	410
PG&E Off-Site Distribution Upgrades	05/2024	07/2024		
Pressure Digger - Lo-Drill (Tracked)			2	125
Truck – Dump 5-6 Yd			1	210
Pickup - 1 Ton			2	410
Crane - 35 Ton			1	250
Forklift - 10 K Reach			1	130
Manlift - 40'			3	49
Wire Trailer/ Tensioner			1	
Wire Puller			1	
PG&E 500 KV Interconnection	08/2024	12/2024		
Aerial Lifts			3	49
Aerial Lifts			2	74
Bore/Drill Rig/Pressure Digger			2	125
Cranes (35 ton)			2	250
Wire Trailer/ Tensioner			2	N/A
Off-Highway Trucks (Water Truck)			4	300
Off-Highway Trucks (Dump Truck)			3	415
Pick-up truck – 1 ton			4	410
Commissioning and Testing	08/2024	12/2024		
Aerial Lifts (40-foot)			3	49
Generator sets – 25 kw			2	84
Tool Van			6	N/A
Pick-up truck – ½ ton			4	395
Pick-up truck – 1 ton			4	410

Mobile vehicle visits to the Project site associated with periodic operations and maintenance would also generate air emissions. Monthly staff operations and maintenance visits, with crews of two to four persons are expected to generate two to four trips twice per month. For purposes of preparing an overly conservative analysis, it was assumed that the Project would generate four trips per day using a rural setting. CalEEMod has been updated to reflect Project-related operational conditions.

Local GHG Requirements

CEQA requires lead agencies to establish specific procedures for administering its responsibilities under CEQA, including orderly evaluation of projects and preparation of environmental documents. In response to this, In August 2012, Shasta County AQMD prepared the RCAP. Based on that plan, the district came up with processes to evaluate GHG significance. What the RCAP determined is that the 2035 BAU forecast (which includes growth) would increase from a baseline 2008 emission of 571,255 to 754,190 MT CO2e. This 2035 BAU forecast was later

adjusted to 569,216 MT CO₂e. What the CAP concluded is that to meet State and Federal regulations, the County would need to reduce 2035 emissions to 49 Percent lower than 2008 BAU level.

The RCAP included many voluntary measures which could be utilized by projects to reduce GHG emissions and one mandatory measure that all projects would be required to implement to show consistency with the RCAP. The following mitigation measure is mandatory for all projects:

CAP Measure SW-1: The project will be required to participate in the 75 percent lumber diversion action. All wood constructed facilities would be required to divert all wood waste for recycling.

Based on this, this analysis will do a comparison of BAU in 2008 and the first full operational year (2025) with the intent of showing a 49 percent reduction over BAU. CalEEMod inputs/outputs for both BAU and the Proposed Project are shown in **Attachment A** to this letter.

Methods and Background

With the exception of the analysis of SF₆ from the new circuit breakers, the GHG impacts related to construction and daily operations were calculated using the latest CalEEMod 2020.4.0 air quality and GHG model, which was developed by BREEZE Software for South Coast Air Quality Management District (SCAQMD) in 2020. CalEEMod utilizes EMFAC 2017 for vehicular emission rates for each operational year. Shasta County AQMD recognizes the CalEEMod Version 2020.4.0 as an acceptable model for projects of this nature.

CalEEMod 2020.4.0 has been updated to provide the latest energy intensity factors for utility providers such as PG&E. Energy intensity factors for 2008 were obtained by CalEEMod literature (CAPCOA, 2017) and the BAU model was adjusted manually to reflect this data accurately.

In 2010 CARB published final regulations for SF₆ and outlines requirements for equipment operational from 2011 to beyond 2020. From that data, the allowable leakage rates in 2011 are 10 percent and in 2020 and each calendar year after that are 1 percent (CARB, 2010) from 2011. The project would install nine SPS2 550 kV gas circuit breakers or similar. In 2023, the SPS2 550 kV circuit breakers can emit at most by regulation (53.5 lbs). Under the baseline scenario in 2008, SF₆ regulations are not readily available. However, 2011, which is assumed to be the conservative BAU baseline, the project could release 535.5 lb of SF₆.

Estimated Project-Related Construction Emissions (BAU)

Based on modeling conducted, BAU construction (between 2006 and 2007) for the Project would generate 4,037.68 Metric Tons (MT) CO₂e over the estimated construction period. Given the fact that the total emissions would ultimately contribute to cumulative levels, it is acceptable to average the total construction emission over the life of the Project, which is assumed to be 30 years (SCAQMD, 2008). Given this, as shown in Table 2, the Project would add approximately 134.59 MT CO₂e per year from construction.

Table 2: Expected Annual Construction CO₂e Emissions (2008 BAU)

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e (MT)
2006	0.00	2,555.08	2,555.08	0.32	0.05	2,579.38
2007	0.00	1,439.98	1,439.98	0.20	0.04	1,458.29
Total						4,037.68
Yearly Average Construction Emissions (Metric Tons/year over 30 years)						134.59
Expected Construction emissions are based upon CalEEMod modeling assumptions (Table 1 above and modified to BAU operational year)						

Similarly, as shown in Table 3, Project construction (between 2023 and 2024) for the Proposed Project would generate 3,394.19 MT CO₂e over the estimated construction period or an annual average of 113.14 MT CO₂e per year from construction. The reductions achieved are primarily due to the fact that both construction equipment and vehicles used from workers to and from are more efficient in the construction years.

Table 3: Expected Annual Construction CO₂e Emissions (2023)

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e (MT)
2023	0	2,143.39	2,143.39	0.5261	0.0299	2,165.45
2024	0	1,216.44	1,216.44	0.2408	0.0211	1,228.73
Total						3,394.19
Yearly Average Construction Emissions (Metric Tons/year over 30 years)						113.14
Expected Construction emissions are based upon CalEEMod modeling assumptions (Table 1 above)						

Estimated Project-Related Operational Emissions

Operations of the Project would begin once construction is completed. Operational related emissions would result primarily from vehicle exhaust emissions associated with maintenance staff traveling to and from the Project site. As well as energy consumption onsite as discussed earlier in this analysis. CalEEMod was used to estimate annual operational-related emissions for both the 2008 BAU scenario and the Proposed Project scenario for the first full operational year, in 2025. Also, it should be noted that the scenario analyzed would have both annualized construction and operational emissions combined to reflect the total annual GHG emission produced by the Project. In addition, the GHG emissions generated from SF₆ based on regulatory emission leakage allowed is included in the modeling.

Under the BAU scenario, the expected operational emissions including amortized construction emissions would be expected to generate 6,427.49 MTCO_{2e} per year as shown in Table 4.

Table 4: Operational Emissions Summary MT/Year (BAU)

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e (MT/Yr)
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	478.14	478.14	0.02	0.00	480.10
Mobile	0.00	7.32	7.32	0.00	0.00	7.53
Waste	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total (MT/Year)						487.63
SF ₆ emissions (Allowed 10 Percent or 535.5 lb)						5,805.27 ^{1,2}
Amortized Construction Emissions (Table 2 above)						134.59
Total Construction and Operations (MT/Year)						6,427.49
Data is presented in decimal format and may have rounding errors.						
1. Data is in Metric Tons (MT). Conversion rate is 1 pound = 0.000453592 MT.						
2. Pounds of SF ₆ is converted to CO _{2e} using the global warming potential of 23,900.						

Under the 2025 scenario, the expected operational emissions including amortized construction emissions would be expected to generate 859.65 MTCO_{2e} per year as shown in Table 5.

Table 5: Operational Emissions Summary MT/Year (2025)

Year	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e (MT/Yr)
Area	0.00	0.00	0.00	0.00	0.00	0.00
Energy	0.00	158.84	158.84	0.03	0.00	160.42
Mobile	0.00	5.47	5.47	0.00	0.00	5.57
Waste	0.00	0.00	0.00	0.00	0.00	0.00
Water	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total (MT/Year)						165.98
SF ₆ emissions (Allowed 1 Percent or 53.55 lb *23,900 CO ₂ Equivalent Factor) = 42,662 lb						580.527 ^{1,2}
Amortized Construction Emissions (Table 3 above)						113.14
Total Construction and Operations (MT/Year)						859.647
Combined BAU Scenario						6,427.49
Reduction over BAU						5,567.84
Percentage Reduction over BAU						86.63%
Data is presented in decimal format and may have rounding errors.						
1. Data is in Metric Tons (MT). Conversion rate is 1 pound = 0.000453592 MT.						
2. Pounds of SF ₆ is converted to CO ₂ e using the global warming potential of 23,900.						

Based on this, the Proposed Project would have a 86.63 Percent reduction in GHG emissions over BAU and would therefore generate a less than significant GHG impact per Shasta County AQMD RCAP requirements.

It should be discussed again that the project would require a mandatory GHG mitigation measure per the RCAP. This mitigation measure was not analyzed to show GHG reductions and would therefore indicate that this GHG assessment is conservative. The required mitigation measure is listed below:

CAP Measure SW-1: The project will be required to participate in the 75 Percent lumber diversion action. All wood constructed facilities would be required to divert all wood waste for recycling.

For questions, please contact me directly at (760) 473-1253.

Sincerely,

Ldn Consulting, Inc.

Jeremy Loudon

Attachments:

Attachment A: CALEEMOD Inputs/Outputs

Sources:

CAPCOA. (2017). *CalEEMod Appendix D*. Retrieved 2021, from http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4

CARB. (2010). *SF6 - FINAL REGULATION ORDER*. Retrieved from https://ww3.arb.ca.gov/regact/2010/sf6elec/completesf6.pdf?_ga=2.28957116.1293428388.1604412973-1879348183.1592843116

IPCC. (2007). *IPCC Fourth Assessment Report: Climate Change 2007 : Working Group I: The Physical Science Basis*. Retrieved from https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html

SCAQMD. (2008). Retrieved 2018, from [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-6/ghg-meeting-6-guidance-document-discussion.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-6/ghg-meeting-6-guidance-document-discussion.pdf)

Shasta County AQMD. (2012). *Shasta Regional Climate Action Plan (RCAP)- Chapter 2 - Unincorporated Shasta County*. Retrieved 2021, from https://www.co.shasta.ca.us/docs/libraries/resource-management-docs/rcap-draft/Chapter_2.pdf?sfvrsn=34e80a4c_0

Round Mountain 500 kV Dynamic Reactive Support Project (BAU) - Shasta County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Round Mountain 500 kV Dynamic Reactive Support Project (BAU)

Shasta County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	9.20	18,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2010
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	614	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - BAU inputs provided by CAPCOA for 2008. See Table 1.2 of Appendix D for CalEEMod 2016.3.2. http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4
 2008 was not selectable in this model. Used 2010 for this analysis.

