SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Mitigated Subsequent Environmental Assessment for Proposed Amended Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities

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PREFACE

This document constitutes the Final Mitigated Subsequent Environmental Assessment (SEA) for Proposed Amended Rule (PAR) 1135 – Emissions of Oxides of Nitrogen From Electricity Generating Facilities. A Draft Mitigated SEA was released for a 30-day public review and comment period from September 18, 2018 to October 18, 2018. Analysis of PAR 1135 in the Draft Mitigated SEA did not result in the identification of any environmental topic areas that would be significantly adversely affected after mitigation. SCAQMD received one comment letter relative to the analysis in the Draft Mitigated SEA. The comment letter received relative to the Draft Mitigated SEA and the response is included in Appendix F of this Final Mitigated SEA.

In addition, subsequent to release of the Draft Mitigated SEA, modifications were made to PAR 1135. To facilitate identification, modifications to the document are included as underlined text and text removed from the document is indicated by ~~strikethrough~~. To avoid confusion, minor formatting changes are not shown in underline or strikethrough mode.

Staff has reviewed the modifications to PAR 1135 and concluded that none of the revisions constitute: 1) significant new information; 2) a substantial increase in the severity of an environmental impact; or, 3) provide new information of substantial importance relative to the draft document. In addition, revisions to the proposed project in response to verbal or written comments would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the document pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Therefore, this document now constitutes the Final Mitigated SEA for PAR 1135.

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CHAPTER 1

PROJECT DESCRIPTION

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977[1] as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin. In 1977, amendments to the federal Clean Air Act (CAA) included requirements for submitting State Implementation Plans (SIPs) for nonattainment areas that fail to meet all federal ambient air quality standards (CAA Section 172), and similar requirements exist in state law (Health and Safety Code Section 40462). The federal CAA was amended in 1990 to specify attainment dates and SIP requirements for ozone, carbon monoxide (CO), nitrogen dioxide (NO2), and particulate matter with an aerodynamic diameter of less than 10 microns (PM10). In 1997, the United States Environmental Protection Agency (U.S. EPA) promulgated ambient air quality standards for particulate matter with an aerodynamic diameter less than 2.5 microns (PM2.5). The U.S. EPA is required to periodically update the national ambient air quality standards (NAAQS).

In addition, the California Clean Air Act (CCAA), adopted in 1988, requires the SCAQMD to achieve and maintain state ambient air quality standards for ozone, CO, sulfur dioxide (SO2), and NO2 by the earliest practicable date. (Health and Safety Code Section 40910.) The CCAA also requires a three-year plan review, and, if necessary, an update to the SIP. The CCAA requires air districts to achieve and maintain state standards by the earliest practicable date and for extreme non-attainment areas, to include all feasible measures pursuant to Health and Safety Code Sections 40913, 40914, and 40920.5. The term "feasible" is defined in the California Environmental Quality Act (CEQA) Guidelines[2] Section 15364, as a measure "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."

By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the areas under the jurisdiction of the SCAQMD[3]. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP[4]. The AQMP is a regional blueprint for how the SCAQMD will achieve air quality standards and healthful air and the 2016 AQMP[5] contains multiple goals promoting reductions of criteria air pollutants, greenhouse gases (GHGs), and toxic air contaminants (TACs). In particular, the 2016 AQMP states that both oxides of nitrogen (NOx) and volatile organic compounds (VOC) emissions need to be addressed, with the emphasis that NOx emission reductions are more effective to reduce the formation of ozone and PM2.5. Ozone is a criteria pollutant shown to adversely affect human health and is formed when VOCs react with NOx in the atmosphere. NOx is a precursor to the formation of ozone and PM2.5, and NOx emission reductions are necessary to achieve the ozone standard attainment. NOx emission reductions also contribute to attainment of PM2.5 standards.

In October 1993, the SCAQMD Governing Board adopted Regulation XX – Regional Clean Air Incentives Market (RECLAIM) to reduce NOx and oxides of sulfur (SOx) emissions from high

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1 The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., Ch. 324 (codified at Health and Safety Code Section 40400-40540).
2 The CEQA Guidelines are codified at Title 14 California Code of Regulations Section 15000 *et seq.*
3 Health and Safety Code Section 40460(a).
4 Health and Safety Code Section 40440(a).
5 SCAQMD, Final 2016 Air Quality Management Plan, March 2017. http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp

emitting facilities. The RECLAIM program was designed to take a market-based approach to achieve emission reductions, as an aggregate. The RECLAIM program was created to be equivalent to achieving emissions reductions under a command-and-control approach, but by providing facilities with the flexibility to seek the most cost-effective solution to reduce their emissions. The market-based approach used in RECLAIM was based on using a supply-and-demand concept, where the cost to control emissions and reduce a facility's emissions would eventually become less than the diminishing supply of NOx RECLAIM trading credits (RTCs). However, analysis of the RECLAIM program over the long term has shown that the ability to achieve actual NOx emission reductions has diminished, due to a large amount of RTCs resulting from shutdowns being re-introduced into the market prior to amendments to Rule 2002 in October 2016 to address this issue.

In the 2016 AQMP, Control Measure CMB-05 - Further NOx Reductions from RECLAIM Assessment, committed to additional NOx emission reductions of five tons per day to occur by 2025. Also, the SCAQMD Governing Board directed staff to implement an orderly sunset of the RECLAIM program to achieve the additional five tons per day. Thus, CMB-05 committed to a process of transitioning NOx RECLAIM facilities to a command-and-control regulatory structure and ensure that the applicable equipment will meet Best Available Retrofit Control Technology (BARCT) level equivalency as soon as practicable.

On July 26, 2017, California State Assembly Bill (AB) 617 was approved by the Governor, which addresses community monitoring and non-vehicular air pollution (criteria pollutants and toxic air contaminants). AB 398, a companion to AB 617, was also approved, and extends California's cap-and-trade program for reducing greenhouse gas (GHG) emissions from stationary sources. AB 617 also contains an expedited schedule for implementing BARCT for cap-and-trade facilities. Industrial source RECLAIM facilities that are in the cap-and-trade program are subject to the requirements of AB 617. Under AB 617, Districts are required to develop by January 1, 2019, an expedited schedule for the implementation of BARCT no later than December 31, 2023, with the highest priority given to older, higher-polluting units that will need retrofit controls installed.

As a result of control measure CMB-05 from the 2016 AQMP as well as ABs 617 and 398, SCAQMD staff has been directed by the Governing Board to begin the process of transitioning the current regulatory structure for NOx RECLAIM facility emissions to an equipment-based command-and-control regulatory structure per SCAQMD Regulation XI – Source Specific Standards. SCAQMD staff conducted a programmatic analysis of the RECLAIM equipment at each facility to determine if there are appropriate and up-to-date BARCT NOx limits within existing SCAQMD command-and-control rules for all RECLAIM equipment. This analysis concluded that command-and-control rules would need to be adopted and/or amended to reflect current BARCT and provide implementation timeframes for achieving BARCT. Consequently, SCAQMD staff determined that RECLAIM facilities should not exit unless their NOx emitting equipment is subject to an adopted future BARCT rule.

As such, SCAQMD has proposed new amendments to Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities. Rule 1135 applies to electric ~~power~~ generating units (e.g., diesel internal combustion engines located on Santa Catalina Island, boilers, and turbines~~, or internal combustion engines~~) that generate electric power for distribution, with the exception of cogeneration turbines ~~or~~and emergency internal combustion engines) at electricity generating facilities that are ~~market participants of the California Independent System Operator Corporation (California ISO), a municipal or public electric utility, or an electric utility located on~~

~~Santa Catalina Island~~investor~~-~~owned electric utilities, publicly owned electric utilities, or have a generation capacity of at least 50 megawatts of electrical power. Proposed Amended Rule (PAR) 1135 will update the NOx emissions limits for electric ~~power~~ generating units to reflect current BARCT and provide implementation timeframes to achieve compliance. PAR 1135 also proposes ~~to revise the continuous emissions monitoring (CEMS) requirements for current Rule 1135 facilities and to add new~~ monitoring, reporting, and recordkeeping requirements ~~for those facilities exiting the NOx RECLAIM program~~. Additionally, PAR 1135 establishes exemptions from specific provisions. Implementation of the proposed project is estimated to reduce NOx emissions by ~~0.9~~1.7 tons per day ~~by January 1, 2024~~after implementation of the BARCT limits and the Clean Water Act once-through cooling provision, which is expected to be achieved by the retrofitting or~~,~~ repowering of existing electric generating units with BARCT units that can achieve the revised NOx emission limits, or the retiring of existing electric power generating units ~~with BARCT units that can achieve the revised NOx emission limits~~.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The March 2017 Final Program Environmental Impact Report (EIR) for the 2016 AQMP determined that the overall implementation of CMB-05 has the potential to generate adverse environmental impacts in seven topic areas – air quality, energy, hazards and hazardous materials, hydrology and water quality, noise, solid and hazardous waste, and transportation. More specifically, the March 2017 Final Program EIR evaluated the impacts from installation and operation of additional control equipment and selective catalytic reduction (SCR) or selective non-catalytic reduction (SNCR) equipment potentially resulting in construction emissions, increased electricity demand, hazards from additional ammonia transport and use, increase in water use and wastewater discharge, changes in noise volume, generation of solid waste from construction and disposal of old equipment, and catalysts replacements, as well as changes in traffic patterns and volume. For the entire 2016 AQMP, the analysis concluded that significant and unavoidable adverse environmental impacts from the project are expected to occur after implementing mitigation measure for the following environmental topic areas: 1) aesthetics from increased glare and from the construction and operation of catenary lines and use of bonnet technology for ships; 2) construction-related air quality and GHGs; 3) energy (due to increased electricity demand); 4) hazards and hazardous materials due to (a) increased flammability of solvents; (b) storage, accidental release, and transportation of ammonia, (c) storage and transportation of liquefied natural gas (LNG); and (d) proximity to schools; 5) hydrology (water demand); 6) construction noise and vibration; 7) solid construction waste and operational waste from vehicle and equipment scrapping; and 8) transportation and traffic during construction and during operation on roadways with catenary lines and at the harbors. Since significant adverse environmental impacts were identified, mitigation measures were identified and applied. However, the March 2017 Final Program EIR concluded that the 2016 AQMP would have significant and unavoidable adverse environmental impacts even after mitigation measures were identified and applied. As such, mitigation measures were made a condition of project approval and a Mitigation Monitoring and Reporting Plan was adopted. Findings were made and a Statement of Overriding Considerations was prepared and adopted for that project.

BARCT is statutorily required in California Health and Safety Code section 40406 to be based on "environmental, energy, and economic impacts." A BARCT analysis was conducted and completed as part of the rule development process for PAR 1135[6]. PAR 1135 revises NOx

[6] SCAQMD's rule development webpage for PAR 1135 contains all of the documentation relied upon for the BARCT analysis and can be found here: http://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules#1135.

emission limits to reflect current BARCT for electric ~~power~~ generating units. PAR 1135 also ~~revises the continuous emissions monitoring (CEMS) requirements and~~ establishes ~~new~~ monitoring, reporting, and recordkeeping requirements. Under PAR 1135, electric generating facilities that were originally subject to the NOx RECLAIM program will now be subject to the emission limits for NOx as well as other contaminants. PAR 1135 is estimated to reduce NOx emissions by ~~0.9~~1.7 tons per day after the implementation of the BARCT limits and the Clean Water Act once-through-cooling provision~~by January 1, 2024~~, from electricity generating facilities located throughout the entire SCAQMD jurisdiction and will provide an overall environmental benefit to air quality. While reducing emissions of NOx and other contaminants will create an environmental benefit, activities that facility operators may undertake to comply with PAR 1135 may also create secondary adverse environmental impacts.

SCAQMD staff has determined that PAR 1135 contains new information of substantial importance which was not known and could not have been known at the time the Final Program EIR was certified for the March 2017 adoption of the 2016 AQMP (referred to herein as the March 2017 Final Program EIR). PAR 1135 is not expected to create new significant effects, after mitigation, that were not discussed in the previously certified March 2017 Final Program EIR for the 2016 AQMP.

Thus, analysis of the proposed project indicates that the type of CEQA document appropriate for the proposed project is a Mitigated Subsequent Environmental Assessment (SEA). The Mitigated SEA is a substitute CEQA document, prepared in lieu of a Mitigated Subsequent Negative Declaration with no unmitigated significant impacts (CEQA Guidelines Section 15162(b)), pursuant to SCAQMD's Certified Regulatory Program (CEQA Guidelines Section 15251(l); codified in SCAQMD Rule 110). The Mitigated SEA is also a public disclosure document intended to: 1) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental impacts of the proposed project; and 2) be used as a tool by decision makers to facilitate decision making on the proposed project.

Thus, SCAQMD, as lead agency for the proposed project, has prepared this Final Mitigated SEA pursuant to its Certified Regulatory Program. PAR 1135 is not expected to have statewide, regional or areawide significance; therefore, a CEQA scoping meeting is not required to be held for the proposed project pursuant to Public Resources Code Section 21083.9(a)(2). Moreover, a CEQA scoping meeting is not required for a Mitigated SEA under CEQA Guidelines Section 15162(d). Further, mitigation measures are proposed to avoid or reduce any potentially significant adverse impacts. [CEQA Guidelines Section 15252(a)(2)(B)]. The Final Mitigated SEA includes a project description in Chapter 1 and an Environmental Checklist in Chapter 2. The Environmental Checklist provides a standard tool to identify and evaluate a project's adverse environmental impacts, and the analysis concluded that no significant adverse impacts, after mitigation, would be expected to occur if PAR 1135 is implemented.

The Draft Mitigated SEA ~~is being~~ was released for a 30-day public review and comment period from September 18, 2018 to October 18, 2018. The SCAQMD received one comment letter ~~Any comments on the analysis presented in this Draft Mitigated SEA received~~ during the public comment period on the analysis presented in the Draft Mitigated SEA. The comment letter and the response are ~~will be responded to and~~ included in the Final Mitigated SEA (see Appendix F).

Subsequent to release of the Draft Mitigated SEA, minor modifications were made to PAR 1135 in response to verbal or written comments. Staff has reviewed the modifications to PAR 1135 and

concluded that none of the modifications constitute: 1) significant new information; 2) a substantial increase in the severity of an environmental impact; or, 3) provide new information of substantial importance relative to the draft document. In addition, revisions to PAR 1135 in response to verbal or written comments would not create new, avoidable significant effects. As a result, these revisions do not require recirculation of the Draft Mitigated SEA pursuant to CEQA Guidelines Sections 15073.5 and 15088.5. Thus, the Draft Mitigated SEA has been revised to reflect the aforementioned modifications such that it is now a Final Mitigated SEA.

The March 2017 Final Program EIR for the 2016 AQMP, upon which this Final Mitigated SEA relies, is available from the SCAQMD's website at: http://www.aqmd.gov/home/research/documents-reports/lead-agency-scaqmd-projects/scaqmd-projects---year-2017. This document may also be obtained by visiting the Public Information Center at SCAQMD Headquarters located at 21865 Copley Drive, Diamond Bar, CA 91765; or by contacting Fabian Wesson, Public Advisor by phone at (909) 396-2039 or by email at PICrequests@aqmd.gov.

Prior to making a decision on the adoption of PAR 1135, the SCAQMD Governing Board must review and certify the Final Mitigated SEA as providing adequate information on the potential adverse environmental impacts that may occur as a result of adopting PAR 1135.

PROJECT LOCATION

Rule 1135 applies to RECLAIM and non-RECLAIM electricity generating facilities that are located throughout SCAQMD's jurisdiction and are ~~market participants of California ISO,~~ owned or operated by an investor-owned electric utility, a publicly owned electric utility, or have electric generating units with a combined generation capacity of 50 megawatts or more of electrical power for distribution in the state or local electrical grid system~~by a municipality, or located on Santa Catalina Island located throughout SCAQMD's jurisdiction~~. SCAQMD staff has identified ~~34~~ 31 electricity generating facilities that would be subject to PAR 1135. All ~~34~~ 31 facilities are categorized using North American Industry Classification System (NAICS) code and summarized in Appendix D of this Final Mitigated SEA. Appendix D also contains the list of affected facilities and their locations within SCAQMD's jurisdiction.

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of SSAB and MDAB. The Basin, which is a subarea of SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. A federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (see Figure 1-1).