Land Use - Site area is 9.2 Acre; 2 small control buildings will be installed (Estimated to be 8,000 SF) and one 10,500 SF GIS building = 18500 SF

Construction Phase - BAU LSPGC Round Mountain Schedule and includes Construction List provided by applicant.

Off-road Equipment - construction list overlaps entirely with PGE 500 KV Interconnection... duplicate equipment listed in PD are the same physical piece of equipment

Off-road Equipment - Construction Equipment

Off-road Equipment - Construction Equipment

Off-road Equipment - Construction Equipment

Off-road Equipment - Construction Equipment

Off-road Equipment - Construction Equipment

Off-road Equipment - Construction Schedule. Equipment listed for multiple phases within PD where overlap occurs are the same physical piece of equipment. Corrections have been applied to the list provided by applicant.

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Trips and VMT - Daily vehicle trips identified in Table 3-7 of PD. Hauling trips incorporated in average ADT for Trucks and worker trips

Grading - The project would import 16,000 CY of gravel and export 17,000 CY

Architectural Coating -

Vehicle Trips - 4 trips per weekday

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Energy Use - 87 kw per STATCOM enclosure and 22 kw for GIS building Total 1,716,960 kWh or (1,716,960/18,500) or 92.80 kWh per SF

Construction Off-road Equipment Mitigation - 30% of HP will be Tier 4 with DPF

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
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tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00

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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblEnergyUse	NT24E	0.00	92.80
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.42	0.49
tblFleetMix	LDT1	0.05	0.05
tblFleetMix	LDT2	0.20	0.19
tblFleetMix	LHD1	0.07	0.04
tblFleetMix	LHD2	9.6090e-003	9.1220e-003
tblFleetMix	MCY	0.04	0.04
tblFleetMix	MDV	0.17	0.14
tblFleetMix	MH	0.01	5.9570e-003
tblFleetMix	MHD	0.01	9.3940e-003
tblFleetMix	OBUS	8.5000e-004	6.3500e-004
tblFleetMix	SBUS	1.5570e-003	1.4180e-003
tblFleetMix	UBUS	8.9000e-005	1.6200e-004
tblGrading	MaterialExported	0.00	17,000.00
tblGrading	MaterialImported	0.00	16,000.00
tblLandUse	LandUseSquareFeet	0.00	18,500.00
tblLandUse	LotAcreage	0.00	9.20
tblOffRoadEquipment	HorsePower	231.00	250.00
tblOffRoadEquipment	HorsePower	231.00	250.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	HorsePower	187.00	250.00
tblOffRoadEquipment	HorsePower	46.00	395.00
tblOffRoadEquipment	HorsePower	46.00	395.00
tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	63.00	49.00

Round Mountain 500 kV Dynamic Reactive Support Project (BAU) - Shasta County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	63.00	74.00
tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	221.00	125.00
tblOffRoadEquipment	HorsePower	221.00	125.00
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tblOffRoadEquipment	HorsePower	89.00	100.00
tblOffRoadEquipment	HorsePower	402.00	300.00
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tblOffRoadEquipment	HorsePower	402.00	300.00
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tblOffRoadEquipment	HorsePower	97.00	68.00
tblOffRoadEquipment	HorsePower	78.00	75.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.029
tblProjectCharacteristics	CO2IntensityFactor	203.98	614
tblProjectCharacteristics	N2OIntensityFactor	0.004	0.006
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	4,125.00	0.00
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripNumber	0.00	15.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	3.00	5.00
tblTripsAndVMT	VendorTripNumber	3.00	5.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00
tblTripsAndVMT	WorkerTripLength	16.80	100.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripNumber	35.00	8.00
tbITripsAndVMT	WorkerTripNumber	8.00	3.00
tbITripsAndVMT	WorkerTripNumber	53.00	15.00
tbITripsAndVMT	WorkerTripNumber	8.00	15.00
tbITripsAndVMT	WorkerTripNumber	8.00	3.00
tbITripsAndVMT	WorkerTripNumber	8.00	3.00
tbITripsAndVMT	WorkerTripNumber	8.00	5.00
tbIVehicleTrips	CW_TTP	0.00	100.00
tbIVehicleTrips	PR_TP	0.00	100.00
tbIVehicleTrips	WD_TR	0.00	4.00

2.0 Emissions Summary

Round Mountain 500 kV Dynamic Reactive Support Project (BAU) - Shasta County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2006	4.0536	32.4537	16.4606	0.2434	0.2459	1.6117	1.8575	0.0625	1.6068	1.6693	0.0000	2,555.0823	2,555.0823	0.3184	0.0549	2,579.3860
2007	2.5294	17.1940	10.9513	0.1337	0.2041	0.8912	1.0952	0.0554	0.8877	0.9431	0.0000	1,439.9806	1,439.9806	0.1975	0.0449	1,458.2947
Maximum	4.0536	32.4537	16.4606	0.2434	0.2459	1.6117	1.8575	0.0625	1.6068	1.6693	0.0000	2,555.0823	2,555.0823	0.3184	0.0549	2,579.3860

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					
2006	2.4262	24.1580	16.4166	0.2434	0.2459	0.7900	1.0358	0.0625	0.7851	0.8476	0.0000	2,555.0797	2,555.0797	0.3184	0.0549	2,579.3834
2007	1.1600	10.9421	10.9975	0.1337	0.2041	0.2999	0.5039	0.0554	0.2964	0.3518	0.0000	1,439.9793	1,439.9793	0.1975	0.0449	1,458.2934
Maximum	2.4262	24.1580	16.4166	0.2434	0.2459	0.7900	1.0358	0.0625	0.7851	0.8476	0.0000	2,555.0797	2,555.0797	0.3184	0.0549	2,579.3834

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Percent Reduction	45.52	29.30	-0.01	0.00	0.00	56.46	47.85	0.00	56.64	54.09	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)
		Highest		

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	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	478.1386	478.1386	0.0226	4.6700e-003	480.0956
Mobile	7.1400e-003	0.0201	0.0883	8.0000e-005	5.6100e-003	4.3000e-004	6.0400e-003	1.5000e-003	4.1000e-004	1.9100e-003	0.0000	7.3203	7.3203	7.9000e-004	6.5000e-004	7.5326
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	0.1008	0.0201	0.0883	8.0000e-005	5.6100e-003	4.3000e-004	6.0400e-003	1.5000e-003	4.1000e-004	1.9100e-003	0.0000	485.4590	485.4590	0.0234	5.3200e-003	487.6282

Round Mountain 500 kV Dynamic Reactive Support Project (BAU) - Shasta County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

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	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	478.1386	478.1386	0.0226	4.6700e-003	480.0956
Mobile	7.1400e-003	0.0201	0.0883	8.0000e-005	5.6100e-003	4.3000e-004	6.0400e-003	1.5000e-003	4.1000e-004	1.9100e-003	0.0000	7.3203	7.3203	7.9000e-004	6.5000e-004	7.5326
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	0.1008	0.0201	0.0883	8.0000e-005	5.6100e-003	4.3000e-004	6.0400e-003	1.5000e-003	4.1000e-004	1.9100e-003	0.0000	485.4590	485.4590	0.0234	5.3200e-003	487.6282

	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	0.00	0.00	0.00	0.00	0.00	0.00	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	Road work, site and staging	Grading	3/1/2006	6/1/2006	6	80	
2	PGE Substation Upgrade	Building Construction	3/1/2006	9/1/2007	6	472	
3	Below Grade Const	Trenching	6/1/2006	12/1/2006	6	158	

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4	Above Grade Construction	Building Construction	12/1/2006	8/2/2007	6	210
5	PGE Distribution Upgrades	Building Construction	5/1/2007	6/30/2007	6	53
6	PGE 500 KV Interconnection	Building Construction	8/1/2007	12/1/2007	6	106
7	Commissioning and Testing	Building Construction	8/1/2007	11/30/2007	6	105

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 50

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)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Road work, site and staging	Graders	1	10.00	250	0.41
Road work, site and staging	Off-Highway Trucks	4	10.00	300	0.38
Road work, site and staging	Off-Highway Trucks	6	5.00	415	0.38
Road work, site and staging	Rollers	1	10.00	405	0.38
Road work, site and staging	Rubber Tired Loaders	2	10.00	275	0.36
PGE Substation Upgrade	Aerial Lifts	1	10.00	49	0.31
PGE Substation Upgrade	Bore/Drill Rigs	2	10.00	125	0.50
PGE Substation Upgrade	Excavators	1	5.00	70	0.38
PGE Substation Upgrade	Forklifts	1	10.00	130	0.20
PGE Substation Upgrade	Rubber Tired Loaders	1	5.00	275	0.36
PGE Substation Upgrade	Welders	2	2.00	395	0.45
Below Grade Const	Bore/Drill Rigs	2	8.00	125	0.50
Below Grade Const	Excavators	2	10.00	108	0.38
Below Grade Const	Excavators	1	5.00	70	0.38
Below Grade Const	Forklifts	2	4.00	100	0.20
Below Grade Const	Generator Sets	2	10.00	84	0.74

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Below Grade Const	Off-Highway Trucks	2	10.00	300	0.38
Below Grade Const	Off-Highway Trucks	3	8.00	415	0.38
Below Grade Const	Rubber Tired Loaders	1	10.00	275	0.36
Below Grade Const	Skid Steer Loaders	2	10.00	74	0.37
Below Grade Const	Tractors/Loaders/Backhoes	2	5.00	68	0.37
Below Grade Const	Trenchers	2	5.00	75	0.50
Above Grade Construction	Forklifts	3	4.00	130	0.20
Above Grade Construction	Generator Sets	2	10.00	84	0.74
Above Grade Construction	Welders	1	2.00	395	0.45
PGE Distribution Upgrades	Aerial Lifts	1	8.00	49	0.31
PGE Distribution Upgrades	Bore/Drill Rigs	2	8.00	125	0.50
PGE Distribution Upgrades	Cranes	2	5.00	250	0.29
PGE Distribution Upgrades	Forklifts	1	2.00	130	0.20
PGE Distribution Upgrades	Off-Highway Trucks	1	1.00	210	0.38
PGE 500 KV Interconnection	Aerial Lifts	3	10.00	49	0.31
PGE 500 KV Interconnection	Aerial Lifts	2	10.00	74	0.31
PGE 500 KV Interconnection	Bore/Drill Rigs	2	8.00	125	0.50
PGE 500 KV Interconnection	Cranes	2	10.00	250	0.29
PGE 500 KV Interconnection	Off-Highway Trucks	4	4.00	300	0.38
PGE 500 KV Interconnection	Off-Highway Trucks	3	5.00	415	0.38
Commissioning and Testing	Aerial Lifts	3	8.00	49	0.31

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
Road work, site and staging	14	8.00	15.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
PGE Substation Upgrade	8	3.00	3.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Below Grade Const	21	15.00	10.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Above Grade Construction	6	15.00	5.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
PGE Distribution Intrades	7	3.00	3.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
PGE 500 KV Interconnection	16	3.00	3.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Commissioning and Testing	3	5.00	5.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

3.2 Road work, site and staging - 2006

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					0.0290	0.0000	0.0290	3.2300e-003	0.0000	3.2300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.8328	8.5295	3.0340	0.0616		0.3277	0.3277		0.3277	0.3277	0.0000	628.9935	628.9935	0.0676	0.0000	630.6843
Total	0.8328	8.5295	3.0340	0.0616	0.0290	0.3277	0.3567	3.2300e-003	0.3277	0.3309	0.0000	628.9935	628.9935	0.0676	0.0000	630.6843

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Road work, site and staging - 2006

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	0.0862	0.8331	0.3131	6.8100e-003	0.0213	0.0342	0.0556	6.1700e-003	0.0327	0.0389	0.0000	77.1766	77.1766	3.8600e-003	0.0115	80.6867
Worker	0.0462	0.0630	0.5393	2.9000e-004	0.0231	6.7000e-004	0.0238	6.1500e-003	6.2000e-004	6.7800e-003	0.0000	26.4523	26.4523	3.5100e-003	2.9900e-003	27.4315
Total	0.1325	0.8961	0.8524	7.1000e-003	0.0445	0.0349	0.0793	0.0123	0.0334	0.0457	0.0000	103.6288	103.6288	7.3700e-003	0.0145	108.1182

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					0.0290	0.0000	0.0290	3.2300e-003	0.0000	3.2300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.6855	7.1362	2.9937	0.0616		0.2613	0.2613		0.2613	0.2613	0.0000	628.9927	628.9927	0.0676	0.0000	630.6836
Total	0.6855	7.1362	2.9937	0.0616	0.0290	0.2613	0.2903	3.2300e-003	0.2613	0.2645	0.0000	628.9927	628.9927	0.0676	0.0000	630.6836

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Road work, site and staging - 2006

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	0.0862	0.8331	0.3131	6.8100e-003	0.0213	0.0342	0.0556	6.1700e-003	0.0327	0.0389	0.0000	77.1766	77.1766	3.8600e-003	0.0115	80.6867
Worker	0.0462	0.0630	0.5393	2.9000e-004	0.0231	6.7000e-004	0.0238	6.1500e-003	6.2000e-004	6.7800e-003	0.0000	26.4523	26.4523	3.5100e-003	2.9900e-003	27.4315
Total	0.1325	0.8961	0.8524	7.1000e-003	0.0445	0.0349	0.0793	0.0123	0.0334	0.0457	0.0000	103.6288	103.6288	7.3700e-003	0.0145	108.1182

3.3 PGE Substation Upgrade - 2006

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	0.7434	5.8492	2.7205	0.0474		0.3045	0.3045		0.3045	0.3045	0.0000	446.8172	446.8172	0.0604	0.0000	448.3278
Total	0.7434	5.8492	2.7205	0.0474		0.3045	0.3045		0.3045	0.3045	0.0000	446.8172	446.8172	0.0604	0.0000	448.3278

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 PGE Substation Upgrade - 2006

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	0.0565	0.5457	0.2051	4.4600e-003	0.0140	0.0224	0.0364	4.0400e-003	0.0215	0.0255	0.0000	50.5507	50.5507	2.5300e-003	7.5000e-003	52.8498
Worker	0.0568	0.0774	0.6623	3.6000e-004	0.0284	8.2000e-004	0.0292	7.5600e-003	7.6000e-004	8.3200e-003	0.0000	32.4867	32.4867	4.3100e-003	3.6700e-003	33.6893
Total	0.1133	0.6231	0.8674	4.8200e-003	0.0424	0.0232	0.0656	0.0116	0.0222	0.0338	0.0000	83.0373	83.0373	6.8400e-003	0.0112	86.5391

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	0.2581	3.6397	2.8679	0.0474		0.0908	0.0908		0.0908	0.0908	0.0000	446.8166	446.8166	0.0604	0.0000	448.3273
Total	0.2581	3.6397	2.8679	0.0474		0.0908	0.0908		0.0908	0.0908	0.0000	446.8166	446.8166	0.0604	0.0000	448.3273

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 PGE Substation Upgrade - 2006

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	0.0565	0.5457	0.2051	4.4600e-003	0.0140	0.0224	0.0364	4.0400e-003	0.0215	0.0255	0.0000	50.5507	50.5507	2.5300e-003	7.5000e-003	52.8498
Worker	0.0568	0.0774	0.6623	3.6000e-004	0.0284	8.2000e-004	0.0292	7.5600e-003	7.6000e-004	8.3200e-003	0.0000	32.4867	32.4867	4.3100e-003	3.6700e-003	33.6893
Total	0.1133	0.6231	0.8674	4.8200e-003	0.0424	0.0232	0.0656	0.0116	0.0222	0.0338	0.0000	83.0373	83.0373	6.8400e-003	0.0112	86.5391

3.3 PGE Substation Upgrade - 2007

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	0.5959	4.6883	2.1805	0.0380		0.2440	0.2440		0.2440	0.2440	0.0000	358.1359	358.1359	0.0484	0.0000	359.3468
Total	0.5959	4.6883	2.1805	0.0380		0.2440	0.2440		0.2440	0.2440	0.0000	358.1359	358.1359	0.0484	0.0000	359.3468

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3.3 PGE Substation Upgrade - 2007

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	0.0453	0.4374	0.1644	3.5800e-003	0.0112	0.0180	0.0292	3.2400e-003	0.0172	0.0204	0.0000	40.5177	40.5177	2.0200e-003	6.0100e-003	42.3605
Worker	0.0455	0.0620	0.5309	2.9000e-004	0.0228	6.6000e-004	0.0234	6.0600e-003	6.1000e-004	6.6700e-003	0.0000	26.0389	26.0389	3.4600e-003	2.9400e-003	27.0029
Total	0.0908	0.4994	0.6953	3.8700e-003	0.0340	0.0186	0.0526	9.3000e-003	0.0178	0.0271	0.0000	66.5566	66.5566	5.4800e-003	8.9500e-003	69.3634

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	0.2069	2.9173	2.2987	0.0380		0.0728	0.0728		0.0728	0.0728	0.0000	358.1355	358.1355	0.0484	0.0000	359.3463
Total	0.2069	2.9173	2.2987	0.0380		0.0728	0.0728		0.0728	0.0728	0.0000	358.1355	358.1355	0.0484	0.0000	359.3463

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3.3 PGE Substation Upgrade - 2007

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	0.0453	0.4374	0.1644	3.5800e-003	0.0112	0.0180	0.0292	3.2400e-003	0.0172	0.0204	0.0000	40.5177	40.5177	2.0200e-003	6.0100e-003	42.3605
Worker	0.0455	0.0620	0.5309	2.9000e-004	0.0228	6.6000e-004	0.0234	6.0600e-003	6.1000e-004	6.6700e-003	0.0000	26.0389	26.0389	3.4600e-003	2.9400e-003	27.0029
Total	0.0908	0.4994	0.6953	3.8700e-003	0.0340	0.0186	0.0526	9.3000e-003	0.0178	0.0271	0.0000	66.5566	66.5566	5.4800e-003	8.9500e-003	69.3634

3.4 Below Grade Const - 2006

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	1.8470	14.6726	6.0205	0.1082		0.8404	0.8404		0.8404	0.8404	0.0000	1,040.3215	1,040.3215	0.1504	0.0000	1,044.0806
Total	1.8470	14.6726	6.0205	0.1082		0.8404	0.8404		0.8404	0.8404	0.0000	1,040.3215	1,040.3215	0.1504	0.0000	1,044.0806

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3.4 Below Grade Const - 2006

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	0.1136	1.0970	0.4123	8.9700e-003	0.0281	0.0451	0.0731	8.1200e-003	0.0431	0.0512	0.0000	101.6158	101.6158	5.0800e-003	0.0151	106.2375
Worker	0.1711	0.2333	1.9971	1.0800e-003	0.0856	2.4800e-003	0.0881	0.0228	2.3000e-003	0.0251	0.0000	97.9560	97.9560	0.0130	0.0111	101.5823
Total	0.2847	1.3303	2.4093	0.0101	0.1137	0.0475	0.1613	0.0309	0.0454	0.0763	0.0000	199.5718	199.5718	0.0181	0.0262	207.8197

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	0.9041	10.2397	5.8722	0.1082		0.3255	0.3255		0.3255	0.3255	0.0000	1,040.3203	1,040.3203	0.1504	0.0000	1,044.0793
Total	0.9041	10.2397	5.8722	0.1082		0.3255	0.3255		0.3255	0.3255	0.0000	1,040.3203	1,040.3203	0.1504	0.0000	1,044.0793

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3.4 Below Grade Const - 2006

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	0.1136	1.0970	0.4123	8.9700e-003	0.0281	0.0451	0.0731	8.1200e-003	0.0431	0.0512	0.0000	101.6158	101.6158	5.0800e-003	0.0151	106.2375
Worker	0.1711	0.2333	1.9971	1.0800e-003	0.0856	2.4800e-003	0.0881	0.0228	2.3000e-003	0.0251	0.0000	97.9560	97.9560	0.0130	0.0111	101.5823
Total	0.2847	1.3303	2.4093	0.0101	0.1137	0.0475	0.1613	0.0309	0.0454	0.0763	0.0000	199.5718	199.5718	0.0181	0.0262	207.8197

3.5 Above Grade Construction - 2006

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	0.0624	0.4244	0.1940	3.1600e-003		0.0293	0.0293		0.0293	0.0293	0.0000	28.2321	28.2321	5.0800e-003	0.0000	28.3592
Total	0.0624	0.4244	0.1940	3.1600e-003		0.0293	0.0293		0.0293	0.0293	0.0000	28.2321	28.2321	5.0800e-003	0.0000	28.3592

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3.5 Above Grade Construction - 2006

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	9.3400e-003	0.0903	0.0339	7.4000e-004	2.3100e-003	3.7100e-003	6.0200e-003	6.7000e-004	3.5500e-003	4.2200e-003	0.0000	8.3608	8.3608	4.2000e-004	1.2400e-003	8.7411
Worker	0.0282	0.0384	0.3286	1.8000e-004	0.0141	4.1000e-004	0.0145	3.7500e-003	3.8000e-004	4.1300e-003	0.0000	16.1193	16.1193	2.1400e-003	1.8200e-003	16.7161
Total	0.0375	0.1287	0.3626	9.2000e-004	0.0164	4.1200e-003	0.0205	4.4200e-003	3.9300e-003	8.3500e-003	0.0000	24.4801	24.4801	2.5600e-003	3.0600e-003	25.4571

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	0.0106	0.1643	0.1911	3.1600e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	28.2320	28.2320	5.0800e-003	0.0000	28.3591
Total	0.0106	0.1643	0.1911	3.1600e-003		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	28.2320	28.2320	5.0800e-003	0.0000	28.3591

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3.5 Above Grade Construction - 2006

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	9.3400e-003	0.0903	0.0339	7.4000e-004	2.3100e-003	3.7100e-003	6.0200e-003	6.7000e-004	3.5500e-003	4.2200e-003	0.0000	8.3608	8.3608	4.2000e-004	1.2400e-003	8.7411
Worker	0.0282	0.0384	0.3286	1.8000e-004	0.0141	4.1000e-004	0.0145	3.7500e-003	3.8000e-004	4.1300e-003	0.0000	16.1193	16.1193	2.1400e-003	1.8200e-003	16.7161
Total	0.0375	0.1287	0.3626	9.2000e-004	0.0164	4.1200e-003	0.0205	4.4200e-003	3.9300e-003	8.3500e-003	0.0000	24.4801	24.4801	2.5600e-003	3.0600e-003	25.4571

3.5 Above Grade Construction - 2007

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	0.4419	3.0035	1.3729	0.0223		0.2073	0.2073		0.2073	0.2073	0.0000	199.7962	199.7962	0.0360	0.0000	200.6957
Total	0.4419	3.0035	1.3729	0.0223		0.2073	0.2073		0.2073	0.2073	0.0000	199.7962	199.7962	0.0360	0.0000	200.6957

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3.5 Above Grade Construction - 2007

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	0.0661	0.6387	0.2401	5.2200e-003	0.0164	0.0262	0.0426	4.7300e-003	0.0251	0.0298	0.0000	59.1687	59.1687	2.9600e-003	8.7800e-003	61.8598
Worker	0.1993	0.2717	2.3257	1.2600e-003	0.0997	2.8800e-003	0.1026	0.0265	2.6800e-003	0.0292	0.0000	114.0753	114.0753	0.0151	0.0129	118.2983
Total	0.2654	0.9104	2.5657	6.4800e-003	0.1161	0.0291	0.1452	0.0313	0.0278	0.0591	0.0000	173.2440	173.2440	0.0181	0.0217	180.1581

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	0.0752	1.1627	1.3521	0.0223		0.0178	0.0178		0.0178	0.0178	0.0000	199.7960	199.7960	0.0360	0.0000	200.6954
Total	0.0752	1.1627	1.3521	0.0223		0.0178	0.0178		0.0178	0.0178	0.0000	199.7960	199.7960	0.0360	0.0000	200.6954

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3.5 Above Grade Construction - 2007

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	0.0661	0.6387	0.2401	5.2200e-003	0.0164	0.0262	0.0426	4.7300e-003	0.0251	0.0298	0.0000	59.1687	59.1687	2.9600e-003	8.7800e-003	61.8598
Worker	0.1993	0.2717	2.3257	1.2600e-003	0.0997	2.8800e-003	0.1026	0.0265	2.6800e-003	0.0292	0.0000	114.0753	114.0753	0.0151	0.0129	118.2983
Total	0.2654	0.9104	2.5657	6.4800e-003	0.1161	0.0291	0.1452	0.0313	0.0278	0.0591	0.0000	173.2440	173.2440	0.0181	0.0217	180.1581

3.6 PGE Distribution Upgrades - 2007

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	0.1042	0.8140	0.3406	6.6400e-003		0.0412	0.0412		0.0412	0.0412	0.0000	59.5867	59.5867	8.4900e-003	0.0000	59.7989
Total	0.1042	0.8140	0.3406	6.6400e-003		0.0412	0.0412		0.0412	0.0412	0.0000	59.5867	59.5867	8.4900e-003	0.0000	59.7989

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3.6 PGE Distribution Upgrades - 2007

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	0.0114	0.1104	0.0415	9.0000e-004	2.8300e-003	4.5300e-003	7.3600e-003	8.2000e-004	4.3400e-003	5.1600e-003	0.0000	10.2259	10.2259	5.1000e-004	1.5200e-003	10.6910
Worker	0.0115	0.0157	0.1340	7.0000e-005	5.7500e-003	1.7000e-004	5.9100e-003	1.5300e-003	1.5000e-004	1.6800e-003	0.0000	6.5717	6.5717	8.7000e-004	7.4000e-004	6.8150
Total	0.0229	0.1260	0.1755	9.7000e-004	8.5800e-003	4.7000e-003	0.0133	2.3500e-003	4.4900e-003	6.8400e-003	0.0000	16.7976	16.7976	1.3800e-003	2.2600e-003	17.5060

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	0.0114	0.2548	0.3759	6.6400e-003		1.6200e-003	1.6200e-003		1.6200e-003	1.6200e-003	0.0000	59.5866	59.5866	8.4900e-003	0.0000	59.7988
Total	0.0114	0.2548	0.3759	6.6400e-003		1.6200e-003	1.6200e-003		1.6200e-003	1.6200e-003	0.0000	59.5866	59.5866	8.4900e-003	0.0000	59.7988

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3.6 PGE Distribution Upgrades - 2007

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	0.0114	0.1104	0.0415	9.0000e-004	2.8300e-003	4.5300e-003	7.3600e-003	8.2000e-004	4.3400e-003	5.1600e-003	0.0000	10.2259	10.2259	5.1000e-004	1.5200e-003	10.6910
Worker	0.0115	0.0157	0.1340	7.0000e-005	5.7500e-003	1.7000e-004	5.9100e-003	1.5300e-003	1.5000e-004	1.6800e-003	0.0000	6.5717	6.5717	8.7000e-004	7.4000e-004	6.8150
Total	0.0229	0.1260	0.1755	9.7000e-004	8.5800e-003	4.7000e-003	0.0133	2.3500e-003	4.4900e-003	6.8400e-003	0.0000	16.7976	16.7976	1.3800e-003	2.2600e-003	17.5060

3.7 PGE 500 KV Interconnection - 2007

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	0.7722	6.2251	2.4322	0.0474		0.2936	0.2936		0.2936	0.2936	0.0000	455.0507	455.0507	0.0629	0.0000	456.6228
Total	0.7722	6.2251	2.4322	0.0474		0.2936	0.2936		0.2936	0.2936	0.0000	455.0507	455.0507	0.0629	0.0000	456.6228

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 PGE 500 KV Interconnection - 2007

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	0.0229	0.2208	0.0830	1.8000e-003	5.6500e-003	9.0700e-003	0.0147	1.6400e-003	8.6800e-003	0.0103	0.0000	20.4518	20.4518	1.0200e-003	3.0400e-003	21.3820
Worker	0.0230	0.0313	0.2680	1.5000e-004	0.0115	3.3000e-004	0.0118	3.0600e-003	3.1000e-004	3.3700e-003	0.0000	13.1435	13.1435	1.7400e-003	1.4900e-003	13.6300
Total	0.0458	0.2521	0.3509	1.9500e-003	0.0171	9.4000e-003	0.0265	4.7000e-003	8.9900e-003	0.0137	0.0000	33.5953	33.5953	2.7600e-003	4.5300e-003	35.0120

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	0.3609	4.2112	2.4311	0.0474		0.1295	0.1295		0.1295	0.1295	0.0000	455.0501	455.0501	0.0629	0.0000	456.6223
Total	0.3609	4.2112	2.4311	0.0474		0.1295	0.1295		0.1295	0.1295	0.0000	455.0501	455.0501	0.0629	0.0000	456.6223

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3.7 PGE 500 KV Interconnection - 2007

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	0.0229	0.2208	0.0830	1.8000e-003	5.6500e-003	9.0700e-003	0.0147	1.6400e-003	8.6800e-003	0.0103	0.0000	20.4518	20.4518	1.0200e-003	3.0400e-003	21.3820
Worker	0.0230	0.0313	0.2680	1.5000e-004	0.0115	3.3000e-004	0.0118	3.0600e-003	3.1000e-004	3.3700e-003	0.0000	13.1435	13.1435	1.7400e-003	1.4900e-003	13.6300
Total	0.0458	0.2521	0.3509	1.9500e-003	0.0171	9.4000e-003	0.0265	4.7000e-003	8.9900e-003	0.0137	0.0000	33.5953	33.5953	2.7600e-003	4.5300e-003	35.0120

3.8 Commisioning and Testing - 2007

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	0.1146	0.2590	0.2583	2.7400e-003		0.0277	0.0277		0.0277	0.0277	0.0000	21.7538	21.7538	9.3800e-003	0.0000	21.9883
Total	0.1146	0.2590	0.2583	2.7400e-003		0.0277	0.0277		0.0277	0.0277	0.0000	21.7538	21.7538	9.3800e-003	0.0000	21.9883

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3.8 Commissioning and Testing - 2007

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	0.0377	0.3645	0.1370	2.9800e-003	9.3300e-003	0.0150	0.0243	2.7000e-003	0.0143	0.0170	0.0000	33.7648	33.7648	1.6900e-003	5.0100e-003	35.3004
Worker	0.0379	0.0517	0.4424	2.4000e-004	0.0190	5.5000e-004	0.0195	5.0500e-003	5.1000e-004	5.5600e-003	0.0000	21.6991	21.6991	2.8800e-003	2.4500e-003	22.5024
Total	0.0756	0.4162	0.5794	3.2200e-003	0.0283	0.0155	0.0438	7.7500e-003	0.0148	0.0226	0.0000	55.4639	55.4639	4.5700e-003	7.4600e-003	57.8028

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	5.0600e-003	0.1920	0.1730	2.7400e-003		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	21.7538	21.7538	9.3800e-003	0.0000	21.9882
Total	5.0600e-003	0.1920	0.1730	2.7400e-003		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	21.7538	21.7538	9.3800e-003	0.0000	21.9882

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3.8 Commissioning and Testing - 2007

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	0.0377	0.3645	0.1370	2.9800e-003	9.3300e-003	0.0150	0.0243	2.7000e-003	0.0143	0.0170	0.0000	33.7648	33.7648	1.6900e-003	5.0100e-003	35.3004
Worker	0.0379	0.0517	0.4424	2.4000e-004	0.0190	5.5000e-004	0.0195	5.0500e-003	5.1000e-004	5.5600e-003	0.0000	21.6991	21.6991	2.8800e-003	2.4500e-003	22.5024
Total	0.0756	0.4162	0.5794	3.2200e-003	0.0283	0.0155	0.0438	7.7500e-003	0.0148	0.0226	0.0000	55.4639	55.4639	4.5700e-003	7.4600e-003	57.8028

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	7.1400e-003	0.0201	0.0883	8.0000e-005	5.6100e-003	4.3000e-004	6.0400e-003	1.5000e-003	4.1000e-004	1.9100e-003	0.0000	7.3203	7.3203	7.9000e-004	6.5000e-004	7.5326
Unmitigated	7.1400e-003	0.0201	0.0883	8.0000e-005	5.6100e-003	4.3000e-004	6.0400e-003	1.5000e-003	4.1000e-004	1.9100e-003	0.0000	7.3203	7.3203	7.9000e-004	6.5000e-004	7.5326

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	4.00	0.00	0.00	15,288	15,288
Total	4.00	0.00	0.00	15,288	15,288

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
User Defined Industrial	14.70	6.60	6.60	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.489904	0.053513	0.186430	0.142392	0.042996	0.009122	0.009394	0.022860	0.000635	0.000162	0.035216	0.001418	0.005957

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.7168e+006	478.1386	0.0226	4.6700e-003	480.0956
Total		478.1386	0.0226	4.6700e-003	480.0956

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.7168e+006	478.1386	0.0226	4.6700e-003	480.0956
Total		478.1386	0.0226	4.6700e-003	480.0956

6.0 Area Detail

6.1 Mitigation Measures Area

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	tons/yr										MT/yr					
Mitigated	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.0214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0723					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

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	0.0214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0723					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	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			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		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 Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	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 Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	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			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Round Mountain 500 kV Dynamic Reactive Support Project (Operational 2025)

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	9.20	18,500.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site area is 9.2 Acre; 2 small control buildings will be installed (Estimated to be 8,000 SF) and one 10,500 SF GIS building = 18500 SF

Construction Phase - LSPGC Round Mountain Schedule and includes Construction List provided by applicant.

Off-road Equipment - construction list overlaps entirely with PGE 500 KV Interconnection... duplicate equipment listed in PD are the same physical piece of equipment

Off-road Equipment - Construction Equipment

Off-road Equipment - Construction Equipment

Off-road Equipment - Construction Equipment

Off-road Equipment - Construction Equipment

Off-road Equipment - Construction Equipment

Off-road Equipment - Construction Schedule. Equipment listed for multiple phases within PD where overlap occurs are the same physical piece of equipment. Corrections have been applied to the list provided by applicant.

Trips and VMT - Daily vehicle trips identified in Table 3-7 of PD. Hauling trips incorporated in average ADT for Trucks and worker trips

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Grading - The project would import 16,000 CY of gravel and export 17,000 CY

Architectural Coating -

Vehicle Trips - 4 trips per weekday

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Area Coating -

Energy Use - 87 kw per STATCOM enclosure and 22 kw for GIS building Total 1,716,960 kWh or (1,716,960/18,500) or 92.80 kWh per SF

Construction Off-road Equipment Mitigation - 30% of HP will be Tier 4 with DPF

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00

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tblEnergyUse	NT24E	0.00	92.80
tblGrading	MaterialExported	0.00	17,000.00
tblGrading	MaterialImported	0.00	16,000.00
tblLandUse	LandUseSquareFeet	0.00	18,500.00
tblLandUse	LotAcreage	0.00	9.20
tblOffRoadEquipment	HorsePower	231.00	250.00
tblOffRoadEquipment	HorsePower	231.00	250.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	HorsePower	89.00	130.00
tblOffRoadEquipment	HorsePower	187.00	250.00
tblOffRoadEquipment	HorsePower	46.00	395.00
tblOffRoadEquipment	HorsePower	46.00	395.00
tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	63.00	74.00
tblOffRoadEquipment	HorsePower	63.00	49.00
tblOffRoadEquipment	HorsePower	221.00	125.00
tblOffRoadEquipment	HorsePower	221.00	125.00
tblOffRoadEquipment	HorsePower	221.00	125.00
tblOffRoadEquipment	HorsePower	221.00	125.00
tblOffRoadEquipment	HorsePower	158.00	70.00
tblOffRoadEquipment	HorsePower	158.00	108.00
tblOffRoadEquipment	HorsePower	158.00	70.00
tblOffRoadEquipment	HorsePower	89.00	100.00
tblOffRoadEquipment	HorsePower	402.00	300.00
tblOffRoadEquipment	HorsePower	402.00	415.00
tblOffRoadEquipment	HorsePower	402.00	300.00

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tblOffRoadEquipment	HorsePower	402.00	415.00
tblOffRoadEquipment	HorsePower	402.00	210.00
tblOffRoadEquipment	HorsePower	402.00	300.00
tblOffRoadEquipment	HorsePower	402.00	415.00
tblOffRoadEquipment	HorsePower	80.00	405.00
tblOffRoadEquipment	HorsePower	203.00	275.00
tblOffRoadEquipment	HorsePower	203.00	275.00
tblOffRoadEquipment	HorsePower	203.00	275.00
tblOffRoadEquipment	HorsePower	65.00	74.00
tblOffRoadEquipment	HorsePower	97.00	68.00
tblOffRoadEquipment	HorsePower	78.00	75.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	7.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	10.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	HaulingTripNumber	4,125.00	0.00
tblTripsAndVMT	VendorTripLength	6.60	40.00

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tbITripsAndVMT	VendorTripLength	6.60	40.00
tbITripsAndVMT	VendorTripLength	6.60	40.00
tbITripsAndVMT	VendorTripLength	6.60	40.00
tbITripsAndVMT	VendorTripLength	6.60	40.00
tbITripsAndVMT	VendorTripLength	6.60	40.00
tbITripsAndVMT	VendorTripLength	6.60	40.00
tbITripsAndVMT	VendorTripNumber	0.00	15.00
tbITripsAndVMT	VendorTripNumber	0.00	10.00
tbITripsAndVMT	VendorTripNumber	3.00	5.00
tbITripsAndVMT	VendorTripNumber	3.00	5.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripLength	16.80	100.00
tbITripsAndVMT	WorkerTripNumber	35.00	8.00
tbITripsAndVMT	WorkerTripNumber	8.00	3.00
tbITripsAndVMT	WorkerTripNumber	53.00	15.00
tbITripsAndVMT	WorkerTripNumber	8.00	15.00
tbITripsAndVMT	WorkerTripNumber	8.00	3.00
tbITripsAndVMT	WorkerTripNumber	8.00	3.00
tbITripsAndVMT	WorkerTripNumber	8.00	5.00
tbIVehicleTrips	CW_TTP	0.00	100.00
tbIVehicleTrips	PR_TP	0.00	100.00
tbIVehicleTrips	WD_TR	0.00	4.00

2.0 Emissions Summary

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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					
2023	0.8822	7.4197	8.3951	0.0240	0.2459	0.2871	0.5330	0.0625	0.2673	0.3298	0.0000	2,143.3909	2,143.3909	0.5261	0.0299	2,165.4537
2024	0.4508	3.8551	5.0778	0.0135	0.2041	0.1338	0.3379	0.0554	0.1259	0.1813	0.0000	1,216.4373	1,216.4373	0.2408	0.0211	1,228.7346
Maximum	0.8822	7.4197	8.3951	0.0240	0.2459	0.2871	0.5330	0.0625	0.2673	0.3298	0.0000	2,143.3909	2,143.3909	0.5261	0.0299	2,165.4537

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					
2023	0.6870	7.5297	9.2674	0.0240	0.2459	0.1427	0.3886	0.0625	0.1326	0.1951	0.0000	2,143.3887	2,143.3887	0.5261	0.0299	2,165.4515
2024	0.3125	4.3211	5.9743	0.0135	0.2041	0.0464	0.2504	0.0554	0.0439	0.0992	0.0000	1,216.4362	1,216.4362	0.2408	0.0211	1,228.7335
Maximum	0.6870	7.5297	9.2674	0.0240	0.2459	0.1427	0.3886	0.0625	0.1326	0.1951	0.0000	2,143.3887	2,143.3887	0.5261	0.0299	2,165.4515

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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
Percent Reduction	25.02	-5.11	-13.13	0.00	0.00	55.07	26.62	0.00	55.12	42.41	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)
9	1-1-2023	3-31-2023	0.9640	0.8862
10	4-1-2023	6-30-2023	2.7431	2.6071
11	7-1-2023	9-30-2023	2.5434	2.6077
12	10-1-2023	12-31-2023	2.0344	2.1004
13	1-1-2024	3-31-2024	0.8685	0.9786
14	4-1-2024	6-30-2024	1.1167	1.2210
15	7-1-2024	9-30-2024	1.3711	1.4715
		Highest	2.7431	2.6077

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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	tons/yr										MT/yr					
Area	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	158.8448	158.8448	0.0257	3.1100e-003	160.4155
Mobile	2.7300e-003	5.5100e-003	0.0276	6.0000e-005	5.6100e-003	7.0000e-005	5.6700e-003	1.5000e-003	6.0000e-005	1.5700e-003	0.0000	5.4693	5.4693	3.1000e-004	3.0000e-004	5.5657
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	0.0964	5.5100e-003	0.0276	6.0000e-005	5.6100e-003	7.0000e-005	5.6700e-003	1.5000e-003	6.0000e-005	1.5700e-003	0.0000	164.3141	164.3141	0.0260	3.4100e-003	165.9812

Round Mountain 500 kV Dynamic Reactive Support Project (Operational 2025) - Shasta County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

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	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	158.8448	158.8448	0.0257	3.1100e-003	160.4155
Mobile	2.7300e-003	5.5100e-003	0.0276	6.0000e-005	5.6100e-003	7.0000e-005	5.6700e-003	1.5000e-003	6.0000e-005	1.5700e-003	0.0000	5.4693	5.4693	3.1000e-004	3.0000e-004	5.5657
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	0.0964	5.5100e-003	0.0276	6.0000e-005	5.6100e-003	7.0000e-005	5.6700e-003	1.5000e-003	6.0000e-005	1.5700e-003	0.0000	164.3141	164.3141	0.0260	3.4100e-003	165.9812

	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	0.00	0.00	0.00	0.00	0.00	0.00	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	Road work, site and staging	Grading	3/1/2023	6/1/2023	6	80	
2	PGE Substation Upgrade	Building Construction	3/1/2023	9/1/2024	6	472	
3	Below Grade Const	Trenching	6/1/2023	12/1/2023	6	158	

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4	Above Grade Construction	Building Construction	12/1/2023	8/1/2024	6	210
5	PGE Distribution Upgrades	Building Construction	5/1/2024	7/1/2024	6	53
6	PGE 500 KV Interconnection	Building Construction	8/1/2024	12/2/2024	6	106
7	Commissioning and Testing	Building Construction	8/1/2024	12/1/2024	6	105

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 50

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)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Road work, site and staging	Graders	1	10.00	250	0.41
Road work, site and staging	Off-Highway Trucks	4	10.00	300	0.38
Road work, site and staging	Off-Highway Trucks	6	5.00	415	0.38
Road work, site and staging	Rollers	1	10.00	405	0.38
Road work, site and staging	Rubber Tired Loaders	2	10.00	275	0.36
PGE Substation Upgrade	Aerial Lifts	1	10.00	49	0.31
PGE Substation Upgrade	Bore/Drill Rigs	2	10.00	125	0.50
PGE Substation Upgrade	Excavators	1	5.00	70	0.38
PGE Substation Upgrade	Forklifts	1	10.00	130	0.20
PGE Substation Upgrade	Rubber Tired Loaders	1	5.00	275	0.36
PGE Substation Upgrade	Welders	2	2.00	395	0.45
Below Grade Const	Bore/Drill Rigs	2	8.00	125	0.50
Below Grade Const	Excavators	2	10.00	108	0.38
Below Grade Const	Excavators	1	5.00	70	0.38
Below Grade Const	Forklifts	2	4.00	100	0.20
Below Grade Const	Generator Sets	2	10.00	84	0.74

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Below Grade Const	Off-Highway Trucks	2	10.00	300	0.38
Below Grade Const	Off-Highway Trucks	3	8.00	415	0.38
Below Grade Const	Rubber Tired Loaders	1	10.00	275	0.36
Below Grade Const	Skid Steer Loaders	2	10.00	74	0.37
Below Grade Const	Tractors/Loaders/Backhoes	2	5.00	68	0.37
Below Grade Const	Trenchers	2	5.00	75	0.50
Above Grade Construction	Forklifts	3	4.00	130	0.20
Above Grade Construction	Generator Sets	2	10.00	84	0.74
Above Grade Construction	Welders	1	2.00	395	0.45
PGE Distribution Upgrades	Aerial Lifts	1	8.00	49	0.31
PGE Distribution Upgrades	Bore/Drill Rigs	2	8.00	125	0.50
PGE Distribution Upgrades	Cranes	2	5.00	250	0.29
PGE Distribution Upgrades	Forklifts	1	2.00	130	0.20
PGE Distribution Upgrades	Off-Highway Trucks	1	1.00	210	0.38
PGE 500 KV Interconnection	Aerial Lifts	3	10.00	49	0.31
PGE 500 KV Interconnection	Aerial Lifts	2	10.00	74	0.31
PGE 500 KV Interconnection	Bore/Drill Rigs	2	8.00	125	0.50
PGE 500 KV Interconnection	Cranes	2	10.00	250	0.29
PGE 500 KV Interconnection	Off-Highway Trucks	4	4.00	300	0.38
PGE 500 KV Interconnection	Off-Highway Trucks	3	5.00	415	0.38
Commissioning and Testing	Aerial Lifts	3	8.00	49	0.31

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
Road work, site and staging	14	8.00	15.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
PGE Substation Upgrade	8	3.00	3.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Below Grade Const	21	15.00	10.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT

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Above Grade Construction	6	15.00	5.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
PGE Distribution Intrades	7	3.00	3.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
PGE 500 KV Interconnection	16	3.00	3.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Commissioning and Testing	3	5.00	5.00	0.00	100.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

3.2 Road work, site and staging - 2023

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					0.0290	0.0000	0.0290	3.2300e-003	0.0000	3.2300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2455	2.0327	1.6203	5.9800e-003		0.0740	0.0740		0.0681	0.0681	0.0000	525.0498	525.0498	0.1698	0.0000	529.2951
Total	0.2455	2.0327	1.6203	5.9800e-003	0.0290	0.0740	0.1030	3.2300e-003	0.0681	0.0713	0.0000	525.0498	525.0498	0.1698	0.0000	529.2951

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3.2 Road work, site and staging - 2023

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	2.6700e-003	0.1310	0.0220	6.4000e-004	0.0213	1.0500e-003	0.0224	6.1700e-003	1.0100e-003	7.1800e-003	0.0000	61.0918	61.0918	1.2000e-004	8.8300e-003	63.7271
Worker	5.6400e-003	4.9600e-003	0.0613	2.0000e-004	0.0231	1.2000e-004	0.0233	6.1500e-003	1.1000e-004	6.2700e-003	0.0000	18.8741	18.8741	2.7000e-004	4.1000e-004	19.0039
Total	8.3100e-003	0.1360	0.0833	8.4000e-004	0.0445	1.1700e-003	0.0456	0.0123	1.1200e-003	0.0135	0.0000	79.9658	79.9658	3.9000e-004	9.2400e-003	82.7309

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					0.0290	0.0000	0.0290	3.2300e-003	0.0000	3.2300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2092	1.7026	1.8296	5.9800e-003		0.0516	0.0516		0.0475	0.0475	0.0000	525.0492	525.0492	0.1698	0.0000	529.2945
Total	0.2092	1.7026	1.8296	5.9800e-003	0.0290	0.0516	0.0806	3.2300e-003	0.0475	0.0508	0.0000	525.0492	525.0492	0.1698	0.0000	529.2945

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3.2 Road work, site and staging - 2023

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	2.6700e-003	0.1310	0.0220	6.4000e-004	0.0213	1.0500e-003	0.0224	6.1700e-003	1.0100e-003	7.1800e-003	0.0000	61.0918	61.0918	1.2000e-004	8.8300e-003	63.7271
Worker	5.6400e-003	4.9600e-003	0.0613	2.0000e-004	0.0231	1.2000e-004	0.0233	6.1500e-003	1.1000e-004	6.2700e-003	0.0000	18.8741	18.8741	2.7000e-004	4.1000e-004	19.0039
Total	8.3100e-003	0.1360	0.0833	8.4000e-004	0.0445	1.1700e-003	0.0456	0.0123	1.1200e-003	0.0135	0.0000	79.9658	79.9658	3.9000e-004	9.2400e-003	82.7309

3.3 PGE Substation Upgrade - 2023

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	0.1547	1.2977	1.9905	4.3000e-003		0.0496	0.0496		0.0463	0.0463	0.0000	393.0387	393.0387	0.0964	0.0000	395.4491
Total	0.1547	1.2977	1.9905	4.3000e-003		0.0496	0.0496		0.0463	0.0463	0.0000	393.0387	393.0387	0.0964	0.0000	395.4491

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3.3 PGE Substation Upgrade - 2023

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	1.7500e-003	0.0858	0.0144	4.2000e-004	0.0140	6.9000e-004	0.0147	4.0400e-003	6.6000e-004	4.7000e-003	0.0000	40.0151	40.0151	8.0000e-005	5.7900e-003	41.7412
Worker	6.9300e-003	6.1000e-003	0.0753	2.5000e-004	0.0284	1.5000e-004	0.0286	7.5600e-003	1.4000e-004	7.7000e-003	0.0000	23.1797	23.1797	3.4000e-004	5.1000e-004	23.3391
Total	8.6800e-003	0.0919	0.0897	6.7000e-004	0.0424	8.4000e-004	0.0432	0.0116	8.0000e-004	0.0124	0.0000	63.1948	63.1948	4.2000e-004	6.3000e-003	65.0803

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	0.1112	1.7740	2.3457	4.3000e-003		0.0206	0.0206		0.0198	0.0198	0.0000	393.0382	393.0382	0.0964	0.0000	395.4487
Total	0.1112	1.7740	2.3457	4.3000e-003		0.0206	0.0206		0.0198	0.0198	0.0000	393.0382	393.0382	0.0964	0.0000	395.4487

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 PGE Substation Upgrade - 2023

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	1.7500e-003	0.0858	0.0144	4.2000e-004	0.0140	6.9000e-004	0.0147	4.0400e-003	6.6000e-004	4.7000e-003	0.0000	40.0151	40.0151	8.0000e-005	5.7900e-003	41.7412
Worker	6.9300e-003	6.1000e-003	0.0753	2.5000e-004	0.0284	1.5000e-004	0.0286	7.5600e-003	1.4000e-004	7.7000e-003	0.0000	23.1797	23.1797	3.4000e-004	5.1000e-004	23.3391
Total	8.6800e-003	0.0919	0.0897	6.7000e-004	0.0424	8.4000e-004	0.0432	0.0116	8.0000e-004	0.0124	0.0000	63.1948	63.1948	4.2000e-004	6.3000e-003	65.0803

3.3 PGE Substation Upgrade - 2024

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	0.1197	0.9622	1.5933	3.4400e-003		0.0364	0.0364		0.0340	0.0340	0.0000	314.8579	314.8579	0.0771	0.0000	316.7848
Total	0.1197	0.9622	1.5933	3.4400e-003		0.0364	0.0364		0.0340	0.0340	0.0000	314.8579	314.8579	0.0771	0.0000	316.7848

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3.3 PGE Substation Upgrade - 2024

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	1.3400e-003	0.0679	0.0110	3.3000e-004	0.0112	5.5000e-004	0.0117	3.2400e-003	5.3000e-004	3.7600e-003	0.0000	31.5706	31.5706	6.0000e-005	4.5600e-003	32.9311
Worker	5.2000e-003	4.2800e-003	0.0555	1.9000e-004	0.0228	1.1000e-004	0.0229	6.0600e-003	1.0000e-004	6.1600e-003	0.0000	18.1125	18.1125	2.4000e-004	3.7000e-004	18.2295
Total	6.5400e-003	0.0722	0.0665	5.2000e-004	0.0340	6.6000e-004	0.0346	9.3000e-003	6.3000e-004	9.9200e-003	0.0000	49.6832	49.6832	3.0000e-004	4.9300e-003	51.1606

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	0.0868	1.3777	1.8761	3.4400e-003		0.0149	0.0149		0.0144	0.0144	0.0000	314.8575	314.8575	0.0771	0.0000	316.7844
Total	0.0868	1.3777	1.8761	3.4400e-003		0.0149	0.0149		0.0144	0.0144	0.0000	314.8575	314.8575	0.0771	0.0000	316.7844

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3.3 PGE Substation Upgrade - 2024

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	1.3400e-003	0.0679	0.0110	3.3000e-004	0.0112	5.5000e-004	0.0117	3.2400e-003	5.3000e-004	3.7600e-003	0.0000	31.5706	31.5706	6.0000e-005	4.5600e-003	32.9311
Worker	5.2000e-003	4.2800e-003	0.0555	1.9000e-004	0.0228	1.1000e-004	0.0229	6.0600e-003	1.0000e-004	6.1600e-003	0.0000	18.1125	18.1125	2.4000e-004	3.7000e-004	18.2295
Total	6.5400e-003	0.0722	0.0665	5.2000e-004	0.0340	6.6000e-004	0.0346	9.3000e-003	6.3000e-004	9.9200e-003	0.0000	49.6832	49.6832	3.0000e-004	4.9300e-003	51.1606

3.4 Below Grade Const - 2023

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	0.4226	3.5330	4.1572	0.0101		0.1539	0.1539		0.1436	0.1436	0.0000	886.2398	886.2398	0.2554	0.0000	892.6257
Total	0.4226	3.5330	4.1572	0.0101		0.1539	0.1539		0.1436	0.1436	0.0000	886.2398	886.2398	0.2554	0.0000	892.6257

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Below Grade Const - 2023

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	3.5100e-003	0.1725	0.0289	8.4000e-004	0.0281	1.3900e-003	0.0295	8.1200e-003	1.3300e-003	9.4500e-003	0.0000	80.4375	80.4375	1.6000e-004	0.0116	83.9073
Worker	0.0209	0.0184	0.2271	7.5000e-004	0.0856	4.5000e-004	0.0861	0.0228	4.1000e-004	0.0232	0.0000	69.8930	69.8930	1.0200e-003	1.5300e-003	70.3736
Total	0.0244	0.1909	0.2561	1.5900e-003	0.1137	1.8400e-003	0.1156	0.0309	1.7400e-003	0.0327	0.0000	150.3305	150.3305	1.1800e-003	0.0132	154.2809

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	0.3147	3.5086	4.4478	0.0101		0.0660	0.0660		0.0610	0.0610	0.0000	886.2387	886.2387	0.2554	0.0000	892.6246
Total	0.3147	3.5086	4.4478	0.0101		0.0660	0.0660		0.0610	0.0610	0.0000	886.2387	886.2387	0.2554	0.0000	892.6246

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3.4 Below Grade Const - 2023

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	3.5100e-003	0.1725	0.0289	8.4000e-004	0.0281	1.3900e-003	0.0295	8.1200e-003	1.3300e-003	9.4500e-003	0.0000	80.4375	80.4375	1.6000e-004	0.0116	83.9073
Worker	0.0209	0.0184	0.2271	7.5000e-004	0.0856	4.5000e-004	0.0861	0.0228	4.1000e-004	0.0232	0.0000	69.8930	69.8930	1.0200e-003	1.5300e-003	70.3736
Total	0.0244	0.1909	0.2561	1.5900e-003	0.1137	1.8400e-003	0.1156	0.0309	1.7400e-003	0.0327	0.0000	150.3305	150.3305	1.1800e-003	0.0132	154.2809

3.5 Above Grade Construction - 2023

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	0.0143	0.1203	0.1582	3.1000e-004		5.5800e-003	5.5800e-003		5.5100e-003	5.5100e-003	0.0000	27.4518	27.4518	2.2200e-003	0.0000	27.5073
Total	0.0143	0.1203	0.1582	3.1000e-004		5.5800e-003	5.5800e-003		5.5100e-003	5.5100e-003	0.0000	27.4518	27.4518	2.2200e-003	0.0000	27.5073

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3.5 Above Grade Construction - 2023

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	2.9000e-004	0.0142	2.3800e-003	7.0000e-005	2.3100e-003	1.1000e-004	2.4200e-003	6.7000e-004	1.1000e-004	7.8000e-004	0.0000	6.6183	6.6183	1.0000e-005	9.6000e-004	6.9038
Worker	3.4400e-003	3.0200e-003	0.0374	1.2000e-004	0.0141	7.0000e-005	0.0142	3.7500e-003	7.0000e-005	3.8200e-003	0.0000	11.5014	11.5014	1.7000e-004	2.5000e-004	11.5805
Total	3.7300e-003	0.0172	0.0398	1.9000e-004	0.0164	1.8000e-004	0.0166	4.4200e-003	1.8000e-004	4.6000e-003	0.0000	18.1197	18.1197	1.8000e-004	1.2100e-003	18.4842

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	6.6500e-003	0.1086	0.1755	3.1000e-004		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	27.4517	27.4517	2.2200e-003	0.0000	27.5073
Total	6.6500e-003	0.1086	0.1755	3.1000e-004		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	27.4517	27.4517	2.2200e-003	0.0000	27.5073

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3.5 Above Grade Construction - 2023

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	2.9000e-004	0.0142	2.3800e-003	7.0000e-005	2.3100e-003	1.1000e-004	2.4200e-003	6.7000e-004	1.1000e-004	7.8000e-004	0.0000	6.6183	6.6183	1.0000e-005	9.6000e-004	6.9038
Worker	3.4400e-003	3.0200e-003	0.0374	1.2000e-004	0.0141	7.0000e-005	0.0142	3.7500e-003	7.0000e-005	3.8200e-003	0.0000	11.5014	11.5014	1.7000e-004	2.5000e-004	11.5805
Total	3.7300e-003	0.0172	0.0398	1.9000e-004	0.0164	1.8000e-004	0.0166	4.4200e-003	1.8000e-004	4.6000e-003	0.0000	18.1197	18.1197	1.8000e-004	1.2100e-003	18.4842

3.5 Above Grade Construction - 2024

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	0.0946	0.7849	1.1180	2.1800e-003		0.0342	0.0342		0.0337	0.0337	0.0000	194.2740	194.2740	0.0152	0.0000	194.6541
Total	0.0946	0.7849	1.1180	2.1800e-003		0.0342	0.0342		0.0337	0.0337	0.0000	194.2740	194.2740	0.0152	0.0000	194.6541

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3.5 Above Grade Construction - 2024

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	1.9600e-003	0.0992	0.0161	4.8000e-004	0.0164	8.0000e-004	0.0172	4.7300e-003	7.7000e-004	5.5000e-003	0.0000	46.1031	46.1031	9.0000e-005	6.6600e-003	48.0898
Worker	0.0228	0.0188	0.2430	8.5000e-004	0.0997	5.0000e-004	0.1002	0.0265	4.6000e-004	0.0270	0.0000	79.3501	79.3501	1.0500e-003	1.6300e-003	79.8626
Total	0.0247	0.1179	0.2590	1.3300e-003	0.1161	1.3000e-003	0.1174	0.0313	1.2300e-003	0.0325	0.0000	125.4533	125.4533	1.1400e-003	8.2900e-003	127.9524

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	0.0464	0.7575	1.2415	2.1800e-003		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003	0.0000	194.2737	194.2737	0.0152	0.0000	194.6538
Total	0.0464	0.7575	1.2415	2.1800e-003		3.0500e-003	3.0500e-003		3.0500e-003	3.0500e-003	0.0000	194.2737	194.2737	0.0152	0.0000	194.6538

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3.5 Above Grade Construction - 2024

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	1.9600e-003	0.0992	0.0161	4.8000e-004	0.0164	8.0000e-004	0.0172	4.7300e-003	7.7000e-004	5.5000e-003	0.0000	46.1031	46.1031	9.0000e-005	6.6600e-003	48.0898
Worker	0.0228	0.0188	0.2430	8.5000e-004	0.0997	5.0000e-004	0.1002	0.0265	4.6000e-004	0.0270	0.0000	79.3501	79.3501	1.0500e-003	1.6300e-003	79.8626
Total	0.0247	0.1179	0.2590	1.3300e-003	0.1161	1.3000e-003	0.1174	0.0313	1.2300e-003	0.0325	0.0000	125.4533	125.4533	1.1400e-003	8.2900e-003	127.9524

3.6 PGE Distribution Upgrades - 2024

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	0.0219	0.2182	0.2752	5.7000e-004		8.6300e-003	8.6300e-003		7.9400e-003	7.9400e-003	0.0000	50.2246	50.2246	0.0162	0.0000	50.6307
Total	0.0219	0.2182	0.2752	5.7000e-004		8.6300e-003	8.6300e-003		7.9400e-003	7.9400e-003	0.0000	50.2246	50.2246	0.0162	0.0000	50.6307

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3.6 PGE Distribution Upgrades - 2024

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	3.4000e-004	0.0171	2.7800e-003	8.0000e-005	2.8300e-003	1.4000e-004	2.9600e-003	8.2000e-004	1.3000e-004	9.5000e-004	0.0000	7.9678	7.9678	2.0000e-005	1.1500e-003	8.3112
Worker	1.3100e-003	1.0800e-003	0.0140	5.0000e-005	5.7500e-003	3.0000e-005	5.7700e-003	1.5300e-003	3.0000e-005	1.5600e-003	0.0000	4.5713	4.5713	6.0000e-005	9.0000e-005	4.6008
Total	1.6500e-003	0.0182	0.0168	1.3000e-004	8.5800e-003	1.7000e-004	8.7300e-003	2.3500e-003	1.6000e-004	2.5100e-003	0.0000	12.5391	12.5391	8.0000e-005	1.2400e-003	12.9120

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	8.8700e-003	0.2254	0.3725	5.7000e-004		5.1000e-004	5.1000e-004		4.9000e-004	4.9000e-004	0.0000	50.2246	50.2246	0.0162	0.0000	50.6307
Total	8.8700e-003	0.2254	0.3725	5.7000e-004		5.1000e-004	5.1000e-004		4.9000e-004	4.9000e-004	0.0000	50.2246	50.2246	0.0162	0.0000	50.6307

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3.6 PGE Distribution Upgrades - 2024

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	3.4000e-004	0.0171	2.7800e-003	8.0000e-005	2.8300e-003	1.4000e-004	2.9600e-003	8.2000e-004	1.3000e-004	9.5000e-004	0.0000	7.9678	7.9678	2.0000e-005	1.1500e-003	8.3112
Worker	1.3100e-003	1.0800e-003	0.0140	5.0000e-005	5.7500e-003	3.0000e-005	5.7700e-003	1.5300e-003	3.0000e-005	1.5600e-003	0.0000	4.5713	4.5713	6.0000e-005	9.0000e-005	4.6008
Total	1.6500e-003	0.0182	0.0168	1.3000e-004	8.5800e-003	1.7000e-004	8.7300e-003	2.3500e-003	1.6000e-004	2.5100e-003	0.0000	12.5391	12.5391	8.0000e-005	1.2400e-003	12.9120

3.7 PGE 500 KV Interconnection - 2024

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	0.1663	1.4630	1.5288	4.3600e-003		0.0507	0.0507		0.0466	0.0466	0.0000	382.8253	382.8253	0.1238	0.0000	385.9206
Total	0.1663	1.4630	1.5288	4.3600e-003		0.0507	0.0507		0.0466	0.0466	0.0000	382.8253	382.8253	0.1238	0.0000	385.9206

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3.7 PGE 500 KV Interconnection - 2024

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	6.8000e-004	0.0343	5.5500e-003	1.7000e-004	5.6500e-003	2.8000e-004	5.9300e-003	1.6400e-003	2.7000e-004	1.9000e-003	0.0000	15.9357	15.9357	3.0000e-005	2.3000e-003	16.6224
Worker	2.6200e-003	2.1600e-003	0.0280	1.0000e-004	0.0115	6.0000e-005	0.0116	3.0600e-003	5.0000e-005	3.1100e-003	0.0000	9.1425	9.1425	1.2000e-004	1.9000e-004	9.2016
Total	3.3000e-003	0.0364	0.0335	2.7000e-004	0.0171	3.4000e-004	0.0175	4.7000e-003	3.2000e-004	5.0100e-003	0.0000	25.0782	25.0782	1.5000e-004	2.4900e-003	25.8239

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	0.1237	1.4636	1.8800	4.3600e-003		0.0240	0.0240		0.0223	0.0223	0.0000	382.8248	382.8248	0.1238	0.0000	385.9202
Total	0.1237	1.4636	1.8800	4.3600e-003		0.0240	0.0240		0.0223	0.0223	0.0000	382.8248	382.8248	0.1238	0.0000	385.9202

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3.7 PGE 500 KV Interconnection - 2024

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	6.8000e-004	0.0343	5.5500e-003	1.7000e-004	5.6500e-003	2.8000e-004	5.9300e-003	1.6400e-003	2.7000e-004	1.9000e-003	0.0000	15.9357	15.9357	3.0000e-005	2.3000e-003	16.6224
Worker	2.6200e-003	2.1600e-003	0.0280	1.0000e-004	0.0115	6.0000e-005	0.0116	3.0600e-003	5.0000e-005	3.1100e-003	0.0000	9.1425	9.1425	1.2000e-004	1.9000e-004	9.2016
Total	3.3000e-003	0.0364	0.0335	2.7000e-004	0.0171	3.4000e-004	0.0175	4.7000e-003	3.2000e-004	5.0100e-003	0.0000	25.0782	25.0782	1.5000e-004	2.4900e-003	25.8239

3.8 Commisioning and Testing - 2024

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	6.6900e-003	0.1219	0.1314	2.3000e-004		9.1000e-004	9.1000e-004		8.4000e-004	8.4000e-004	0.0000	20.0992	20.0992	6.5000e-003	0.0000	20.2617
Total	6.6900e-003	0.1219	0.1314	2.3000e-004		9.1000e-004	9.1000e-004		8.4000e-004	8.4000e-004	0.0000	20.0992	20.0992	6.5000e-003	0.0000	20.2617

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3.8 Commisioning and Testing - 2024

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	1.1200e-003	0.0566	9.1600e-003	2.8000e-004	9.3300e-003	4.6000e-004	9.7900e-003	2.7000e-003	4.4000e-004	3.1400e-003	0.0000	26.3089	26.3089	5.0000e-005	3.8000e-003	27.4426
Worker	4.3300e-003	3.5700e-003	0.0462	1.6000e-004	0.0190	9.0000e-005	0.0191	5.0500e-003	9.0000e-005	5.1400e-003	0.0000	15.0938	15.0938	2.0000e-004	3.1000e-004	15.1913
Total	5.4500e-003	0.0602	0.0554	4.4000e-004	0.0283	5.5000e-004	0.0289	7.7500e-003	5.3000e-004	8.2800e-003	0.0000	41.4026	41.4026	2.5000e-004	4.1100e-003	42.6338

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	5.0600e-003	0.1920	0.1730	2.3000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.0992	20.0992	6.5000e-003	0.0000	20.2617
Total	5.0600e-003	0.1920	0.1730	2.3000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.0992	20.0992	6.5000e-003	0.0000	20.2617

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3.8 Commisioning and Testing - 2024

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	1.1200e-003	0.0566	9.1600e-003	2.8000e-004	9.3300e-003	4.6000e-004	9.7900e-003	2.7000e-003	4.4000e-004	3.1400e-003	0.0000	26.3089	26.3089	5.0000e-005	3.8000e-003	27.4426
Worker	4.3300e-003	3.5700e-003	0.0462	1.6000e-004	0.0190	9.0000e-005	0.0191	5.0500e-003	9.0000e-005	5.1400e-003	0.0000	15.0938	15.0938	2.0000e-004	3.1000e-004	15.1913
Total	5.4500e-003	0.0602	0.0554	4.4000e-004	0.0283	5.5000e-004	0.0289	7.7500e-003	5.3000e-004	8.2800e-003	0.0000	41.4026	41.4026	2.5000e-004	4.1100e-003	42.6338

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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	2.7300e-003	5.5100e-003	0.0276	6.0000e-005	5.6100e-003	7.0000e-005	5.6700e-003	1.5000e-003	6.0000e-005	1.5700e-003	0.0000	5.4693	5.4693	3.1000e-004	3.0000e-004	5.5657
Unmitigated	2.7300e-003	5.5100e-003	0.0276	6.0000e-005	5.6100e-003	7.0000e-005	5.6700e-003	1.5000e-003	6.0000e-005	1.5700e-003	0.0000	5.4693	5.4693	3.1000e-004	3.0000e-004	5.5657

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	4.00	0.00	0.00	15,288	15,288
Total	4.00	0.00	0.00	15,288	15,288

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
User Defined Industrial	14.70	6.60	6.60	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.489904	0.053513	0.186430	0.142392	0.042996	0.009122	0.009394	0.022860	0.000635	0.000162	0.035216	0.001418	0.005957

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.7168e+006	158.8448	0.0257	3.1100e-003	160.4155
Total		158.8448	0.0257	3.1100e-003	160.4155

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	1.7168e+006	158.8448	0.0257	3.1100e-003	160.4155
Total		158.8448	0.0257	3.1100e-003	160.4155

6.0 Area Detail

6.1 Mitigation Measures Area

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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	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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	0.0214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0723					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

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6.2 Area by SubCategory

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	0.0214					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0723					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0937	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

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	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			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	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 Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	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			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation