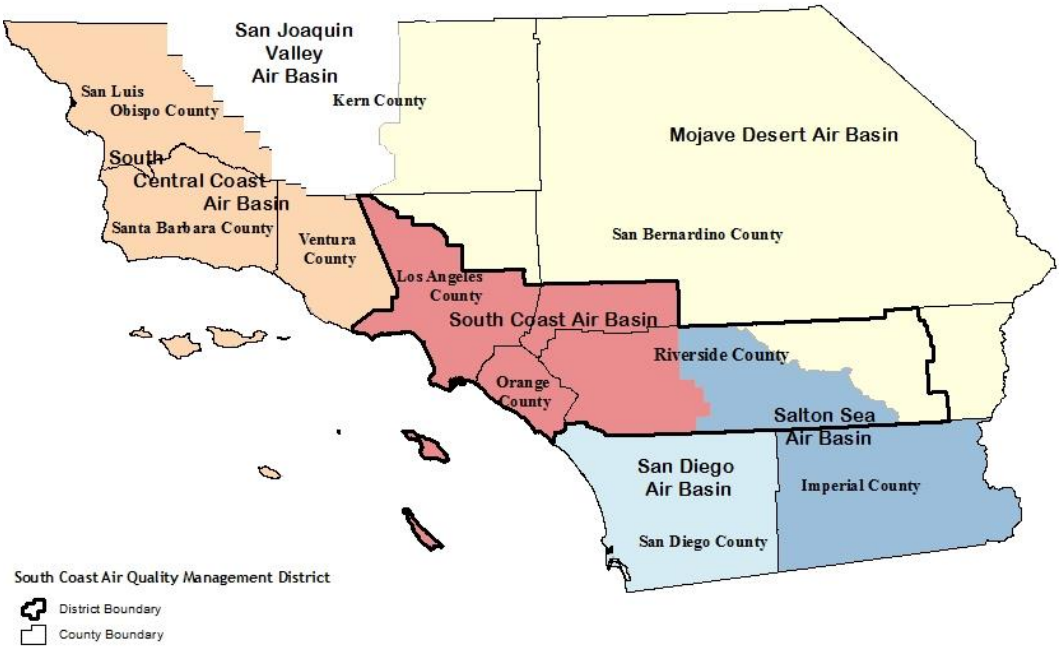


Figure 1-1
Southern California Air Basins

PROJECT BACKGROUND

Rule 1135 ~~- Emissions of Oxides of Nitrogen from Electric Power Generating Boilers,~~ was adopted by the SCAQMD Governing Board in 1989 and applied to electric power generating steam boiler systems, repowered units, and alternative electricity generating sources. Rule 1135 set a system-wide average NOx emission limit of 0.25 pound (lb) per megawatt (MW)-hour (hr) and a daily NOx emissions cap for each utility system. Rule 1135 established interim emissions performance levels with a 1996 final compliance date. Additionally, Rule 1135 required Emission Control Plans and continuous emissions monitoring systems (CEMS).

Rule 1135 was submitted to the California Air Resources Board (CARB) for review, prior to submittal to the Environmental Protection Agency (EPA), Region IX, for revision to the State Implementation Plan (SIP). In March 1990, CARB staff informed SCAQMD that the rule, as adopted, was lacking specificity in critical areas of implementation and enforcement, and was therefore, considered incomplete for submission to EPA as a SIP revision.

As such, Rule 1135 was later amended in December 1990 ~~to modify the rule's title to "Emissions of Oxides of Nitrogen from Electric Power Generating Systems" and~~ to resolve many of the implementation and enforceability issues raised by EPA. In particular, the December 1990 amendments to Rule 1135 included accelerated dates for retrofitting equipment with air pollution control equipment, unit-by-unit NOx emission limits, modified compliance plan and monitoring requirements, a requirement for computerized telemetering, and an amended definition of alternative resources.

Rule 1135 was amended again on July 19, 1991; this amendment contained system-wide emission rates, daily emission caps, annual emission caps, oil burning, cogeneration requirements, and a

modeling and BARCT analysis. EPA approved the July 1991 version of Rule 1135 into the SIP on August 11, 1998.

PROJECT DESCRIPTION

If adopted, PAR 1135, as part of the on-going transition for facilities in the NOx RECLAIM program to a command-and-control regulatory structure, would apply to RECLAIM and non-RECLAIM electricity generating facilities that contain electric ~~power~~ generating units (e.g., boilers, ~~gas~~ turbines with the exception of cogeneration turbines, ~~or~~ and diesel internal combustion engines that generate electric power for distribution and are located on Santa Catalina Island with the exception of emergency internal combustion engines)., ~~with the exception of cogeneration turbines) and are market participants of the California ISO, a municipal or public electric utility, or an electric utility located on Santa Catalina Island.~~

The following is a detailed summary of the key elements contained in PAR 1135. A draft of PAR 1135 can be found in Appendix A.

Purpose – Subdivision (a)

PAR 1135 proposes new subdivision (a) to establish the rule's purpose, which is to reduce NOx emissions from electric generating units (diesel internal combustion engines located at Santa Catalina Island, boilers, combined cycle turbines, and simple cycle turbines) at electricity generating facilities.

Applicability - Subdivision (b)

PAR 1135 proposes to revise the rule's applicability to include electric ~~power~~ generating units at electricity generating facilities (see subdivision (c) for these definitions), instead of electric power generating systems. In the current version of Rule 1135, electric power generating systems consist of boilers, turbines, other advanced combustion resources, and alternative equipment that are capable of producing power and owned by or under contract to sell power to an electric utility. PAR 1135 proposes to replace the term electric power generating system with the term electric ~~power~~ generating units, including diesel internal combustion engines located on Santa Catalina Island, boilers, combined cycle gas turbines, and simple ~~gas~~ cycle gas turbines at electricity generating facilities. As explained in the definition of electricity generating facilities in subdivision (c), an electricity generating facility is an investor-owned electric utility, publicly owned electric utility, or a facility with 50 megawatts or more of combined generation capacity. ~~that generates electrical power and is owned or operated by or under contract to sell power to California Independent System Operator Corporation, a municipal or public electric utility, or an electric utility on Santa Catalina Island.~~ However, PAR 1135 will not apply to cogeneration turbines or units located at landfills, petroleum refineries, or publicly owned treatment works.

Definitions - Subdivision (c)

PAR 1135 proposes to delete obsolete definitions as well as add new definitions and modify existing definitions to clarify and explain key concepts. Please refer to PAR 1135 in Appendix A for each definition.

The following outdated definitions are proposed to be deleted:

Advanced Combustion Resource
Alternative Resource
Approved Alternative or Advanced Combustion Resource
Alternative Resource or Advanced Combustion Resource Breakdown

Cogeneration Facility
Displace
District-Wide Daily Limits
Electric Power Generating System
Replacement Unit
Start-U~~u~~p or Shutdown
Useful Thermal Energy

The following definitions are proposed to be modified:

Boiler
Daily
Force Majeure Natural Gas Curtailment
NOx Emissions

The following definitions are proposed to be added:

Annual Capacity Factor
Cogeneration Turbine
Combined Cycle Gas Turbine
Duct Burner
~~Electricity Generating Facility~~
Electric ~~Power~~ Generating Unit
Electricity Generating Facility
Former RECLAIM NOx Source
Internal Combustion Engine
Investor-Owned Electric Utility
Landfill
Non-RECLAIM NOx Source
~~Municipal or Public Electric Utility~~
Petroleum Refinery
Publicly Owned Electric Utility
Publicly Owned Treatment Works
RECLAIM NOx Source
SCAQMD-Wide Daily Limits
Shutdown
Simple Cycle Gas Turbine
Start-~~u~~Up
Tuning

Emissions Limits – Renumbered Subdivision (d)

Subdivision (c) is proposed to be renumbered to subdivision (d) and renamed from "Emission Limitations" to "Emissions Limits." Due to the proposed deletion of the term electric power generating system throughout PAR 1135, any reference to electric power generating system is also proposed to be deleted from subdivision (d) and replaced with the terms "electric ~~power~~ generating unit" or "electricity generating facility", as appropriate.

New paragraph (d)(1) proposes to add the following emissions limits for boilers and ~~gas~~ turbines with a compliance date of no later than January 1, 2024. It is important to note that the NOx and ammonia emissions limits would not apply during start-up, shutdown, and tuning.

Table 1-1
Emissions Limits for Boilers and Gas Turbines

Equipment Type	NOx (ppmv)	Ammonia (NH3) Slip (ppmv)	Oxygen Correction (%, dry)
Boiler	5	5	3
Combined Cycle Gas Turbine and Associated Duct Burner	2	5	15
Simple Cycle Gas Turbine	2.5	5	15

Subparagraph (d)(1)(A) proposes to average the emissions limits over a sixty minute rolling average for boilers and turbines. ~~specify that these emission limits are not applicable during start-up, shutdown, and tuning periods. Requirements for start-up, shutdown, and tuning for each electric power generating unit shall be included in the SCAQMD permit. The SCAQMD permit shall include limits for duration, mass emissions, and number of start-ups, shutdowns, and, if applicable, tunings.~~

~~Subparagraph (d)(1)(B) proposes to average the emission limits over a sixty minute rolling average for units that are installed after the date of adoption.~~

Subparagraph (d)(1)(~~C~~B) proposes to ~~require electric power generating units~~allow boilers and gas turbines that are installed or issued permits to construct prior to the date of adoption to retain the averaging time requirements specified on the SCAQMD permit if they time does not exceed a three hour average for NOx and one hour average for ammonia.

New paragraph (d)(2) and subparagraph (d)(2)(A) proposes to add the following emission limits for diesel ~~fueled~~ internal combustion engines with a compliance date no later than January 1, 2024. It is important to note that the NOx, ammonia, carbon monoxide, volatile organic compounds, and particulate matter emissions limits would not apply during start-up, shutdown, and tuning.

Table 1-2
Emissions Limits for Diesel Internal Combustion Engines
~~Located on Santa Catalina Island~~

Equipment Type	NOx (ppmv)	Ammonia (NH3) Slip (ppmv)	CO (ppmv)	VOC (ppmv)	PM (lbs/mmbtu)	Oxygen Correction (%, dry)
Internal Combustion Engine (Diesel)	45	5	250	30	0.0076	15

Subparagraph (d)(2)(B) proposes to allow internal combustion engines located on Santa Catalina Island that are installed prior to the date of adoption to retain the averaging time requirements

specified on the SCAQMD permit, but cannot exceed one hour for NOx, ammonia, and volatile organic compounds and 15 minutes for carbon monoxide.

Paragraph (d)(3) proposes to require the owner or operator of an electricity generating facility to incorporate start-up, shutdown, and tuning requirements into the SCAQMD permit for each electric generating unit; each electric generating unit must have these requirements incorporated into their permits by January 1, 2024. Subparagraphs (d)(3)(A) through (d)(3)(D) establish a maximum time limits for start-up, shutdown, and tuning requirements. For boilers, each start-up cannot exceed ten hours and each shutdown cannot exceed six hours. Combined cycle gas turbines cannot exceed four hours for each non-cold start-up, six hours for each cold start-up, thirty minutes for each shutdown, and ten hours per year for tuning. For simple cycle gas turbines, the time limits are one hour for each start-up, forty-five minutes for each shutdown, and ten hours per year for tuning. The time limits for internal combustion engines are one hour for each start-up and thirty minutes for each shutdown.

~~Subp~~Paragraph (d)~~(4)(2)(B)~~ proposes an alternative compliance approach~~effective dates~~ for an owner or operator of an electricity generating facility~~electric power generating units~~ located on Santa Catalina Island with diesel internal combustion engines ~~and provides an option that,~~ in lieu of meeting the emission limits in subparagraph (d)(2)(A)~~, a Compliance Plan may be submitted~~..

Under subparagraph (d)(4)(A)~~this provision~~, the owner or operator of ~~a~~ diesel internal combustion engines located on Santa Catalina ~~may~~ must submit a written notification to the Executive Officer by January 1, 2022 ~~compliance plan by January 1, ~~. The owner or operator must include a description of the proposed technologies, schedule of permits submittals, and timeframes for ordering and installing equipment, as well as adopt a permit condition to limit the total amount of NOx emissions to 13 tons. ~~2022 to extend the emission limits effective date, provided emission reductions are substantially greater than if the engines were simply replaced with Tier IV compliant diesel engines. If the owner or operator can provide specifications of electric power generating units or other electrical generation or transmission equipment to provide power to Santa Catalina Island that will reduce emissions by an additional 33% to a total of 20 tons per year, then the effective date will be delayed unit January 1, 2025. If the specifications demonstrate that emissions will be reduced by 67% or more, then the effective date will be further delayed until January 1, 2026.~~

To further incentivize lower emitting electricity generating technologies, paragraph (d)(5) allows Santa Catalina Island an extension of up to three years for compliance with the applicable emissions limits (see Table 1-2) or the alternative compliance approach. The extension is allowed for both compliance approaches as the facility may initially pursue lower emitting technologies later to discover that hurdles to permitting, land acquisition, or some other extenuating circumstance prevents the implementation of the lower emitting technology. The extension includes a mitigation fee of $100,000 per year. The mitigation fee will be used to fund future studies and projects designed to reduce criteria pollutants and toxic air contaminant emissions. The amount for the mitigation fee is approximately the amount that a facility would otherwise have had to pay to go through the variance process, including excess emissions fees, notification fees, and other procedural fees. In order to qualify for the extension, the facility must first reduce some NOx emissions. If the facility wants an extension from having to install two new diesel internal combustion engines, the two existing diesel internal combustion engines must be retrofitted or repowered to 45 ppmv NOx at 15% oxygen on a dry basis by January 1, 2023. If requesting an

extension for the alternative compliance approach, Santa Catalina Island must reduce their actual mass emissions of NOx to 50 tons for compliance year 2022 and to 40 tons for compliance year 2023. The extension request is required to be submitted at least one year before the compliance deadlines and must identify the units that need a time extension, the reason an extension is needed, and the progress to date of the project. The criteria for approving an extension requires the Executive Officer to determine if the facility correctly followed the procedures for submitting an extension request and if the extension is necessary due to extenuating circumstances. Examples of extenuating circumstances can include engineering designs, construction plans, land acquisition contracts, permit applications, and purchase orders that impact scheduling.

Several obsolete provisions in subdivision (d) are proposed for deletion. In particular, the District-wide daily and annual limits on emissions rate and emissions cap for Southern California Edison, Los Angeles Department of Water and Power, the City of Burbank, and the City of Pasadena, are proposed to be removed from paragraphs (c)(1) ~~(d)(3)~~ and ~~(d)(4)~~(c)(2) because these facilities entered the RECLAIM program in October 1993 which made the limits in Rule 1135 obsolete for these facilities.

Paragraphs (d)(3) and (d)(4) are also proposed to be retained to allow the City of Glendale to continue to comply with their current SCAQMD-wide daily and annual limits on emissions rates and emissions cap for the interim period until the emissions limitations in paragraph (d)(1) go into effect.

Sub~~P~~paragraph (d)(~~5~~6)(C) proposes to relocate the reference to "violation of any requirements" from paragraphs (c)(1), ~~and~~ (c)(2), (c)(3), and (c)(4) to subparagraph~~s~~ (d)(6)(~~e~~A)~~(d)(3) and (d)(4)~~ and (d)(6)(B). In addition, paragraph (d)(6~~5~~)(C) proposes to delete the provision pertaining to the applicability to approved alternative or advance combustion resources. ~~All references throughout the current version of Rule 1135 rule to "approved alternative or advanced combustion resource" is proposed to be replaced with the term "electric power generating unit."~~

Several additional obsolete provisions are proposed for deletion. In particular, in the current version of Rule 1135, the dates in paragraphs (d)(6) and (d)(7) have passed and as such, the obsolete dates are proposed for removal in PAR 1135. Further, ~~sub~~paragraph (d)(8) in the current version of Rule 1135 states that a violation of any unit specific NOx emission limit in a permit or a compliance plan constitutes a violation of Rule 1135. However, since permits and compliance plans are enforceable, this language is redundant and therefore, proposed for deletion in PAR 1135.

Compliance Plans – Old Subdivision (d)

Old subdivision (d) specific to compliance plans is proposed to be deleted and replaced with renumbered subdivision (d) – Emissions Limits, because the compliance dates have passed and compliance plans will no longer be necessary.

Monitoring, Recordkeeping, and Reporting (Subdivision (E))~~Measurements - Subdivision (e)~~

All provisions in current Rule 1135 subdivision (e) are proposed for deletion. Once Rule 113 is adopted, all Rule 1135 equipment will transition to Rule 113 for Monitoring, Recordkeeping, and Reporting (MRR). For the interim period, the intention of the PAR 1135 MRR is to maintain current MRR for all facilities and minimize the RECLAIM reporting requirements.

All the provisions in the current Rule 1135 subdivision (e) will be deleted because there are only three units that are currently subject to the monitoring requirements in subdivision (e) and these three units also conduct monitoring in accordance with SCAQMD Rule 218 – Continuous Emission Monitoring.

SCAQMD has committed to developing a new, separate rule, to be named Rule 113, to address monitoring, recordkeeping, and reporting requirements (MRR) for NOx and SOx emissions. Once Rule 113 is adopted, all Rule 1135 equipment will be required to transition to complying with the MRR requirements in Rule 113.

Paragraph (e)(1) applies to current NOx RECLAIM sources and these sources will be required to demonstrate compliance with the NOx emissions limits in accordance with SCAQMD Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions.

Paragraph (e)(2) applies to former RECLAIM facilities and these facilities will be require to demonstrate compliance with the NOx emissions limits, in accordance with SCAQMD Rule 2012, except for the following provisions that reference reporting requirements or that do not apply to electric generating units:

- (c)(3) – facility permit holder of a major NOx source
- (c)(4) – Super Compliant Facilities
- (c)(5) – facility Permit holder of a facility which is provisionally approved for NOx Super Compliant status
- (c)(6) – after final approval of Super Compliant status
- (c)(7) – facility designated as a NOx Super Compliant Facility
- (c)(8) – super Compliant Facility exceeds its adjusted allocations
- (d)(2)(B) – install, maintain and operate a modem
- (d)(2)(C) – equipment-specific emission rate or concentration limit
- (d)(2)(D) – monitor one or more measured variables as specified in Appendix A
- (d)(2)(E) – comply with all applicable provisions of subdivision (f)
- (e) – NOx Process Unit
- (g)(5) – system is inadequate to accurately determine mass emissions
- (g)(6) – sharing of totalizing fuel meters
- (g)(7) – equipment which is exempt from permit requirements pursuant to Rule 219 - Equipment Not Requiring A Written Permit Pursuant to Regulation II
- (g)(8) – rule 2012 and Appendix A
- (h)(1) – facilities with existing CEMS and fuel meters as of October 15, 1993
- (h)(2) – interim emission reports
- (h)(4) – installation of all required or elected monitoring and reporting systems
- (h)(5) – existing or new facility which elects to enter RECLAIM or a facility which is required to enter RECLAIM
- (h)(6) – new major NOx source at an existing facility
- (i) – Recordkeeping
- (k) – Exemption
- (l) – Appeals

- Reported Data and Transmitting/Reporting Frequency requirements from Appendix A – "Protocol for Monitoring, Reporting and Recordkeeping for Oxides of Nitrogen (NOx) Emissions"

Paragraph (e)(3) applies to non-RECLAIM facilities and these facilities have the option to comply with 40 CFR Part 75 or Rule 218 – Continuous Emission Monitoring, in order to demonstrate with the NOx emission limits. If a facility elects to comply with 40 CFR Part 75, the facility must calculate NOx in ppmv pursuant to Rule 218.

Paragraph (e)(4) applies to the City of Glendale and requires this facility to calculate their NOx emissions in accordance with their approved CEMS plan in order to demonstrate compliance with the SCAQMD-wide daily limits on emissions rates and emissions caps and annual emissions limits.

Paragraph (e)(5) applies to the diesel internal combustion engines located on Santa Catalina Island. To demonstrate compliance with the carbon monoxide and volatile organic compound emissions limits, the facility must comply with SCAQMD Rule 1110.2 – Emissions from Gaseous- and Liquid-Fueled Engines, subdivision (f) – Monitoring, Testing, Recordkeeping and Reporting and subdivision (g) – Test Methods. To demonstrate compliance with the particulate matter emission limit, the facility must conduct yearly source tests according to SCAQMD Method 5.1 – Determination of Particulate Matter Emissions from Stationary Sources Using a Wet Impingement Train or SCAQMD Method 5.2 – Determination of Particulate Matter Emissions from Stationary Sources using Heated Probe and Filter. Yearly is defined as a period of twelve consecutive months determined on a rolling basis with a new twelve month period beginning on the first day of each calendar month.

Paragraph (e)(6) applies to electric generating units with catalytic control devices. To demonstrate compliance with the ammonia emission limit, subparagraph (e)(6)(A) requires facilities to conduct source testing according to SCAQMD Method 207.1 – Determination of Ammonia Emissions from Stationary Sources. Source testing will be quarterly for the first twelve months of operation and then annually thereafter if four consecutive quarterly source tests determines that the unit is in compliance with the ammonia limit. If there is a failed annual test, then the facility must conduct quarterly source tests until four consecutive tests pass before resuming annual source tests. In lieu of ammonia source testing, subparagraph (e)(6)(B) allows facilities to utilize ammonia CEMS certified under an approved SCAQMD protocol. At this time, SCAQMD is in the process of finding a host site for an ammonia CEMS demonstration project. Upon successful demonstration, SCAQMD will develop an ammonia CEMS protocol. Once an ammonia CEMS protocol is developed then SCAQMD intends to require ammonia CEMS instead of source testing to demonstrate compliance with the ammonia limits. At this time, an ammonia CEMS is approximately $60,000. The provision that allows for ammonia CEMS instead of source testing allows facilities to transition to ammonia CEMS once a protocol is ready, but is not specifically required by Rule 1135.

Paragraph (e)(7) requires that former NOx RECLAIM sources and other NOx sources no tin the RECLAIM program maintain all of their monitoring, recordkeeping, and reporting documents for five years and make it available to SCAQMD upon request. However, for data gathered and computed for 15 minute intervals or less, those records need to be maintained for a minimum of 48 hours.

In addition to demonstrating compliance with the emissions limits of the rule, paragraph (e)(8) requires former NOx RECLAIM sources and other NOx sources not in the RECLAIM program to maintain an operating log for each electric generating unit. The log must include all of the following: time and duration of start-ups and shutdowns; total hours of operation; quantity of fuel; cumulative hours of operation to date for the calendar year; megawatt hours of electricity produced; and net megawatt hours of electricity produced.

~~Revisions to subdivision (e) are proposed to reflect that facilities subject to the current version of Rule 1135 will be required to continue to comply with existing monitoring and recordkeeping requirements in Rule 1135 while RECLAIM facilities will continue to comply with Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions, excluding reporting requirements.~~

~~Paragraph (e)(1) proposes to replace the requirement for a Remote Terminal Unit (RTU) with a data acquisition system (DAS).~~

~~Paragraph (e)(2) proposes to replace all references to the District's "CEMS Requirement Document for Utility Boilers," dated July 19, 1991 with SCAQMD's "CEMS Requirement Document for Electric Power Generating Units," dated [Date of Adoption]. Further, all references in paragraph (e)(2) to boiler, replacement unit and approved alternative or advanced combustion resource is proposed to be replaced with the term "electric power generating unit."~~

~~Old paragraph (e)(3) is proposed to be deleted for consistency with paragraph (e)(1) which proposes to delete the requirements applicable to RTUs.~~

~~Old paragraph (e)(4) is also proposed for deletion because the compliance dates have passed.~~

~~The provisions for backup data gathering and maintaining a storage system is proposed for removal from paragraph (e)(6) because proposing to require a DAS in paragraph (e)(1) makes these requirements no longer necessary.~~

~~Old paragraph (e)(5) (which has been renumbered in PAR 1135 as paragraph (e)(3)) proposes to replace all references to the District's "CEMS Requirement Document for Utility Boilers," dated July 19, 1991 with SCAQMD's "CEMS Requirement Document for Electric Power Generating Units," date [Date of Adoption]. Further, all references in renumbered paragraph (e)(3) to boiler, replacement unit, and approved alternative or advanced combustion resource are proposed to be replaced with the term "electric power generating unit."~~

~~Old paragraph (e)(6) is proposed for deletion because the compliance dates have passed.~~

~~Old paragraph (e)(7) (which has been renumbered in PAR 1135 as paragraph (e)(4)) proposes to require CEMS data to be recorded by a DAS. Renumbered paragraph (e)(4) proposes to replace all references to the District's "CEMS Requirement Document for Utility Boilers," dated July 19, 1991 with SCAQMD's "CEMS Requirement Document for Electric Power Generating Units," dated [Date of Adoption]. Further, all references in renumbered paragraph (e)(4) to boiler, replacement unit and approved alternative or advanced combustion resource is proposed to be replaced with the term "electric power generating unit."~~

~~Old paragraph (e)(8) (which has been renumbered in PAR 1135 as paragraph (e)(5)) proposes to replace all references to the District's "CEMS Requirement Document for Utility Boilers," dated July 19, 1991 with SCAQMD's "CEMS Requirement Document for Electric Power Generating Units," dated [Date of Adoption]. Further, all references in renumbered paragraph (e)(5) to boiler, replacement unit and approved alternative or advanced combustion resource are proposed to be replaced with the term "electric power generating unit."~~

~~New paragraph (e)(6) proposes to allow RECLAIM facilities to continue to comply with specific monitoring and recordkeeping requirements in Rule 2012 – Requirements for Monitoring, Reporting, and Recordkeeping for Oxides of Nitrogen (NOx) Emissions, in lieu of complying with paragraphs (e)(1) through (e)(5). In particular, RECLAIM facilities will be required to comply with all of Rule 2012 except for the requirements in the following provisions:~~
~~(c)(3) – facility permit holder of a major NOx source~~
~~(c)(4) – Super Compliant Facilities~~
~~(c)(5) – facility Permit holder of a facility which is provisionally approved for NOx Super Compliant status~~
~~(c)(6) – after final approval of Super Compliant status~~
~~(c)(7) – facility designated as a NOx Super Compliant Facility~~
~~(c)(8) – super Compliant Facility exceeds its adjusted allocations~~
~~(d)(2)(B) – install, maintain and operate a modem~~
~~(d)(2)(C) – equipment-specific emission rate or concentration limit~~
~~(d)(2)(D) – monitor one or more measured variables as specified in Appendix A~~
~~(d)(2)(E) – comply with all applicable provisions of subdivision (f)~~
~~(e) – NOx Process Unit~~
~~(f) – Permit Conditions for Large Sources and Process Units,~~
~~(g)(5) – system is inadequate to accurately determine mass emissions~~
~~(g)(6) – sharing of totalizing fuel meters~~
~~(g)(7) – equipment which is exempt from permit requirements pursuant to Rule 219 – Equipment Not Requiring A Written Permit Pursuant to Regulation II~~
~~(g)(8) – Rule 2012 and Appendix A~~
~~(h)(1) – facilities with existing CEMS and fuel meters as of October 15, 1993~~
~~(h)(2) – interim emission reports~~
~~(h)(4) – installation of all required or elected monitoring and reporting systems~~
~~(h)(5) – existing or new facility which elects to enter RECLAIM or a facility which is required to enter RECLAIM~~
~~(h)(6) – new major NOx source at an existing facility~~
~~(j) – Source Testing~~
~~(k) – Exemption~~
~~(l) – Appeals~~
~~Reported Data and Transmitting/Reporting Frequency requirements from Appendix A – "Protocol for Monitoring, Reporting and Recordkeeping for Oxides of Nitrogen (NOx) Emissions"~~

Use of Liquid Petroleum Fuel - Subdivision (f)

Due to the proposed deletion of the term "electric power generating system" throughout PAR 1135, subdivision (f) proposes to replace all references to "electric power generating system" with "electric ~~power~~ generating unit" or "electricity generating facility," as appropriate. Also, subdivision (f) proposes to replace the term "boiler" with the term "electric ~~power~~ generating unit."

Paragraph (f)(1) proposes to clarify the applicability of the NOx emission limits in subdivision (d) on days of force majeure natural gas curtailment when the use of liquid petroleum fuel is required. Old subparagraph (f)(1)(B) is proposed to be deleted because all units will have to comply with the emission limits specified in subdivision (d). Also, old subparagraph (f)(1)(D) is proposed to be removed because it is redundant to the requirements in old subparagraph (f)(1)(C), which will be renumbered as subparagraph (f)(1)(B).

Old paragraph (f)(2) proposes to ~~delete~~ modify the hours allowed for fuel readiness testing for a boiler to burn liquid petroleum fuel ~~for~~ from up to 24 hours in any calendar year to not exceed sixty minutes per week; weekly readiness testing is necessary to assure reliability of the oil firing units in case of emergencies. Several requirements are being added to readiness testing. The first added requirement, subparagraph (f)(2)(B), states that during readiness testing and when burning liquid petroleum fuel exclusively, the NOx emission limit for an electric generating unit must comply with the limit in the permit for that unit~~can only occur once the equipment has reached the emissions limitation in paragraph (d)(1) while running on natural gas and must start within 60 minutes of achieving that emissions limitation~~. Additionally, subparagraph (f)(2)(C) states that readiness testing can only occur once the equipment has achieved the emission limits in paragraph (d)(1) while running on natural gas and must start within 60 minutes of achieving that emission limits. ~~the number of units to one unit at a time that can be operated on liquid petroleum during readiness testing.~~ For clarification purposes, subparagraph (f)(2)(D) defines readiness testing as the time from when the equipment is switched from natural gas to liquid petroleum fuel to the time the equipment is switched back to natural gas.

New paragraph (f)(3) is proposed to be added to allow liquid petroleum fuel to be used during source testing, initial certification of CEMS, and semi-annual Relative Accuracy Test Audits (RATAs). The RATA tests must be conducted at the same time as weekly readiness testing.

~~New paragraph (f)(4) is proposed to be added to prohibit the installation of internal combustion engines capable of burning liquid petroleum as the primary fuel at an electricity generation facility.~~

Municipal Bubble Options – Old Subdivision (g)

The subdivision regarding Municipal Bubble Options in the current version of Rule 1135 subdivision (g), is proposed to be deleted because PAR 1135 will instead establish emission limits applicable to each unit and will delete the emission limits for electric generating systems. ~~The old subdivision (g) regarding Municipal Bubble Options is proposed to be removed because these requirements became obsolete once facilities entered into RECLAIM.~~

Exemptions – Renumbered Subdivision (g)

All of the exemptions in the current version of Rule 1135 are proposed to be deleted because these exemptions were based on old technology and are no longer necessary.

Instead, PAR 1135 proposes to include several new exemptions as follows: Subparagraph (g)(1) proposes to exempt existing combined cycle gas turbines at 2.5 ppmv NOx and 5 ppmv ammonia concentration or less averaged over 60 minutes at 15% oxygen on a dry basis from the emission limits in paragraph (d)(1), provided that the NOx and ammonia limits, start-up, shutdown, and tuning requirements, and averaging times remain on the current permit. The permit limits cannot exceed three hours for each non-cold start-up, six hours for each cold start-up, thirty minutes for each shutdown, and ten hours per year for tuning.

Paragraph (g)(2) proposes to exempt once-through-cooling electric generating units that are subject to the Clean Water Act Section 316(b) from the emission limits in paragraph (d)(1) provided that NOx and ammonia limits, start-up, shutdown, and tuning requirements, and averaging times remain on the current permit. In order to qualify for this exemption, emissions from boilers must be less than 7 ppmv NOx and 10 ppmv ammonia averaged over 720 hours at 3% oxygen on a dry basis and start-up and shutdown must be less than 12 hours for each instance. Similarly, for turbines to qualify for this exemption, the emissions cannot exceed 2 ppmv NOx and 5 ppmv ammonia averaged over 60 minutes at 15% oxygen on a dry basis, three hours for each non-cold start-up, six hours for each cold start-up, thirty minutes for each shutdown and ten hours per year for tuning. Additionally, the units must comply with their current compliance dates established pursuant to Table 1 of Section 2(B) of the State Water Resources Control Board's Statewide Water Quality Control Policy on the Use of Coastal Estuarine Waters for Power Plant Cooling (Once-Through-Cooling Policy) implementing Section 316(b) of the Clean Water Act. Notifications of shutdown and retirement dates must be submitted to the SCAQMD for each once-through-cooling electric generating unit by January 1, 2023. This provision coordinates the compliance date for the NOx concentration limit in PAR 1135 with the compliance dates in Clean Water Act Section 316(b). Additionally, the provision avoids stranded assets of adding pollution controls for an interim period of time. If the once-through-cooling electric generating unit is granted an extension by the State Water Resources Control Board, the facility must notify SCAQMD of the extension within three months. This extension is not applicable to facilities that have utilized the Modeling and Offset Exemptions in SCAQMD Rule 1304 – Exemptions, paragraph (a)(2) and the associated replacement electric generating unit is in operation as the emission credits transferred to the replacement unit are no longer available.

Paragraph (g)(3) proposes to exempt existing diesel internal combustion engines at 51 ppmv NOx and 10 ppmv ammonia averaged over 60 minutes at 15% oxygen on a dry basis from the emission limits in paragraph (d)(2), with the condition that the units keep their NOx, ammonia, carbon monoxide, volatile organic compounds, and particulate matter limits, start-up and shutdown requirements, and averaging times on the current permit. However the emission limits shall not exceed 250 ppmv averaged over 15 minutes at 15% oxygen on a dry basis for carbon monoxide, 30 ppmv averaged over 60 minutes at 15% oxygen on a dry basis for volatile organic compounds, 5.32 tons per year for particulate matter, sixty minutes for each start-up, and fifteen minutes for each shutdown.

To address low-use electrical power generating units, a low-use provision, paragraph (g)(4) proposes to allow low-use equipment to continue operating without retrofit provided that the annual capacity factor limits are not exceeded; the annual capacity factor limits are included in the permit; and the NOx and ammonia limits, start-up, shutdown, and tuning requirements, and averaging times on the current permit. Low-use gas turbines will be prohibited from exceeding the following limits: 24 ppmv NOx and 20 ppmv ammonia averaged over 60 minutes at 15% oxygen on a dry basis, three hours for each start-up, six hours for each cold start-up, thirty minutes for each shutdown, and ten hours per year for tuning. Similarly, low-use boilers will be prohibited from exceeding the following limits: 82 ppmv NOx and 10 ppmv ammonia averaged over 720 hours at 3% oxygen on a dry basis and 12 hours for each start-up and shutdown. The annual capacity factor, paragraph (c)(1), is defined as the ratio between the actual annual heat input and the annual maximum heat input if operated continuously over one year excluding usage during an Emergency Phase of the California Energy Commission Energy Emergency Response Plan or a Governor-declared State of Emergency or Energy Emergency. The annual capacity factor limits for gas turbines in subparagraph (g)(4)(A) is less than twenty-five percent in one calendar year and

less than ten percent averaged over three years. For boilers, the low-use provision in subparagraph (g)(4)(B) establishes the annual capacity factor limit as less than two and one half percent in one calendar year and less than one percent averaged over three years. In order to obtain the low-use exemption, subparagraph (g)(4)(C) requires that an application for the low-use exemption be submitted by July 1, 2022. Subparagraph (g)(4)(D) requires the annual capacity factor to be determined annually and submitted to the Executive Officer no later than March 1 following the reporting year. If a unit exceeds the annual capacity factor, clause (g)(4)(E)(i) states that the owner or operator is subject to a Notice of Violation for each year of exceedance and for each annual and/or three year exceedance. Subclause (g)(4)(E)(ii)(C) requires that after two years of the date of reported exceedance, the unit must come into compliance with the emission limits in paragraph (d)(1). The following interim milestone requirements are included in subclauses (g)(4)(E)(ii)(A) and (g)(4)(E)(ii)(B): submitting a permit application within six months from the date of reported exceedance and a CEMS plan within six months from the date of permit application submittal.

Paragraph (g)(5) proposes to exempt internal combustion engines on Santa Catalina Island from the requirements in subdivision (f) – Use of Liquid Petroleum Fuel. ~~Subdivision (h) is proposed to be renumbered to subdivision (g) and all of the exemptions in originally in subdivision (h) are proposed for deletion because they were based on old technology and are no longer necessary.~~

~~Instead, PAR 1135 proposes to include several new exemptions. Paragraph (g)(1) proposes to exempt combined cycle gas turbines capable of achieving 2.5 ppmv NOx or less at 15% O2 dry from the emissions limitations proposed in paragraph (d)(1), provided that the units keep their NOx and ammonia limits, start-up, shutdown, and tuning requirements, and averaging times on the current permit. This exemption is proposed because, according to the BARCT assessment, it is not cost-effective for combined cycle gas turbines at 2.5 ppmv NOx at 15% O2 dry to reduce their limits to 2 ppmv at 15% O2 dry.~~

~~Paragraph (g)(2) proposes to exempt boilers capable of achieving at 7.0 ppmv NOx or less at 3% O2 dry from the emissions limitations in paragraph (d)(1), provided that the units adhere to their NOx and ammonia limits, start-up, shutdown, and tuning requirements, and averaging times on the current Permit. This exemption is proposed because the BARCT assessment determined that it is not cost-effective for boilers at 7.0 ppmv NOx at 3% O2 dry to reduce their limits to 5.0 ppmv at 3% O2 dry. Further, other units that are at or below 7.0 ppmv NOx may have different ammonia limits that were evaluated during the permitting process and since these units will not be modified or re-permitted, the ammonia limits from the permits should be maintained.~~

~~Paragraph (g)(3) proposes to exempt once-through-cooling boilers that are subject to the Clean Water Act Section 316(b) from the emissions limitations in paragraph (d)(1) provided that the units keep their NOx and ammonia limits, start-up, shutdown, and tuning requirements, and averaging times on the current permit and the units comply with their current shutdown dates established in the Clean Water Act Section 316(b). To coordinate the compliance dates for achieving the PAR 1135 NOx concentration limit with the compliance dates in Clean Water Act Section 316(b) and to avoid stranded assets from installing air pollution control equipment for an interim period of time, paragraph (g)(3) proposes to also require a submittal of shutdown and retirement plans for each once-through-cooling boiler by January 1, 2023.~~

~~Paragraph (g)(4) proposes to exempt diesel internal combustion engines capable of achieving 51 ppmv NOx at 15% O2 dry. This exemption is proposed because the BARCT assessment determined that it is not cost-effective for internal combustion engines (diesel) at 51 ppmv NOx at~~

~~15% O2 dry to reduce their limits to 45 ppmv at 15% O2 dry. Therefore, PAR 1135 paragraph (g)(5) proposes to exempt engines capable of achieving 51 ppmv NOx or less at 15% O2 dry from the emissions limitations in paragraph (d)(1), provided that the units keep their NOx, ammonia, CO, VOCs, and PM limits, start-up, shutdown, and tuning requirements, and averaging times on the current permit.~~

~~Paragraph (g)(5) proposes to allow low-use electrical power generating units to continue operating without being required to retrofit the units with air pollution control equipment provided that historical data can demonstrate that the annual capacity factor limits have not been exceeded; that the annual capacity factor limits are included in the permit; and the unit continues to comply with the NOx and ammonia limits, start-up, shutdown, and tuning requirements, and averaging times on the current permit. The term "annual capacity factor" is defined in paragraph (c)(1) as the ratio between the measured annual input and the annual maximum heat input if operated continuously over one year. The annual capacity factor limits for gas turbines in subparagraph (g)(5)(A) are proposed to be less than 25% in one calendar year and 10% averaged over three years. The low-use provision for boilers as proposed in subparagraph (g)(5)(B) would establish the annual capacity factor limit to be less than 2.5% in one calendar year and 1.0% averaged over three years. In order to obtain the low-use exemption, subparagraph (g)(5)(C) proposes to require an application for the low-use exemption to be submitted by May 1, 2019 provided that the unit can demonstrate compliance with the annual capacity factor limits using data from calendar years 2016, 2017, and 2018. In addition, the annual capacity factor shall be determined annually and submitted to the Executive Officer no later than April 1st following the reporting year. Usage during an Emergency Phase of the California Energy Commission Energy Emergency Response Plan or a declared State of Emergency or Energy Emergency by the Governor will not be used to calculate the annual capacity factor. In the event that a unit exceeds the annual capacity factor, then subparagraph (g)(5)(E) proposes to restrict the unit from operating unless it is compliance with the emission limits in paragraph (d)(1). Other interim milestones, including a requirement for submitting a permit application within nine months from the date of reported exceedance and a CEMS plan within six months from the date of permit application submittal, are also included in this proposed exemption.~~

~~Paragraph (g)(6) proposes to exempt internal combustion engines that are located on Santa Catalina Island from the requirements in subdivision (f) - Use of Liquid Petroleum Fuel.~~

Continuous Emission Monitoring Systems (CEMS) Requirements Document for Electric Power Generating Units

The document specifying CEMS requirements that are included in the current version of Rule 1135 are proposed to be removed because the MRR requirements have been updated and no longer reference the document. ~~for CEMS are proposed to be updated in PAR 1135 in order to be consistent with the revised definitions proposed in subdivision (c). Section 4.2.1 for Final Reporting Procedures is also proposed to be revised to remove the requirements applicable to RTUs. Instead, the CEMS requirements propose to require that the records demonstrating compliance be maintained for five years and provided to the Executive Officer upon request. Additionally, the provisions pertaining to Cogeneration Systems are proposed for removal because it is no longer necessary to measure thermal energy.~~

SUMMARY OF AFFECTED EQUIPMENT

There are ~~34~~ 31 electricity generating facilities with approximately of ~~132~~ 122 pieces of equipment located in SCAQMD's jurisdiction that are subject to PAR 1135. The universe of affected

equipment is comprised of the following: 1) six diesel-fueled internal combustion engines located at a single facility; 2) ~~24~~ 23 natural gas boilers located at eight facilities; 3) ~~67~~60 natural gas simple cycle turbines located at 21 facilities; and 4) ~~35~~ 22 natural gas combined cycle turbines equipped with 11 associated duct burners located at ~~13~~ 11 facilities. As part of the rule development process, SCAQMD staff conducted a BARCT assessment for electric ~~power~~ generating units at each of the ~~34~~ 31 electricity generating facilities[7, 8]. The BARCT assessment concluded that technology is currently available to meet BARCT NOx concentration limits in PAR 1135 for electric ~~power~~ generating units.

Of the ~~34~~ 31 facilities that are in the PAR 1135 universe, ~~31~~ 25 facilities were identified as not needing to modify their existing equipment in order to comply with PAR 1135. In particular, the electric ~~power~~ generating units at these facilities are not expected to require modifications to comply with PAR 1135 because the electric ~~power~~ generating units at the aforementioned facilities: 1) meet updated BARCT; 2) are currently eligible for a low-use exemption; or 3) are scheduled by facility operators to be either shut down or repowered due to outside factors as described below that are not a direct consequence of PAR 1135. The following list describes electric ~~power~~ generating units that would not need modifications or replacement in order to comply with PAR 1135:

1) Internal Combustion Engines: One diesel internal combustion engine installed on Santa Catalina Island approximately 23 years ago is not expected to need modifications to comply with PAR 1135 since it would not be cost-effective to meet the proposed limits.

2) Natural Gas Boilers: There are ~~24~~ 23 natural gas boilers in the PAR 1135 universe ~~that are used for generating electricity, 17~~ 16 of which are subject to the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act) Section 316(b)[9] once-through-cooling (OTC) provisions which are scheduled for shutdown. The OTC provisions established compliance dates for existing power plant operators to implement measures to greatly reduce impingement mortality and entrainment of marine life. ~~Compliance with the OTC provisions is expected to lead to the retirement of most of the natural gas boilers used to generate electricity in transmission-constrained areas of Southern California~~. ~~Four~~ Two additional natural gas boilers have been identified by their facility operators as scheduled for shutdown for business decisions and two will maintain low-use provisions. Thus, because ~~21~~ 18 of the ~~24~~ 23 boilers will not be operating by 2024 and 2 will maintain low-use provisions, the analysis in this Mitigated SEA assumes that these ~~21~~ 20 boilers would not need to be modified in order to comply with PAR 1135.

3) Natural Gas Combined Cycle Gas Turbines: There are ~~35~~ 22 natural gas combined cycle gas turbines that were installed in 2005 or later, ~~24~~ 15 of which currently meet the updated BARCT NOx concentration limits in PAR 1135; thus, no additional modifications will be necessary for these ~~24~~ 15 units to comply with PAR 1135. The remaining ~~nine~~ seven units are also not expected to need modifications as a result of PAR 1135 because it is not cost-effective to retrofit these combined cycle gas turbines. However, a facility that operates two of the remaining seven units is expected to update those units to comply with BARCT limits due to a business decision.

[7] See Appendix D for a complete list of facilities affected by PAR 1135.
[8] See the PAR 1135 ~~July~~ October 2018 ~~Preliminary Draft~~Final Staff Report for the BARCT Assessment.
[9] Federal Water Pollution Control Act. Accessed on August 14, 2018. https://www.epa.gov/sites/production/files/2017-08/documents/federal-water-pollution-control-act-508full.pdf

4) Natural Gas Simple Cycle Gas Turbines: There are ~~67~~ 60 natural gas simple cycle gas turbines in the PAR 1135 universe, 37 of which are not expected to need modifications to comply with PAR 1135 since they already meet the updated BARCT NOx concentration limits. The remaining ~~30~~ 23 units also will not need modifications in order to comply with PAR 1135 because it is not cost-effective to retrofit them.

Of the ~~34~~ 31 facilities that are in the PAR 1135 universe, ~~only three~~six facilities were identified as candidates for modifying their existing equipment in order to comply with PAR 1135. Of the six facilities three facilities are required to comply with PAR 1135 and three other facilities have elected to comply with the updated BARCT NOx concentration limits, as a business decision, even if their units qualify for the low-use provision or it was determined that retrofitting or replacing their units was not cost effective. In particular, the following electric ~~power~~ generating units would require modifications in order to meet the updated BARCT NOx concentration limits in PAR 1135:

1) Internal Combustion Engines: There are six diesel internal combustion engines located on Santa Catalina Island, five of which were installed more than 33 years ago and are cost-effective to be modified or replaced.

2) Natural Gas Boilers: Of the ~~24~~ 23 natural gas boilers in the PAR 1135 universe, there are seven that may need modifications in order to comply with PAR 1135 if they continue operating. However, two of the seven are currently not operating and will utilize the low-use provision in PAR 1135 with the~~, and~~ two others ~~are~~ scheduled to be shut down by their operators in 2020. ~~Further, T~~the other three natural gas boilers are operated by a municipality and would need to comply with PAR 1135. Prior to the development of PAR 1135, the operator presented a project to their city council proposing plans to shut down the three natural gas boilers and repower them with four natural gas turbines[10]. The operator also proposed to make other major revisions to their facility in addition to the repowering portion of the proposed project. In response to the proposal, the city council asked the operator to explore the feasibility, reliability, and cost-effectiveness of implementing a clean/renewable energy solution in lieu of some or all of the proposed repowering project. At the time of this publication, the operator has not indicated whether the project to repower the natural gas boilers will go forward or will be revised to include clean/renewable energy. If the operator's proposal is not finalized prior to the adoption of PAR 1135, then the three natural gas boilers would need to comply with PAR 1135, and compliance would require modifications to the existing boilers, replacement of the three existing boilers with three new boilers, or repowering the existing three boilers with one or more natural gas turbines.

3) Natural Gas Combined Cycle Gas Turbines: Of the nine natural gas combined cycle units that are not expected to need modifications as a result of PAR 1135 a municipality that operates two units has tentatively scheduled, due to a business decision so they are not required to utilize the low-use provision, to have the catalyst in each of their two existing selective catalytic reduction (SCR) systems replaced with more efficient catalyst to comply with the updated BARCT NOx concentration limits in PAR 1135.

4) Natural Gas Simple Cycle Gas Turbines: Of the ~~30~~ 22 low-use natural gas simple cycle gas turbines, ~~a~~ two municipalities~~municipality~~ operate~~s~~ ~~four~~ ten units that are tentatively

[10] FEIR Grayson Repowering Project. March 2018. Section 3.0 Project Description, Page 3.1. http://graysonrepowering.com/#final-eir

scheduled[11] to have the catalyst in each of the ~~four~~ ten existing selective catalytic reduction (SCR) systems replaced with more efficient catalyst to comply with the updated BARCT NOx concentration limits in PAR 1135. One municipality operates one unit that would require modifications to the catalyst in its existing SCR system to comply with the updated BARCT NOx concentration limits in PAR 1135.

Thus, based on the BARCT assessment conducted for PAR 1135, only three electricity generating facilities would be expected to have existing electric ~~power~~ generating units that would require potential modifications (e.g., installing new or modifying existing air pollution control systems, or repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three electricity generating facilities would make business decisions to comply with PAR 1135. Thus, a total of six electricity generating facilities would be expected to implement modifications to their electric generating units. The remainder of electric ~~power~~ generating units either meet updated BARCT, are scheduled to be permanently shutdown, or were found to not be cost-effective and are eligible for a low-use provision contained in PAR 1135. Units which are shutdown are permanently offline and cannot be reactivated.

TECHNOLOGY OVERVIEW

Combustion is a high temperature chemical reaction resulting from burning a gas, liquid, or solid fuel (e.g., natural gas, diesel, fuel oil, gasoline, propane, and coal) in the presence of air (oxygen and nitrogen) to produce: 1) heat energy; and 2) water vapor or steam. An ideal combustion reaction is when the entire amount of fuel needed is completely combusted in the presence of air so that only carbon dioxide (CO2) and water are produced as by-products. However, since fuel contains other components such as nitrogen and sulfur plus the amount of air mixed with the fuel can vary, in practice, the combustion of fuel is not a "perfect" reaction. As such, uncombusted fuel plus smog-forming by-products such as NOx, SOx, carbon monoxide (CO), and soot (solid carbon) can be discharged into the atmosphere.

Of the total NOx emissions that can be generated, there are two types of NOx formed during combustion: 1) thermal NOx; and 2) fuel NOx. Thermal NOx is produced from the reaction between the nitrogen and oxygen in the combustion air at high temperatures while fuel NOx is formed from a reaction between the nitrogen already present in the fuel and the available oxygen in the combustion air. The amount of fuel NOx generated is dependent on fuel type and boilers, engines, and gas turbines all generate thermal NOx as a combustion by-product. The following provides a brief description of the various types of existing combustion equipment that may be affected by PAR 1135 and subsequently retrofitted with NOx control equipment.

Boilers: A typical boiler, also referred to as a steam generator, is a steel or cast-iron pressure vessel equipped with burners that combust liquid, gas, or solid fossil fuel to produce steam or hot water. Boilers are classified according to the amount of energy output in millions of British Thermal Units per hour (mmBTU/hr), the type of fuel burned (natural gas, diesel, fuel oil, etc.), operating steam pressure in pounds per square inch (psi), and heat transfer media. In addition, boilers are further defined by the type of burners used and air pollution control techniques. The burner is where the fuel and combustion air are introduced, mixed, and then combusted. The combustion of fuel generates NOx, primarily "thermal" NOx with small contribution from "fuel" NOx and "prompt" NOx. For the purpose of the analysis in this Draft Mitigated SEA, controlling NOx emissions from boilers is assumed to be accomplished with selective catalytic reduction

[11] Based on the current usage of these ~~four~~ ten turbines, the scheduled modifications would not be required under PAR 1135.

(SCR) technology. While low NOx burners may be effective at reducing NOx emissions, SCRs were analyzed because SCR technology has been demonstrated to have more adverse construction and operational impacts than low NOx burners. Thus, by analyzing SCRs in lieu of low NOx burners, the analysis in this Draft Mitigated SEA applies the most conservative assumptions to represent a "worst-case" scenario.

Turbines: Gas turbines convert energy stored in a fluid into mechanical energy by channeling the fluid through a system of stationary and moving vanes. The moving vanes are attached to a rotor to turn either a shaft, producing work output in the form of torque, or to generate velocity and pressure energy in a jet. Gas turbines can be used in combined-cycle cogeneration and simple-cycle arrangements. Combined cycle systems are typically used for very large systems and generally have higher capital costs than simple cycle gas turbines. Gas turbines are used to produce both electricity and steam. Gas turbines can operate on both gaseous (e.g., natural gas) and liquid fuels (e.g., diesel). For the purpose of the analysis in this Mitigated SEA, controlling NOx emissions from gas turbines is assumed to be accomplished with SCR technology.

Gaseous and Liquid Fuel Powered Internal Combustion Engines: Internal combustion engines create power by mixing fuel in a cylinder controlled by valves in a timed cycle. The cylinder contains a piston which compresses the fuel igniting it by either a spark (spark ignition) or until the fuel ignites from pressure (compression ignition). The expansive force created by the ignited fuel is transferred by the piston through a connecting rod to a crankshaft which transfers the resulting power to useable work. The power created can generate electricity or by an external shaft for propulsion. The extreme heat created by the combustion of the fuel exits the engine through the exhaust system at a temperature sufficient to create many undesirable compounds such as NOx and the formation of other greenhouse gases. The emissions are often controlled by complex catalyst systems for compression ignition engines and a single simple catalyst for spark ignited engines. For the purpose of the analysis in this Mitigated SEA, controlling NOx emissions from diesel fueled internal combustion engines is assumed to be accomplished with SCR technology.

One portion of the BARCT assessment for PAR 1135 evaluated technologically feasible NOx emissions control technologies specific to electric ~~power~~ generating units. The BARCT assessment identified the following technologies that could be employed to achieve BARCT compliance in the event that a facility operator chooses to install new or modify their existing air pollution control equipment to reduce NOx emissions from electric ~~power~~ generating units: 1) dry low-NOx or lean premix emission combustors for turbines; 2) water or steam injection for turbines; 3) catalytic combustion for turbines; 4) low-NOx burners for boilers; 5) selective catalytic reduction (SCR) for diesel internal combustion engines, boilers, and turbines; and 6) catalytic absorption systems for turbines. PAR 1135 is expected to result in ~~three~~ six electricity generating facilities either installing new or modifying existing air pollution control equipment as part of meeting updated BARCT and reducing NOx emissions. The type of air pollution control equipment that is commonly used at a electricity generating facility to reduce NOx emissions is dependent upon a variety of factors such as the age of the existing air pollution control equipment, the type of electric power generating unit, the amount of NOx emission reductions that can be achieved, and whether the electric power generating unit is: 1) designed with pre-combustion technologies or features that help minimize the formation of NOx; 2) equipped with post-combustion air pollution control equipment; or 3) equipped with a combination of pre- and post-combustion control technologies. The following summarizes the technology assessment of pre- and post-combustion technologies that were analyzed as part of the BARCT assessment for PAR 1135.

Pre-Combustion Technologies

Dry Low-NOx or Lean Premix Emission Combustors for Turbines

Prior to combustion, gaseous fuel and compressed air are pre-mixed, minimizing localized hot spots that produce elevated combustion temperatures and therefore, less NOx is formed. Atmospheric nitrogen from the combustion air is mixed with air upstream of the combustor at deliberately fuel-lean conditions. Approximately twice as much air is supplied as is actually needed to burn the fuel. This excess air is key to limiting NOx formation, as very lean conditions cannot produce the high temperatures that create thermal NOx. Using this technology, NOx emissions, without further controls, have been demonstrated at < 9 ppmv at 15% ~~O2 dry~~oxygen on a dry basis. The technology is engineered into the combustor that becomes and intrinsic part of the turbine design. Fuel staging or air staging is utilized keep the flame within its operating boundaries. It is not available as a "retrofit" technology and must be designed for each turbine application.

Water or Steam Injection for Turbines

Demineralized water is injected into the combustor through the fuel nozzles to lower flame temperature and reduce NOx emissions. Water or steam provides a heat sink that lowers flame temperature. Imprecise application leads to some hot zones so NOx is still created. NOx levels in natural gas turbines can be lowered by 80% to 25 ppmv at 15% ~~O2 dry~~oxygen on a dry basis. Addition of water or steam increases mass flow through the turbine and creates a small amount of additional power. The addition of water increases carbon monoxide emissions and there is added cost to demineralize the water. Turbines using water or steam injection has increased maintenance due to erosion and wear.

Catalytic Combustion for Turbines

A catalytic process is used instead of a flame to combust the natural gas. Flameless combustion lowers combustion temperature resulting in reduced NOx formation. The overriding constraints are operating efficiency over a wide operating range of the turbine. Initial engine demonstrations have shown that catalytic combustion reducing NOx emissions. In its first commercial installation, NOx concentrations were lowered from approximately 20 ppmv to below 3 ppmv at 15% ~~O2 dry~~oxygen on a dry basis without post-combustion controls. Several turbine manufacturers are in the development stage to incorporate this technology.

Low-NOx Burners for Boilers

Controlled fuel and air mixing at the burner reduced the peak flame temperature resulting in reduced NOx formation. Lean pre-mixed combustion gases and low turbulence flow of combustion gases combine to achieve NOx reductions of 80 to 90%. Ultra-Low-NOx Burners are able to reduce NOx concentration to 5 to 7 ppmv at 3% ~~O2 dry~~oxygen on a dry basis. The burners are scalable for various sizes of boilers and heating units. The burners can be designed for retrofit or new installations. However, retrofits to existing boilers may require complex engineering and re-design.

Post-Combustion Technologies

Selective Catalytic Reduction for Internal Combustion Engines, Boilers, and Turbines

Selective Catalytic Reduction (SCR) is the primary post-combustion technology for NOx reduction and is widely used in turbines, boilers, and engines including stationary engines and heavy duty trucks. It is the primary control for engines that meet U.S. EPA's Tier IV Final

standards. SCR technology is capable of reducing NOx emissions by 95 percent or greater. In many cases, the amount of NOx reduction is limited by the creation of other pollutants such as ammonia and carbon monoxide, space constraints, or the physical limit of the NOx measuring device. Nearly all electricity generating equipment currently utilize SCR technology. For those unites that are equipped with SCR technology, further reductions may be possible by adding catalyst modules or replacing the type of catalyst with more efficient catalyst. From observations made during site visits, space is not readily available to add more catalyst modules but facilities may be able to swap out catalyst with more efficient catalyst within the existing catalyst housing.

A typical SCR system design consists of an ammonia or urea reductant storage tank, ammonia vaporization and injection equipment, an SCR reactor with catalyst, an exhaust stack plus ancillary electronic instrumentation and operations control equipment. The way an SCR system reduces NOx is by a matrix of nozzles injecting a mixture of reductant and air into the flue gas exhaust stream from the combustion equipment. As this mixture flows into the SCR reactor with catalyst, the catalyst, reductant, and oxygen in the flue gas exhaust react primarily (i.e., selectively) with NO and NO2 to form nitrogen and water. The amount of reductant introduced into the SCR system is approximately a one-to-one molar ratio of reductant to NOx for optimum control efficiency, though the ratio may vary based on equipment-specific NOx reduction requirements.

Catalysts are made from ceramic materials and active catalytic components of base metals, zeolites, or precious metals. The catalyst made be configured into plates but many new systems are configured into honeycombs to ensure uniform dispersion and reduce ammonia emissions to below 5.0 ppmv. The reductant, ammonia, is available as anhydrous ammonia, aqueous ammonia, or urea. Anhydrous ammonia is extremely hazardous and SCAQMD does not permit new installations of anhydrous ammonia storage tanks for use in air pollution control equipment. Urea is an alternative but requires conversion to ammonia in order to be used. Most new selective catalytic reduction installations utilize aqueous ammonia in a 19 percent solution.

To perform optimally, the gas temperature in control device should be between 400 degrees Fahrenheit (^{o}F) and 800^{o}F. During startup and shutdown, the temperature will be below optimal range greatly reducing the effectiveness. Thus, NOx concentration limits are generally not applicable during startup or shutdown. Newer electrical power generating equipment reduces the low temperature periods where emissions are out of control.

The catalyst is susceptible to "poisoning" if the flue gas contains contaminants including sulfur compounds, particulates, reagent salts, or siloxanes. Poisoned catalysts require cleaning or replacement resulting in extended periods of non-operation for the electrical power generating equipment. In those cases, filtering may be used to reduce the impacts on the catalyst.

Catalytic Absorption Systems for Turbines

Catalytic absorption is based on an integration of catalytic oxidation and absorption technology resulting in similar control efficiency as selective catalytic reduction without the use of ammonia. Carbon monoxide and nitrogen oxide catalytically oxidize to carbon dioxide and nitrogen dioxide and the nitrogen dioxide molecules are absorbed onto the catalyst. The catalyst is a platinum-based substrate with a potassium carbonate coating. The catalyst tends to be very sensitive to sulfur (e.g., can be poisoned by sulfur causing failure), even the small amounts in pipeline natural gas. Initial issues regarding catalyst failures have been addressed by conducting more frequent and extensive catalyst washing. At one facility, NOx emission levels were best achieved when all

three catalyst layers are washed about every four months. During the wash process, the turbine is non-operational for about three days.

The NOx concentration levels achieved by the various technologies assessed were consistent with the NOx concentration levels found in existing boilers, combined cycle turbines, and simple cycle turbines located in SCAQMD. Additionally, the NOx concentration levels from the technology assessment were consistent with the NOx concentration levels found in diesel internal combustion engines compliant with U.S. EPA's Final Rule for Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel[12].

[12] Final Rule for Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel. June 29, 2004. Accessed on August 14, 2018. https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-control-emissions-air-pollution-nonroad-diesel

CHAPTER 2

ENVIRONMENTAL CHECKLIST

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's potential adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Proposed Amended Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Mr. Ryan Bañuelos, (909) 396-3479
PAR 1135 Contact Person	Ms. Uyen-Uyen Vo, (909) 396-2238
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	PAR 1135 applies to RECLAIM and non-RECLAIM electricity generating facilities that are investor-owned electric utilities, publicly owned electric utilities, or have a generation capacity of at least 50 MW of electrical power.~~participants of the California Independent System Operation Corporation, a municipal or public electric utility, or an electric utility located on Santa Catalina Island~~. PAR 1135 is proposing to: 1) expand applicability to include units at RECLAIM electricity generating facilities and units at electricity generating facilities that were not at electric power generating systems subject to ~~previously required to comply with~~ Rule 1135; 2) update the NOx and ammonia emission limits for boilers and gas turbines; 3) establish NOx emission limits and add new emission limits for ammonia, carbon monoxide, volatile organic compounds, and particulate matter for internal combustion engines; 4) revise monitoring, reporting, and recordkeeping requirements; and 5) revise exemptions. The proposed project is estimated to reduce NOx emissions by ~~0.9~~1.7 ton per day ~~by January 1, 2024~~after implementation of the BARCT limits and Clean Water Act one-through-cooling provisions. The analysis in the Draft Mitigated SEA indicated that while the project reduces NOx emissions, complying with PAR 1135 may also create secondary adverse environmental impacts from construction and

	operation activities. However, the Final Mitigated SEA concludes that PAR 1135 would not result in significant adverse impacts to any environmental topic areas after mitigation. Some facilities affected by PAR 1135 may be identified on lists compiled by the California Department of Toxic Substances Control per Government Code section 65962.5.
Surrounding Land Uses and Setting:	Various
Other Public Agencies Whose Approval is Required:	Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with an "✓"involve at least one impact that is a "Potentially Significant Impact". An explanation relative to the determination of impacts can be found following the checklist for each area.

☐ Aesthetics	☐ Geology and Soils	☐ Population and Housing
☐ Agriculture and Forestry Resources	☐ Hazards and Hazardous Materials	☐ Public Services
☐ Air Quality and Greenhouse Gas Emissions	☐ Hydrology and Water Quality	☐ Recreation
☐ Biological Resources	☐ Land Use and Planning	☐ Solid and Hazardous Waste
☐ Cultural Resources	☐ Mineral Resources	☐ Transportation and Traffic
☐ Energy	☐ Noise	☐ Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

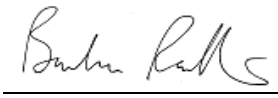
☐ I find the proposed project, in accordance with those findings made pursuant to CEQA Guidelines Section 15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.

☐ I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.

☐ I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards; and, 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.

☑ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: 1) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards; and, 2) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: September 14, 2018 **Signature:** 

Barbara Radlein
Program Supervisor, CEQA
Planning, Rules, and Area Sources

ENVIRONMENTAL CHECKLIST AND DISCUSSION

As explained in Chapter 1, the main focus of PAR 1135 is to transition facilities participating in the NOx RECLAIM program to a command-and-control regulatory structure requiring BARCT-level controls and to implement CMB-05. SCAQMD staff's review of the proposed project identified several components in PAR 1135 that would not be expected to cause any physical changes that could have secondary adverse environmental effects. For example, PAR 1135 contains requirements for affected facilities to keep records, and ~~submit~~ conduct source testing ~~protocols, and provide notifications~~, and all of these components are administrative or procedural in nature and as such, would not be expected to cause any physical changes that would create any secondary adverse environmental effects. In addition, PAR 1135 proposes to revise and delete definitions, and includes other proposed revisions for clarity and consistency throughout the rule; again, none of these components are expected to cause any physical changes that would create any secondary adverse environmental effects.

However, the proposed modifications in PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance, and these activities may create secondary adverse environmental impacts. For example, in order to comply with the emission limits proposed in PAR 1135, owners/operators of some affected facilities may need to retrofit existing equipment by: 1) installing new or modifying existing air pollution control systems; 2) repowering existing equipment by replacing an electric ~~power~~ generating unit such as a boiler with a new, different electric generating unit such as a turbine while generating an equivalent or greater net power output; or 3) replacing an electric ~~power~~ generating unit with a new unit of the same type (e.g., replacing an old turbine with a new, more efficient turbine). For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Thus, the analysis in this Mitigated SEA focuses on the potential secondary adverse environmental impacts associated with these effects of implementing PAR 1135, which have been evaluated relative to each of the 17 environmental topics identified in the following environmental checklist.

In accordance with the BARCT assessment conducted for electric ~~power~~ generating units, this analysis relies on forecasting to identify the most likely mechanisms capable of achieving compliance within the prescribed compliance schedule set forth in PAR 1135. The analysis in this Mitigated SEA also considers the availability of air pollution control equipment and electric ~~power~~ generating units on the market for installation in accordance with compliance schedule.

For these reasons, the following assumptions are based on a range of technologically feasible and cost-effective options that facility operators may employ in order to be able to achieve emission reductions of NOx and other pollutants within the compliance schedule set forth in PAR 1135.

Based on the BARCT assessment described in Chapter 1, ~~only three~~six electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135. Because each facility is very different in how compliance with PAR 1135 may be achieved,

the following is a facility-by-facility summary which identifies the technologically feasible and cost-effective compliance mechanisms and the associated assumptions that have been relied upon to prepare the analysis in this Mitigated SEA.

Facility 1

Facility 1 is owned and operated by a municipality which operates four simple cycle gas turbines that each utilize water injection for pre-combustion NOx control and are vented to four selective catalytic reduction (SCR) units for post-combustion NOx control. Facility 1 currently operates under a business decision~~compliance schedule that was prepared by the facility's owner/operator in anticipation of having~~ to comply with PAR 1135. The ~~compliance schedule~~business decision ~~contains a proposal~~is to replace the catalyst modules that comprise the four existing SCR units with new, more efficient catalyst. The catalyst module replacement activities will occur in sequential order so that only one turbine and SCR will be offline at a time. Facility 1 has indicated that replacing the catalyst modules in each of the four SCR units will reduce the NOx generated by the four simple cycle gas turbines to BARCT-compliant levels as outlined in PAR 1135. For this reason, this Mitigated SEA analyzes the potential environmental effects of replacing the SCR catalyst for each turbine. In addition, the new catalyst may require the injection of additional aqueous ammonia into the SCR. Thus, this Mitigated SEA also analyzes the potential for an increased amount of ammonia use and deliveries per year.

Facility 2

Facility 2 is owned and operated by an electric utility on Santa Catalina Island which operates six diesel-fueled internal combustion engines that are each vented to SCR units for post-~~-~~combustion NOx control. While the current version of Rule 1135 is not applicable to this facility, PAR 1135 proposes to include this electric utility as an ~~electric~~ electricity generating facility that will be subject to updated BARCT ~~standards~~limits. SCAQMD staff's BARCT analysis of the six engines indicates that it will be technologically feasible and cost-effective to replace five of the six diesel-fueled engines in order to comply with the emission limits in PAR 1135 on or before January 1, 2024, unless a written notification indicating the decision to utilize the alternative compliance ~~plan~~ approach is submitted to the Executive Officer by January 1, 2022 to extend the emission limit effective date.

The BARCT analysis examined potential compliance options which considered a number of factors such as technological feasibility, existing site location constraints, cost-effectiveness, availability of air pollution control equipment and replacement engines, and whether the operator/owner may feasibly install new equipment.

Ordinarily when deciding the cleanest replacement equipment available, replacing a diesel engine with ~~a~~ cleaner equipment that is fueled with natural gas is one feasible way to lower NOx emissions and comply with PAR 1135. However, natural gas is not available on Santa Catalina Island and there is currently no way to safely deliver natural gas to the island in the large quantities that would be needed to supply new engines because it is a gas, not a liquid fuel.

Further, even if there was a way to deliver natural gas to the island, a vast, uninterruptible supply would be needed on a daily basis and there is no natural gas storage facility available on the island. If the owner/operator of Facility 2 were able to figure out how to obtain an uninterruptible supply of natural gas and were able to find a location to build a large enough natural gas storage facility, a substantial amount of time would be needed to conduct pre-planning and engineering design, prepare cost estimates, and conduct an environmental analysis under CEQA and possibly under

the NEPA, if federal land or waters are involved, and obtain numerous agency approvals at both the state and federal level. Because of the extreme complexity involved with the logistics of getting natural gas to the island combined with the relatively short timing for achieving compliance with PAR 1135, it is not feasible to replace all five diesel-fueled internal combustion engines with either five internal combustion engines that are fueled with natural gas or repowering the five diesel-fueled internal combustion engines with natural gas turbines.

Thus, the potential feasible options for achieving compliance with PAR 1135 are limited to identifying replacement equipment that burns liquid fuel and the types of liquid fuels that are currently supplied to the island (e.g., diesel fuel and liquid petroleum gas). When faced with deciding how to the fuel new replacement equipment, diesel is the preferred fuel over liquid petroleum gas because its use results in better fuel economy. Further, liquid petroleum gas requires compression in order to remain a liquid and approximately 25 percent greater storage capacity for liquid petroleum gas than diesel fuel would be needed. Because the site may not have enough available land to build additional storage to accommodate liquid petroleum gas, replacement equipment that uses liquid petroleum gas is not feasible for this site location.

Also, due to the unique location of where the utility is located on the island, there is an insufficient supply of available land on the facility's property to support converting the engines to a renewable source of energy such as solar or wind technology. Even with solar or wind technology, battery backup would be needed and a non-renewable source of electricity would still be needed during times when the sun does not shine and the wind does not blow. Again, because of the extreme complexity involved with the costs and logistics of siting, designing, and permitting a renewable energy facility, combined with the relatively short timing for achieving compliance with PAR 1135, it is unlikely that the facility will replace all five diesel-fueled internal combustion engines with a renewable energy facility, while concurrently meeting the island's electrical demand.

In lieu of building a new renewable energy facility on the island, the facility's representative suggested that an underwater electrical cable could potentially supply electricity to the island. However, the process to install a high-voltage direct current underwater electrical cable interconnection between the Port of Los Angeles or Port of Long Beach and Avalon would require a substantial amount of time to conduct pre-planning and engineering design, prepare cost estimates, conduct an environmental analysis under CEQA and NEPA since federal waters may be involved, and obtain numerous agency permits and approvals at both the state and federal level. Because of the extreme complexity involved with the logistics of installing an underwater electrical cable to meet the island's electrical demand combined with the relatively short timing for achieving compliance with PAR 1135, the facility representative indicated that it is unlikely that the facility will replace all five-diesel internal combustion engines with a single underwater electrical cable in order to comply with PAR 1135[13].

Thus, based on the BARCT assessment and through the process of elimination, the most timely, reasonable, and cost-effective option would be to replace all five diesel fueled internal combustion engines with five new U.S. EPA Tier IV Final diesel-fueled internal combustion engines and their associated SCRs that are capable of achieving compliance with the emission limits in PAR 1135. Further, since all of the existing internal combustion engines are currently equipped with SCR units for post-combustion NOx control, the facility representative indicated that it is not expected that the owner/operator would be required to modify the ~~existing SCRs and associated~~ aqueous

[13] Stationary Source Committee: Tom Gross, Southern California Edison, Oral testimony provided on August 17, 2018.

ammonia storage capacity in order to comply with PAR 1135[14] since smaller quantities of aqueous ammonia would be needed to remove fewer amounts of NOx that will be generated by the new, cleaner, and more efficient engines.

Facility 3

Facility 3 is owned and operated by a municipality which operates three natural gas boilers. Two boilers are currently equipped with low-NOx burners and flue gas recirculation for pre-combustion NOx control, and one boiler is equipped with flue gas recirculation for pre-combustion NOx control and selective non-catalytic reduction for post-combustion NOx control. In response to Senate Bill 350 which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030 in accordance with the California Renewables Portfolio Standard, Facility 3 began exploring repowering options for their three boilers. Facility 3 released a Notice of Preparation/Initial Study (NOP/IS) in December 2016[15], a Draft EIR in September 2017[16], and a Final EIR in March 2018[17], which proposed to repower the three existing boilers with one or more natural gas turbines. Facility 3's proposed project also included other substantial changes which involved the near complete demolition and replacement of the entire facility. However, on April 10, 2018, the operator was directed by their city council to evaluate local and regional clean energy solutions in lieu of some or all of the repowering project contained in the Final EIR. As of the publication date of this Mitigated SEA, the status of Facility 3's proposed project as described in the Final EIR is undecided.

In the meantime, SCAQMD staff's review of the Final EIR indicated that there are several more components to Facility 3's proposed project than what would need to occur to solely comply with PAR 1135, if adopted. In particular, only the three existing boilers at Facility 3 would require physical modifications in order to comply with PAR 1135. However, due to the configuration of the existing three boilers, SCAQMD staff determined that retrofitting each boiler with SCR for post-combustion NOx controls would require costly, complex, and substantial modifications because of each boiler's age. As such, based on the BARCT assessment and in the event that PAR 1135 is adopted prior to certification of the Facility 3's Final EIR, SCAQMD staff determined that the most feasible and cost-effective way to comply with PAR 1135 would be to repower the three existing natural gas boilers with ~~up to~~ three new natural gas turbines equipped with three new SCR units and one new aqueous ammonia storage tank to supply all three SCR units.

Facility 4

Facility 4 is owned and operated by a municipality which operates two combined cycle gas turbines that utilize dry low NOx control and two associated duct burners and one simple cycle gas turbine that utilizes water injection for pre-combustion NOx control, all three turbines are vented to three SCR units for post-combustion NOx control. Facility 4's two combined cycle gas turbines and two associated duct burners are currently exempt from PAR 1135. Facility 4, instead of opting for the low-use provision, has elected as a business decision to optionally replace the facility's one simple cycle gas turbine SCR unit catalyst module with a new, more efficient catalyst. Facility 4 has indicated that replacing the catalyst module in its simple cycle gas turbine SCR unit will reduce

[14] Personal communication with Tom Gross, Southern California Edison, August 7, 2018.
[15] Initial Study for the Grayson Repowering Project, December 2016. http://graysonrepowering.com/#initial-study
[16] Draft Environmental Impact Report (DEIR) for the Grayson Repowering Project, September 2017. http://graysonrepowering.com/#draft-eir
[17] Final Environmental Impact Report for the Grayson Repowering Project, March 2018. http://graysonrepowering.com/#final-eir

the NOx generated by the simple cycle gas turbine to BARCT-compliant levels as outlined in PAR 1135. For this reason, this Mitigated SEA analyzes the potential environmental effects of replacing the SCR catalyst for the simple cycle turbine. In addition, the new catalyst may require the injection of additional aqueous ammonia into the SCR. Thus, this Mitigated SEA also analyzes the potential for an increased amount of ammonia use and deliveries per year.

Facility 5

Facility 5 is owned and operated by a municipality which operates two combined cycle gas turbines and five simple cycle gas turbines that each utilize water injection for pre-combustion NOx control and are vented to seven selective catalytic reduction (SCR) units for post-combustion NOx control. Facility 5, instead of opting for the low-use provision, has elected as a business decision to optionally replace each of the facility's catalyst modules that comprise the seven existing SCR units with new, more efficient catalyst. The catalyst module replacement activities will occur in sequential order so that only one turbine and SCR will be offline at a time. Facility 7 has indicated that replacing the catalyst modules in each of the seven SCR units will reduce the NOx generated by the five simple cycle gas turbines and two combined cycle gas turbines to BARCT-compliant levels as outlined in PAR 1135. For this reason, this Mitigated SEA analyzes the potential environmental effects of replacing the SCR catalyst for each turbine. In addition, the new catalyst may require the injection of additional aqueous ammonia into the SCR. Thus, this Mitigated SEA also analyzes the potential for an increased amount of ammonia use and deliveries per year.

Facility 6

Facility 6 is owned and operated by a municipality which operates one simple cycle gas turbine that is vented to a SCR unit for post-combustion NOx control. If PAR 1135 is adopted, Facility 6 would be required to retrofit their existing equipment to BARCT compliant levels. The BARCT analysis examined potential compliance options which considered a number of factors such as technological feasibility, cost-effectiveness, availability of air pollution control equipment and whether the operator/owner may feasibly install new equipment. Thus, based on the BARCT assessment, the most timely, reasonable, and cost-effective option would be to replace the catalyst module in the existing SCR unit with a new, more efficient catalyst. For this reason, this Mitigated SEA analyzes the potential environmental effects of replacing the SCR catalyst for the simple cycle turbine. In addition, the new catalyst may require the injection of additional aqueous ammonia into the SCR. Thus, this Mitigated SEA also analyses the potential for an increased amount of ammonia use and deliveries per year.

Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities to comply with PAR 1135.

Table 2-1
Electricity Generating Facilities and Electric ~~Power~~ Generating Units with Potential Modifications due to PAR 1135

Electricity Generating Facility	Affected Electric ~~Power~~ Generating Equipment	Existing NOx Permit Limits ~~(ppmv)~~	Proposed NOx Limit in PAR 1135 (ppmv)	Potential Modifications due to PAR 1135
Facility 1	4 Simple Cycle Turbines	5, 5, 9, 9 ppmv	2.5	Replace ~~existing~~ catalyst modules in 4 ~~existing~~ SCRs with new catalyst modules
Facility 2	5 Diesel Internal Combustion Engines	~~97, 97, 140, 82, 103~~6.5 lbs/MW-hr*	45	Replace ~~existing~~ 5 ~~new~~ diesel internal combustion engines and SCRs with 5 new diesel internal combustion engines and SCRs
Facility 3	3 Natural Gas Boilers	38, 40, 82 ppmv	5	Removing existing boilers and installing up to 3 new ~~T~~turbines with ~~3 new~~ SCRs and one new aqueous ammonia storage tank
Facility 4	1 Simple Cycle Turbine	5 ppmv	2.55	Replace catalyst module in SCR with new catalyst module
Facility 5	2 Combined Cycle Turbines and 5 Simple Cycle Turbines	7, 7 ppmv and 5, 5, 5, 5, 5 ppmv	2, 2 and 2.5, 2.5, 2.5, 2.5, 2.5	Replace catalyst modules in 7 SCRs with new catalyst modules
Facility 6	1 Simple Cycle Turbine ~~Natural Gas Boilers~~	7.6 ppmv	2.5	Replace catalyst module in SCR with new catalyst module

* Facility 2 emissions limits are calculated on a per year facility-wide average that includes other equipment (e.g all six diesel internal combustion engines and micro turbines located on-site).

The potential source of environmental impacts from the potential modifications summarized in Table 2-1 are divided into two categories – construction and operation. Activities associated with installing new or modifying existing air pollution control equipment or components (e.g., catalyst modules) and replacing electric ~~power~~ generating units with new equipment (e.g., turbines or engines) are considered to generate construction impacts, while activities associated with periodic maintenance such as delivering aqueous ammonia and fresh catalyst and hauling away spent catalyst would be considered as operational impacts that occur after construction is complete. In order to evaluate these impacts, the following assumptions were relied upon for the analysis in this Mitigated SEA.

Assumptions

Construction at Facility 1:

- The catalyst modules in the four SCR units for the four simple cycle gas turbines are assumed to be replaced with modules that are comprised of more efficient catalyst.
- The replacement catalyst modules are pre-manufactured off-site; they are smaller than the existing catalyst modules so they are assumed to fit in the existing SCR catalyst housing without requiring modifications to the housing.
- Construction activities associated with replacing the catalyst modules for each SCR would be expected to last for a period of five days.
- The catalyst module replacement activities will occur in sequential order so that only one turbine and SCR will be ~~offline~~ replaced at a time.
- The spent catalyst modules from the four SCR units would need to be disposed of or recycled for their precious metal content.
- For each SCR, the removal of spent catalyst modules and replacement of fresh catalyst modules is assumed to require the use of one forklift, one aerial lift, and one crane – with each operating four hours per day for five days with a construction crew consisting of three members driving light duty vehicles (LDA/LDT1/LDT2). In addition, the delivery of fresh catalyst modules is assumed to be supplied by one vendor driving a medium-heavy duty truck (MHDT) and the haul away of spent catalyst modules is assumed to be conducted by one waste hauler truck driving a heavy-heavy duty truck (HHDT).

Construction at Facility 2:

- Five diesel internal combustion engines and associated SCR units would need to be replaced. Construction activities associated with replacing one engine and SCR unit would be expected to last for a period of four days. The replacement is assumed to be sequential to minimize power disruptions or reductions to the facility's customers during construction.
- SCAQMD staff assumes that the demolition and construction phases for each engine and SCR unit replacement would not overlap because only one engine and SCR unit can be offline at a time in order for the facility to maintain a sufficient amount of power to its customers without causing a service disruption or reduced power supplies.
- Each engine and SCR unit is assumed to be transported to Santa Catalina Island via barge from the Port of Los Angeles.

- All construction equipment and materials would need to be delivered to the facility via barge. Due to the limited space at the facility, the hauling, unloading, and staging of construction equipment and materials would not be able to occur on the same day as construction to replace an engine.
- To remove one existing engine and SCR unit and install one new engine and SCR unit, the following construction equipment and workers are assumed to be needed:
    - Paving: one paver, one paving equipment, one roller, one cement and mortar mixer, and one tractor/loader/backhoe operating a maximum of four hours per day on one day and a construction crew of eight workers.
    - Engine and SCR unit Removal and Replacement: two cranes, one concrete/industrial saw, one rubber tired dozer, two rubber tired loaders, six forklifts, two welders, one cement and mortar mixer, and two generator sets operating a maximum of eight hours per day for three days with a construction crew consisting of 18 workers driving light duty vehicles (LDA/LDT1/LDT2), five vendors driving a combination of heavy-heavy duty trucks and medium-heavy duty trucks (HHDT, MHDT), and five waste haulers driving heavy-heavy duty trucks (HHDT).

Construction at Facility 3[18]:

- Three boilers would need to be removed and replaced with up to three turbines that meet updated BARCT. Construction is assumed to last for approximately three years and would be expected to include the demolition/dismantling of the three existing boilers and construction of three new turbines with three new SCR units and one new aqueous ammonia storage tank.
- SCAQMD staff estimates that the demolition and construction phases would not be expected to overlap.
- No site-preparation is expected to be needed.
- Due to space limitations at the site, one turbine is assumed to be constructed on a peak day.
- The following equipment and workers are assumed to be needed:
    - Demolition: One crane, two excavators, two forklifts, two other general industrial equipment, one grader, one roller, two rubber tired dozers, four tractors/loaders/backhoes operating a maximum of eight hours per day for 150 days with a construction crew consisting of 68 workers driving light duty vehicles (LDA/LDT1/LDT2), three vendors driving medium-heavy duty trucks (MHDT), and 4,200 waste haulers driving heavy-heavy duty trucks (HHDT).

[18] The City of Glendale prepared a Final EIR for the Grayson Repowering Project but the document was not certified by the Glendale City Council in spring of 2018. The Final EIR Grayson Repowering Project (FEIR Grayson Repowering Project) analyzed a project much grander in scope than what is required to comply with PAR 1135, for example they intend to demolish the existing Grayson Power Plant support structures and equipment except for Unit 9. See the FEIR Grayson Repowering Project: http://graysonrepowering.com/#final-eir. The construction impacts were analyzed using CalEEMod Version 2016.3.1, however since the preparation of the FEIR Grayson Repower Project CalEEMod has been updated to Version 2016.3.2. The FEIR Grayson Repowering Project concluded that construction activities are less than significant, for the analysis in this SEA SCAQMD staff assumed a similar schedule and construction equipment, modified for the impacts from compliance with PAR 1135, which will overestimate the SEA's construction impacts. Nonetheless, the analysis in the SEA shows that there are no significant construction impacts to air quality.

- Grading: Two excavators, one grader, one rollers, three tractors/loaders/backhoes, one concrete/industrial saw, one rubber tired dozer operation a maximum of eight hours per day for 30 days with a construction crew consisting of 15 workers driving light duty vehicles (LDA/LDT1/LDT2) and 3,000 waste haulers driving heavy-heavy duty trucks (HHDT).
- Paving: One aerial lift, one crane, one forklift, two pavers, two paving equipment, and two rollers operating a maximum of seven hours per day for 14 days with a construction crew consisting of 10 workers driving light duty vehicles (LDA/LDT1/LDT2), three vendors driving medium-heavy duty trucks (MHDT), and 220 waste haulers driving heavy-heavy duty trucks (HHDT).
- Construction: Three tractors/loaders/backhoes, three rubber tired loaders, six cranes, two welders, two rollers, two excavators, two forklifts, two other construction equipment operating a maximum of six hours per day for 300 days with a construction crew consisting of 200 workers driving light duty vehicles (LDA/LDT1/LDT2), eight vendors driving medium-heavy duty trucks (MHDT), and 3,700 waste haulers driving heavy-heavy duty trucks (HHDT).
- Architectural Coatings: One air compressor operating a maximum of four hours per day for 14 days with a construction crew consisting of four workers driving light duty vehicles (LDA/LDT1/LDT2).

Construction at Facility 4:

- The catalyst modules in the SCR unit for the simple cycle gas turbine is assumed to be replaced with a module that is comprised of a more efficient catalyst.
- The replacement catalyst modules are pre-manufactured off-site; they are smaller than the existing catalyst modules so they are assumed to fit in the existing SCR catalyst housing without requiring modifications to the housing.
- Construction activities associated with replacing a catalyst module for the SCR would be expected to last for a period of five days.
- The spent catalyst modules from the SCR unit would need to be disposed of or recycled for its precious metal content.
- For one SCR, the removal of spent catalyst modules and replacement of fresh catalyst modules is assumed to require the use of one forklift, one aerial lift, and one crane – with each operating four hours per day for five days with a construction crew consisting of three members driving light duty vehicles (LDA/LDT1/LDT2). In addition, the delivery of fresh catalyst modules is assumed to be supplied by one vendor driving a medium-heavy duty truck (MHDT) and the haul away of spent catalyst modules is assumed to be conducted by one waste hauler truck driving a heavy-heavy duty truck (HHDT).

Construction at Facility 5:

- The catalyst modules in the seven SCR units for the two combined cycle gas turbines and five simple cycle gas turbines are assumed to be replaced with modules that are comprised of more efficient catalyst.

- The replacement catalyst modules are pre-manufactured off-site; they are smaller than the existing catalyst modules so they are assumed to fit in the existing SCR catalyst housing without requiring modifications to the housing.
- Construction activities associated with replacing the catalyst modules for each SCR would be expected to last for a period of five days.
- The catalyst module replacement activities will occur in sequential order so that only one turbine and SCR will be replaced at a time.
- The spent catalyst modules from the four SCR units would need to be disposed of or recycled for their precious metal content.
- For each SCR, the removal of spent catalyst modules and replacement of fresh catalyst modules is assumed to require the use of one forklift, one aerial lift, and one crane – with each operating four hours per day for five days with a construction crew consisting of three members driving light duty vehicles (LDA/LDT1/LDT2). In addition, the delivery of fresh catalyst modules is assumed to be supplied by one vendor driving a medium-heavy duty truck (MHDT) and the haul away of spent catalyst modules is assumed to be conducted by one waste hauler truck driving a heavy-heavy duty truck (HHDT).

Construction at Facility 6:

- The catalyst modules in the SCR unit for the simple cycle gas turbine is assumed to be replaced with a module that is comprised of a more efficient catalyst.
- The replacement catalyst modules are pre-manufactured off-site; they are smaller than the existing catalyst modules so they are assumed to fit in the existing SCR catalyst housing without requiring modifications to the housing.
- Construction activities associated with replacing a catalyst module for the SCR would be expected to last for a period of five days.
- The spent catalyst modules from the SCR unit would need to be disposed of or recycled for its precious metal content.
- For one SCR, the removal of spent catalyst modules and replacement of fresh catalyst modules is assumed to require the use of one forklift, one aerial lift, and one crane – with each operating four hours per day for five days with a construction crew consisting of three members driving light duty vehicles (LDA/LDT1/LDT2). In addition, the delivery of fresh catalyst modules is assumed to be supplied by one vendor driving a medium-heavy duty truck (MHDT) and the haul away of spent catalyst modules is assumed to be conducted by one waste hauler truck driving a heavy-heavy duty truck (HHDT).

Construction at all ~~3~~ 6 Facilities:

- CalEEMod version 2016.3.2 will be used to analyze the construction emissions at each of the ~~three~~ six facilities based on the aforementioned assumptions.
- Construction activities are not assumed to overlap at the ~~three~~ six facilities because of the wide variation of modifications that may be anticipated and the varying amounts of lead time needed for pre-construction/engineering design. The facility with the highest amount of daily construction emissions will represent the worst-case.

Operation at all ~~3~~ 6 Facilities:

Up to ~~34~~ 31 facilities will need to comply with PAR 1135, but only six~~three~~ facilities would be expected to undergo physical modifications. Of the ~~three~~ six affected facilities, ~~only~~ Facilities 1, 3, 4, 5, and 6 ~~and 3~~ are expected to have new operation impacts, as explained below:

- Facility 1's proposed replacement and upgrade of the SCR catalyst modules may require additional aqueous ammonia to be injected into the four SCR units in order to achieve the desired NOx emission reductions. This analysis assumes an increase of six aqueous ammonia deliveries per year will be needed to supply the existing aqueous ammonia storage tank. However, because Facility 1 currently replaces the spent SCR catalyst modules approximately every five years as part of regular maintenance, this analysis assumes that the same maintenance schedule will continue with the upgraded SCR catalyst modules.
- Facility 2 is assumed to not create any new operational impacts because the proposed modifications would not change: 1) the amount of urea that is currently delivered and stored; and 2) the current maintenance schedule for replacing spent SCR catalyst approximately every five years.
- Facility 3 is expected to install one new aqueous ammonia tank; thus, new operational impacts relative to the delivery and storage of aqueous ammonia are anticipated. Facility 3 is also expected to install three new SCRs which will require spent catalyst to be replaced approximately every five years.
- Facility 4's proposed replacement and upgrade of the SCR catalyst module may require additional aqueous ammonia to be injected into the SCR unit in order to achieve the desired NOx emission reductions. This analysis assumes an increase of six aqueous ammonia deliveries per year will be needed to supply the existing aqueous ammonia storage tank. However, because Facility 4 currently replaces the spent SCR catalyst module approximately every five years as part of regular maintenance, this analysis assumes that the same maintenance schedule will continue with the upgraded SCR catalyst module.
- Facility 5's proposed replacement and upgrade of the SCR catalyst modules may require additional aqueous ammonia to be injected into the seven SCR units in order to achieve the desired NOx emission reductions. This analysis assumes an increase of 11 aqueous ammonia deliveries per year will be needed to supply the existing aqueous ammonia storage tank. However, because Facility 5 currently replaces the spent SCR catalyst modules approximately every five years as part of regular maintenance, this analysis assumes that the same maintenance schedule will continue with the upgraded SCR catalyst modules.
- Facility 6's proposed replacement and upgrade of the SCR catalyst module may require additional aqueous ammonia to be injected into the SCR unit in order to achieve the desired NOx emission reductions. This analysis assumes an increase of six aqueous ammonia deliveries per year will be needed to supply the existing aqueous ammonia storage tank. However, because Facility 6 currently replaces the spent SCR catalyst module approximately every five years as part of regular maintenance, this analysis assumes that the same maintenance schedule will continue with the upgraded SCR catalyst module.
- No additional permanent employees are expected to be hired at any of the ~~three~~ six facilities as a result of PAR 1135.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I.	**AESTHETICS**. Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☑
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☑
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☑

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance

with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the three affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

I. a), b) c) & d) No Impact. To reduce NOx emissions from the affected electricity generating facilities, ~~three~~ six facilities would need to make physical modifications as summarized in Table 2-1 in order to comply with updated BARCT in PAR 1135.

At each of the ~~three~~ six facilities, varying types of construction equipment such as cranes, tractors, backhoes, aerial lifts, compressors, welders, and forklifts, et cetera, may be needed to carry out the facility-specific physical modifications during construction. However, since electricity generating facilities are heavy industrial facilities that currently utilize a wide range of on-road vehicles and off-road equipment such as aerial lifts, cranes, forklifts and other types of heavy-duty equipment on site as part of their day-to-day operations, using these or similar equipment during construction activities for PAR 1135 may not discernably different in appearance. For example, an aerial lift or crane, when fully extended, may be temporarily visible in the surrounding areas while in use, depending on where the equipment is located within each facility's property boundary and whether there are any other structures on or off of the property that would block or buffer the line of sight outside of the property lines. Thus, the use of these equipment during construction will not be expected to be visually different during construction than when they are used during regular day-to-day operations. Aside from aerial lifts or cranes, the majority of construction equipment that may be needed is expected to be relatively low in height and not substantially visible to the surrounding area due to existing fencing along the property lines and existing structures currently within the facilities that may buffer the views of the construction activities. Further, once all of the construction activities are completed at the each of the three facilities, the overall visual profile of the facilities post-construction is not expected to be substantially different in appearance to the surrounding areas because the modified and/or replaced equipment will be at the same or similar heights of the existing equipment and surrounding structures.

Specific to Facility 1, the SCR catalyst modules for each of the four existing SCR units are assumed to need replacing and the modules are contained within an existing housing structure. Further, the replacement SCR catalyst modules are expected to be smaller than the existing modules. In addition, the act of swapping out the spent SCR catalyst modules with fresh, more efficient catalysts will not be expected to be visible offsite. Thus, no physical modifications that would alter the height profiles or overall appearance of the existing housing structures are necessary and only SCR module change-out activities are expected to occur during construction. Thus, once the SCR catalyst modules are replaced for each SCR unit, the outside appearance of each SCR unit and the housing of the catalyst modules will remain unchanged.

Facility 2 would be expected to replace five diesel internal combustion engines and associated SCR units, with one engine and SCR unit being replaced per year. Once construction of each new engine and SCR unit is completed at Facility 2 and the existing internal combustion engines and SCR units are removed, the overall appearance is of the new engines and SCRs at this facility is expected to have similar physical and height characteristics as the existing engines.

Facility 3 would be expected to demolish three existing boilers and install three new turbines with three new SCR units and one new aqueous ammonia storage tank. While the new turbines are a different type of electric power generating unit when compared to the boilers and may have a different footprint and height, the overall industrial appearance and footprint of Facility 3 is not expected to drastically change as a result of these construction activities.

For Facility 4 and 6, the SCR catalyst modules for each existing SCR unit is assumed to need replacing and the modules are contained within an existing housing structure. Further, the replacement SCR catalyst modules are expected to be smaller than the existing modules. In addition, the act of swapping out the spent SCR catalyst modules with a fresh, more efficient catalyst will not be expected to be visible offsite. Thus, no physical modifications that would alter the height profiles or overall appearance of the existing housing structures are necessary and only SCR module change-out activities are expected to occur during construction. Thus, once the SCR catalyst modules are replaced for each SCR unit, the outside appearance of the SCR unit and the housing of the catalyst modules will remain unchanged.

Facility 5, is assumed to need to replace the SCR catalyst modules for each of the seven existing SCR units contained within an existing housing structure, with one module replaced per year. Further, the replacement SCR catalyst modules are expected to be smaller than the existing modules. In addition, the act of swapping out the spent SCR catalyst modules with fresh, more efficient catalysts will not be expected to be visible offsite. Thus, no physical modifications that would alter the height profiles or overall appearance of the existing housing structures are necessary and only SCR module change-out activities are expected to occur during construction. Thus, once the SCR catalyst modules are replaced for each SCR unit, the outside appearance of each SCR unit and the housing of the catalyst modules will remain unchanged.

Because each affected electricity generating facility is located in existing industrial or commercial land use areas, any construction equipment that is needed at each of the ~~three~~ six facilities is not expected to be substantially discernable from what typically exists on-site for conducting routine operations and maintenance activities. Further, the construction activities are not expected to adversely impact views and aesthetics resources since most of the heavy equipment and activities are expected to occur within the confines of each existing facility property and are expected to introduce only minor visual changes to areas outside each electricity generating facility, if at all, depending on the location of the construction activities within each facility.

Lastly, the construction activities are expected to be temporary in nature and will cease following completion of the modifications. Also, once construction at each of the ~~three~~ six facilities is completed, any construction equipment that has been rented will be removed from each facility. Further, any new equipment that is installed would be expected to blend in with the existing industrial profile at the affected facilities because the heights of these replacements units are expected to have a similar profile when compared to neighboring existing equipment on-site and their associated stack heights would be about the same as existing stacks within the affected facilities.

Therefore, any potential construction and operation activities as a result of the proposed project would not be expected to damage, degrade, or obstruct scenic resources and the existing visual character of any site in the vicinity of affected facilities.

There are no components in PAR 1135 that would require construction activities to occur at night. Further, cities often have their own limitations and prohibitions that restrict construction from occurring during evening hours and weekends. Therefore, no additional temporary construction lighting at each facility would be expected. Similarly, while the proposed project has no provisions that would require affected equipment to operate at night, some facilities currently operate multiple shifts and existing lighting is utilized during the nighttime shifts. For those facilities, once construction is complete, additional permanent light fixtures may be installed on or near the repowered, retrofitted, or replaced electric ~~power~~ generating units for safety and security reasons. These permanent light fixtures should be positioned to direct light downward toward equipment within the facility so as to not create additional light or glare offsite to residences or sensitive receptors. Therefore, the proposed project is not expected to create a new source of substantial light or glare at any of the affected facilities in a manner that would adversely affect day or nighttime views in the surrounding areas.

Conclusion

Based upon these considerations, significant adverse aesthetics impacts are not expected from implementing PAR 1135. Since no significant aesthetics impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II.	**AGRICULTURE AND FORESTRY RESOURCES.** Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	☐	☐	☐	☑
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☑
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☑

Significance Criteria

Project-related impacts on agriculture and forestry resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)).
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the three facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

II. a), b), c), & d) No Impact. Compliance with PAR 1135 is expected to be met by repowering, retrofitting, or replacing affected electric ~~power~~ generating units to meet updated BARCT. Since both construction and operation activities that would occur as a result of implementing the proposed project would occur within the existing boundaries of each affected facility, there are no provisions in PAR 1135 that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements relative to agricultural resources would be altered by the proposed project. Each of the ~~three~~ six affected facilities are located on existing industrial or commercial land use areas. For these reasons, implementation of PAR 1135 would not convert farmland to non-agricultural use or conflict with zoning for agriculture use or a Williamson Act contract. Furthermore, it is not expected that PAR 1135 would conflict with existing zoning for, or cause rezoning of, forest land; or result in the loss of forest land or conversion of forest land to non-forest use. Consequently, the proposed project would not create any significant adverse agriculture or forestry impacts.

Conclusion

Based upon these considerations, significant adverse agriculture and forestry resources impacts are not expected from implementing PAR 1135. Since no significant agriculture and forestry resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☑
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☑	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☑	☐
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	☐	☐	☑	☐
g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☑	☐

Significance Criteria

To determine whether or not air quality and greenhouse gas impacts from implementing PAR 1135 are significant, impacts will be evaluated and compared to the criteria in Table 2-2. PAR 1135 will be considered to have significant adverse impacts if any one of the thresholds in Table 2-2 are equaled or exceeded.

Table 2-2
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds [a]		
Pollutant	**Construction** [b]	**Operation** [c]
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO_2eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants [d]		
NO_2 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour average annual average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation) 1.0 μg/m^3	
$PM_{2.5}$ 24-hour average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation)	
SO_2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 μg/m^3 (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average	1.5 μg/m^3 (state) 0.15 μg/m^3 (federal)	

[a] Source: SCAQMD CEQA Handbook (SCAQMD, 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million μg/m^3 = microgram per cubic meter ≥ = greater than or equal to
MT/yr CO_2eq = metric tons per year of CO_2 equivalents > = greater than

Revision: March 2015

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

III. a) No Impact. The SCAQMD is required by law to prepare a comprehensive district-wide Air Quality Management Plan (AQMP) which includes strategies (e.g., control measures) to reduce emission levels to achieve and maintain state and federal ambient air quality standards, and to ensure that new sources of emissions are planned and operated to be consistent with the SCAQMD's air quality goals. The AQMP's air pollution reduction strategies include control measures which target stationary, area, mobile and indirect sources. These control measures are based on feasible methods of attaining ambient air quality standards. Pursuant to the provisions of both the state and federal Clean Air Acts, the SCAQMD is also required to attain the state and federal ambient air quality standards for all criteria pollutants.

The most recent regional blueprint for how the SCAQMD will achieve air quality standards and healthful air is outlined in the 2016 AQMP[19] which contains multiple goals of promoting reductions of criteria air pollutants, greenhouse gases, and toxics. In particular, the 2016 AQMP contains control measure CMB-05 – Further Reductions from RECLAIM Assessment, to commit to additional NOx emission reductions of five tons per day to occur by 2025. Also, CMB-05 concluded that an orderly sunset of the RECLAIM program may be the best way to achieve the additional five tons per day and reduce compliance burdens for RECLAIM facilities, while also achieving more actual and SIP creditable emissions reductions. Thus, CMB-05 also committed to

[19] SCAQMD, Final 2016 Air Quality Management Plan, March, 2017. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf

a process of transitioning NOx RECLAIM facilities to a command-and-control regulatory structure to ensure that the applicable equipment will meet BARCT level equivalency as soon as practicable.

As part of the on-going transition from facilities in the NOx RECLAIM program to a command-and-control regulatory structure and implementation of CMB-05 in the 2016 AQMP, PAR 1135 has been crafted to further reduce NOx emissions from electric generating facilities that own or operate electric ~~power~~ generating units. Upon implementation, PAR 1135 would be expected to reduce NOx emissions by achieving updated BARCT compliance for electric ~~power~~ generating units.

For these reasons, PAR 1135 is not expected to obstruct or conflict with the implementation of the 2016 AQMP because the emission reductions from implementing PAR 1135 are in accordance with the emission reduction goals in the 2016 AQMP. PAR 1135 will help reduce NOx emissions, which is consistent with the goals of the 2016 AQMP. Therefore, implementing PAR 1135 to reduce NOx emissions from electricity generating facilities would not conflict with or obstruct implementation of the applicable air quality plans. Since no significant impacts were identified for this issue, no mitigation measures are necessary or required.

III. b) and f) Less Than Significant Impact. SCAQMD staff is not aware of any new electricity generating facilities planned to be constructed in the immediate future and is unable to predict or forecast, when, if at all, any would be built in the long-term. Therefore, in accordance with CEQA Guidelines Section 15145, an evaluation of construction and operation impacts for new facilities is concluded to be speculative and will not be evaluated further in this Mitigated SEA. Instead, the focus of the analysis will be on the affected facilities (Facility 1, Facility 2, ~~and~~ Facility 3, Facility 4, Facility 5, and Facility 6) and the effects of complying with PAR 1135 as explained in the following discussion.

Construction and Operation Activities

The primary source of air quality construction impacts that would be expected to occur from complying with PAR 1135 would be from physical changes and modifications to electric ~~power~~ generating units. There are approximately ~~34~~ 31 facilities that will need to comply with PAR 1135, but only ~~three~~six, Facilities 1, 2, ~~and~~ 3, 4, 5, and 6, would be expected to undergo physical modifications requiring construction as a result of complying with PAR 1135. Specifically, ~~Facility~~facilities 1, 4, 5, and 6 ~~is~~are expected to undergo some minor construction to replace the existing catalyst modules in each of ~~the~~ their ~~four~~ existing SCRs with new catalyst modules. Facility 2 is expected to undergo substantial construction to replace five existing diesel internal combustion engines and SCR units with five new diesel internal combustion engines and SCR units. Finally, Facility 3 is expected to removing three existing boilers and installing up to three new turbines, three new SCRs and one new aqueous ammonia storage tank.

Similarly during operation (e.g., after construction is completed), only ~~two~~ five facilities, Facilities 1 ~~and~~ 3, 4, 5, and 6 would be expected to have new, albeit limited, operational impacts occur as a result of complying with PAR 1135.

In particular, if Facility 1, 4, 5, and 6 replace~~s~~ the SCR catalyst modules with upgraded, more efficient catalyst modules in in each of ~~the four~~ their existing SCRs, additional aqueous ammonia may need to be injected into each of the ~~four~~ SCR units in order to achieve the desired NOx emission reductions in accordance with PAR 1135. This potential increase in ammonia usage is estimated to require approximately ~~six~~ one and a half additional deliveries of ammonia per year

per SCR unit which will in turn increase the annual operational emissions from six additional ammonia delivery vehicles per year for Facility 1, two additional ammonia delivery vehicles per year for Facility 4, 11 additional ammonia delivery vehicles per year for Facility 5, and two additional ammonia delivery vehicles per year for Facility 6. It is important to note that Facility 1, 4, 5, and 6 currently replaces the spent SCR catalyst modules approximately once every five years as part of regular maintenance and the potential for upgrading the catalyst modules is not expected to alter this five-year maintenance cycle. As such, this analysis assumes that no new or additional operational impacts associated with conducting catalyst maintenance activities (e.g., delivering fresh catalyst modules and hauling away and spent catalyst modules) will occur if the SCR catalyst modules are upgraded.

Once Facility 2 completes the replacement of their five existing diesel internal combustion engines and SCR units with five new diesel internal combustion engines and SCR units, the operation of the five new engines and SCR units will not be expected to create any new or additional operational impacts. Further, because Facility 2 will not change the existing SCRs, there would be no change to: 1) the amount of urea that is currently delivered, stored, and utilized by the existing new SCRs; and 2) the current maintenance schedule for replacing spent SCR catalyst (e.g., approximately every five years). Thus, no new or additional operational activities will be expected to occur at Facility 2 as a result of PAR 1135.

After Facility 3 removes their three existing boilers and installs up to three new turbines, three new SCRs, and one new aqueous ammonia storage tank, new operational impacts relative to the delivery and storage of aqueous ammonia are anticipated. Further, specific to the installation of three new SCRs, new operational activities to replace spent catalyst with fresh catalyst approximately every five years would be expected to occur at Facility 3.

Thus, the analysis focuses on the potential secondary adverse environmental impacts during construction at Facilities 1, 2, and 3, 4, 5, and 6 and during operation at Facilities 1, and 3, 4, 5, and 6. Table 2-3 summarizes the key requirements in PAR 1135 that may create secondary adverse air quality and greenhouse gas (GHG) impacts during construction and operation.

Table 2-3
Physical Actions Anticipated at Affected Facilities During Construction and Operation

Affected Facility	Physical Actions Anticipated During:	
	Construction	**Operation**
Facility 1	Remove and haul away existing catalyst modules and deliver and install new catalyst modules for 4 existing SCRs	1. Continue existing spent catalyst replacement practices and maintenance schedule (e.g., every 5 years). 2. No change to existing aqueous ammonia storage tank. 3. Potential annual increase in amount of aqueous ammonia delivered and used by 4 existing SCRs.
Facility 2	1. Remove 5 existing diesel internal combustion engines and SCR units and install 5 new diesel internal combustion engines and SCR units 2. Haul construction equipment, removed and new engines, SCR units, and waste material to and from Santa Catalina Island via barge	1. No changes to existing urea storage and usage. ~~2. No changes to existing SCR systems.~~ ~~3.~~2. Continue existing spent catalyst replacement practices and maintenance schedule (e.g., every 5-years)
Facility 3	1. Remove 3 existing boilers 2. Install up to 3 new turbines 3. Install up to 3 new SCRs 4. Install 1 new aqueous ammonia storage tank	1. New deliveries, storage, and use of aqueous ammonia by 3 new SCRs 2. New spent catalyst replacement practices and maintenance schedule (e.g., every 5 years)
Facility 4	Remove and haul away existing catalyst module and deliver and install new catalyst module for the existing SCR	1. Continue existing spent catalyst replacement practices and maintenance schedule (e.g., every 5 years). 2. No change to existing aqueous ammonia storage tank. 3. Potential annual increase in amount of aqueous ammonia delivered and used by existing SCR.
Facility 5	Remove and haul away existing catalyst modules and deliver and install new catalyst modules for 7 existing SCRs	1. Continue existing spent catalyst replacement practices and maintenance schedule (e.g., every 5 years). 2. No change to existing aqueous ammonia storage tank. 3. Potential annual increase in amount of aqueous ammonia delivered and used by 7 existing SCRs.
Facility 6	Remove and haul away existing catalyst module and deliver and install new catalyst module for the existing SCR	1. Continue existing spent catalyst replacement practices and maintenance schedule (e.g., every 5 years). 2. No change to existing aqueous ammonia storage tank. 3. Potential annual increase in amount of aqueous ammonia delivered and used by existing SCR.

For the purpose of the conducting a worst-case CEQA analysis for Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 the following detailed assumptions have been made:

- Upon adoption of PAR 1135, one facility has four simple cycle turbines, one facility has three boilers, ~~and~~ one facility has five diesel internal combustion engines, one facility has one simple cycle turbine, one facility has two combined cycle turbines and associated duct burners and five simple cycle turbines, and one facility has one simple cycle turbine that would each be required to comply with updated BARCT emission limits by January 1, 2024. Each affected facility would be expected to undergo construction activities, as summarized in Table 2-3.

Construction at Facility 1, 4, 5, and 6:

- The catalyst modules in ~~the four~~ each affected SCR unit~~s~~ for the four simple cycle gas turbines at Facility 1, the simple cycle gas turbine at Facility 4, the two combined cycle gas turbines and five simple cycle gas turbines at Facility 5, and the simple cycle gas turbine at Facility 6 are assumed to be replaced with more efficient catalyst.
- The replacement catalyst modules are pre-manufactured off-site; they are smaller than the existing catalyst modules so they are assumed to fit in the existing SCR catalyst housing without requiring modifications to the housing.
- Construction activities associated with replacing the catalyst modules for each SCR would be expected to last for a period of five days.
- The catalyst module replacement activities will occur in sequential order so that only one turbine and SCR will be offline at a time.
- The spent catalyst modules from ~~the four~~each affected SCR unit~~s~~ would need to be disposed of, or recycled for their precious metal content.
- For each SCR, the removal of spent catalyst modules and replacement of fresh catalyst modules is assumed to require the use of one forklift, one aerial lift, and one crane – with each operating four hours per day for five days with a construction crew consisting of three members driving light duty vehicles (LDA/LDT1/LDT2). In addition, the delivery of fresh catalyst modules is assumed to be supplied by one vendor driving a medium-heavy duty truck (MHDT) and the haul away of spent catalyst modules is assumed to be conducted by one waste hauler truck driving a heavy-heavy duty truck (HHDT).

Construction at Facility 2:

- Five diesel internal combustion engines and SCR units would need to be replaced. Construction activities associated with replacing one engine and SCR unit would be expected to last for a period of four days. The replacement is assumed to be sequential to minimize power disruptions or reductions to the facility's customers during construction.
- SCAQMD staff assumes that the demolition and construction phases for each engine and SCR replacement would not overlap because only one engine and SCR unit can be offline at a time in order for the facility to maintain a sufficient amount of power to its customers without causing a service disruption or reduced power supplies.
- Each engine and SCR unit is assumed to be transported to Santa Catalina Island via barge from the Port of Los Angeles.

- All construction equipment and materials would need to be delivered to the facility via barge. Due to the limited space at the facility, the hauling, unloading, and staging of construction equipment and materials would not be able to occur on the same day as construction to replace an engine.
- To remove one existing engine and SCR unit and install one new engine and SCR unit, the following construction equipment and workers are assumed to be needed:
    - Paving: one paver, one paving equipment, one roller, one cement and mortar mixer, and one tractor/loader/backhoe operating a maximum of four hours per day on one day and a construction crew of eight workers.
    - Engine and SCR unit Removal and Replacement: two cranes, one concrete/industrial saw, one rubber tired dozer, two rubber tired loaders, six forklifts, two welders, one cement and mortar mixer., and two generator sets operating a maximum of eight hours per day for three days with a construction crew consisting of 18 workers driving light duty vehicles (LDA/LDT1/LDT2), five vendors driving a combination of heavy-heavy duty trucks and medium-heavy duty trucks (HHDT, MHDT), and five waste haulers driving heavy-heavy duty trucks (HHDT).

Construction at Facility 3[20]:

- Three boilers would need to be removed and replaced with up to three turbines that meet updated BARCT. Construction is assumed to last for approximately three years and would be expected to include the demolition/dismantling of the three existing boilers and construction of three new turbines with three new SCR units and one new aqueous ammonia storage tank.
- SCAQMD staff estimates that the demolition and construction phases would not be expected to overlap.
- No site-preparation is expected to be needed.
- Due to space limitations at the site, one turbine is assumed to be constructed on a peak day.
- The following equipment and workers are assumed to be needed:
    - Demolition: One crane, two excavators, two forklifts, two other general industrial equipment, one grader, one roller, two rubber tired dozers, four tractors/loaders/backhoes operating a maximum of eight hours per day for 150 days with a construction crew consisting of 68 workers driving light duty vehicles (LDA/LDT1/LDT2), three vendors driving medium-heavy duty trucks (MHDT), and 4,200 waste haulers driving heavy-heavy duty trucks (HHDT).

[20] The City of Glendale prepared a Final EIR for the Grayson Repowering Project but the document was not certified by the Glendale City Council at their meeting in Spring 2018. The Final EIR Grayson Repowering Project (FEIR Grayson Repowering Project) analyzed a project much grander in scope than what is required to comply with PAR 1135. For example the project description proposed to demolish the entire existing Grayson Power Plant support structures and equipment except for Unit 9. See the FEIR Grayson Repowering Project: http://graysonrepowering.com/#final-eir. The construction impacts were analyzed using CalEEMod Version 2016.3.1. However since the preparation of the FEIR Grayson Repower Project, CalEEMod has been updated to Version 2016.3.2. The FEIR Grayson Repowering Project concluded that construction air quality impacts would be less than significant. For the analysis in this SEA, SCAQMD staff assumed a similar construction schedule and construction equipment profile as in the FEIR, but adjusted the analysis to only focus on the activities and corresponding impacts that would be expected to occur in order to comply with PAR 1135. While SCAQMD staff's approach overestimates the construction impacts, the analysis in the SEA also concludes that there would be no significant air quality impacts during construction.

- Grading: Two excavators, one grader, one rollers, three tractors/loaders/backhoes, one concrete/industrial saw, one rubber tired dozer operation a maximum of eight hours per day for 30 days with a construction crew consisting of 15 workers driving light duty vehicles (LDA/LDT1/LDT2) and 3,000 waste haulers driving heavy-heavy duty trucks (HHDT).
- Paving: One aerial lift, one crane, one forklift, two pavers, two paving equipment, and two rollers operating a maximum of seven hours per day for 14 days with a construction crew consisting of 10 workers driving light duty vehicles (LDA/LDT1/LDT2), three vendors driving medium-heavy duty trucks (MHDT), and 220 waste haulers driving heavy-heavy duty trucks (HHDT).
- Construction: Three tractors/loaders/backhoes, three rubber tired loaders, six cranes, two welders, two rollers, two excavators, two forklifts, two other construction equipment operating a maximum of six hours per day for 300 days with a construction crew consisting of 200 workers driving light duty vehicles (LDA/LDT1/LDT2), eight vendors driving medium-heavy duty trucks (MHDT), and 3,700 waste haulers driving heavy-heavy duty trucks (HHDT).
- Architectural Coatings: One air compressor operating a maximum of four hours per day for 14 days with a construction crew consisting of four workers driving light duty vehicles (LDA/LDT1/LDT2).

Construction at all ~~3~~ Six Facilities:

- CalEEMod version 2016.3.2 will be used to analyze the construction emissions at each of the ~~three~~ six facilities based on the aforementioned assumptions.
- Construction activities are not assumed to overlap at the ~~three~~ six facilities because of the wide variation of modifications that may be anticipated and the varying amounts of lead time needed for pre-construction/engineering design. The facility with the highest amount of daily construction emissions will represent the worst-case.

Operation at all ~~3~~ Six Facilities:

Up to ~~34~~ 31 facilities will need to comply with PAR 1135 but only ~~three~~ six facilities would be expected to undergo physical modifications. Of the ~~three~~ six affected facilities, ~~only~~ Facilities 1 ~~and~~ 3, 4, 5, and 6 are expected to have new operation impacts, as explained below:

- ~~Facility~~ Facilities ~~1's~~ 1, 4, 5, and 6 proposed replacement and upgrade of ~~the~~ each affected SCR catalyst module~~s~~ may require additional aqueous ammonia to be injected into the four SCR units at Facility 1, one SCR unit at Facility 4, seven SCR units at Facility 5, and one SCR unit at Facility 6 in order to achieve the desired NOx emission reductions. This analysis assumes an increase of six aqueous ammonia deliveries per year at Facility 1, two aqueous ammonia deliveries per year at Facility 4, 11 aqueous ammonia deliveries per year at Facility 5, and two aqueous ammonia delivers per year at Facility 6 will be needed to supply the existing aqueous ammonia storage tanks. However, because Facility 1, 4, 5, and 6 currently replaces ~~the~~ each spent SCR catalyst module~~s~~ approximately every five years as part of regular maintenance, this analysis assumes that the same maintenance schedule will continue with the upgraded SCR catalyst modules.
- Facility 2 is assumed to not create any new operational impacts because the proposed modifications would not change: 1) the amount of urea that is currently delivered and

stored; and 2) the current maintenance schedule for replacing spent SCR catalyst approximately every five years.

- Facility 3 is expected to install one new aqueous ammonia tank; thus, new operational impacts relative to the delivery and storage of aqueous ammonia are anticipated. Facility 3 is also expected to install three new SCRs which will require spent catalyst to be replaced approximately every five years.
- No additional permanent employees are expected to be hired at any of the ~~three~~ six facilities as a result of PAR 1135.

Construction Impacts

Construction emissions were estimated using the California Emissions Estimator Model® version 2016.3.2 (CalEEMod[21]). To retrofit, repower, or replace electric ~~power~~ generating units the use of construction off-road equipment was assumed on a facility-by-facility basis and is detailed in Tables 2-4 through 2-6 [22]. In addition, emissions from all on-road vehicles transporting workers, vendors, and material removal and delivery during construction were also calculated using CalEEMod. The detailed output reports for the CalEEMod runs are included in Appendix C of this Mitigated SEA. Tables 2-7 through 2-9 summarize the results of the construction air quality analysis during the construction activities. Appendix C also contains the spreadsheets with the results and assumptions used for this analysis.

Table 2-4
Construction Equipment to
Replace Catalyst Modules in One SCR Unit at Facility 1, 4, 5, and 6

Construction Phase	Off-Road Equipment Type	Amount	Daily Usage Hours
Building Construction	Forklift	1	4
Building Construction	Aerial Lift	1	4
Building Construction	Crane	1	4

[21] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operations from a variety of land use projects.

[22] In general, no or limited construction emissions from grading are anticipated because retrofitting, repowering, or replacing electric power generating units occurs at existing industrial/commercial facilities and, therefore, would not be expected to require digging, earthmoving, grading, etc.

Table 2-5
Construction Equipment to
Remove One Engine and Install One New Engine and SCR Unit at Facility 2

Construction Phase	Off-Road Equipment Type	Amount	Daily Usage Hours
Demolition	Concrete/Industrial Saw	1	8
Demolition	Crane	1	7
Demolition	Forklift	3	7
Demolition	Generator Set	1	7
Demolition	Rubber Tired Dozer	1	1
Demolition	Rubber Tired Loader	2	7
Demolition	Tractor/Loader/Backhoe	2	6
Demolition	Welder	1	7
Building Construction	Crane	1	7
Building Construction	Forklift	3	7
Building Construction	Generator Set	1	7
Building Construction	Rubber Tired Loader	2	7
Building Construction	Tractor/Loader/Backhoe	2	8
Building Construction	Welder	1	7
Paving	Cement and Mortar Mixer	1	3
Paving	Paver	1	4
Paving	Paving Equipment	1	4
Paving	Roller	1	2
Paving	Tractor/Loader/Backhoe	1	4

Table 2-6
Construction Equipment Remove Three Boilers and Install Three New Turbines, Three New SCR Units, and One New Aqueous Ammonia Storage Tank at Facility 3

Construction Phase	Off-Road Equipment Type	Amount	Daily Usage Hours
Demolition	Concrete/Industrial Saw	1	8
Demolition	Crane	1	3
Demolition	Excavator	2	3
Demolition	Forklift	2	2
Demolition	Grader	1	1
Demolition	Other General Industrial Equipment	2	2
Demolition	Roller	1	1
Demolition	Rubber Tired Dozer	2	3
Demolition	Tractor/Loader/Backhoe	2	4
Grading	Concrete/Industrial Saw	1	8
Grading	Excavator	2	3
Grading	Grader	1	4
Grading	Roller	1	4
Grading	Rubber Tired Dozer	1	4
Grading	Tractor/Loader/Backhoe	2	3
Building Construction	Cranes	2	3
Building Construction	Excavator	2	1
Building Construction	Forklift	2	6
Building Construction	Other Construction Equipment	2	1
Building Construction	Roller	1	1
Building Construction	Rubber Tired Loader	2	2
Building Construction	Tractor/Loader/Backhoe	2	1
Building Construction	Welders	1	4
Paving	Aerial Lift	1	1
Paving	Cement and Mortar Mixer	4	6
Paving	Crane	1	4
Paving	Forklift	1	3
Paving	Paver	2	5
Paving	Paving Equipment	2	5
Paving	Roller	2	5
Paving	Tractor/Loader/Backhoe	1	7
Architectural Coating	Air Compressor	1	4

Table 2-7
Peak Daily Construction Emissions During
Catalyst Modules Replacement in One SCR at Facility 1, 4, 5 and 6

Construction Activity	VOC (lb/day)	NOx (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
1 SCR Catalyst Replacement occurring on a peak day	0.4	5.0	3.1	0.0	0.3	0.2
Total Peak Daily Construction Emissions	0.4	5.0	3.1	0.0	0.3	0.2
SIGNIFICANCE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55
SIGNIFICANT?	NO	NO	NO	NO	NO	NO

a. The emissions are estimated using CalEEMod version 2016.3.2 and include emissions from on-road vehicles and off-road construction equipment.
b. To avoid having more than one unit being offline at a time, the replacement of catalyst modules for one SCR unit is assumed to occur on a peak day.
c. Appendix C contains the detailed calculations.

Table 2-8A
Peak Daily Construction Emissions
To Transport One Engine and SCR unit to Facility 2

Construction Activity	VOC (lb/day)	NOx (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
1 Barge Round-Trip	1.3	10	22	0.10	0.19	1.5
Total Peak Daily Construction Emissions	**1.3**	**10**	**22**	**0.10**	**0.19**	**1.5**
SIGNIFICANCE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55
SIGNIFICANT?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

a. The emissions were estimated using barge emission factors in the Final Negative Declaration for the Petro-Diamond Terminal Company Marine Terminal Permit Modification Project, Appendix A: Emission Calculations. July 2008.
b. Facility 2 is assumed to replace five engines in sequential order because only one engine can be offline at a time in order for the facility to maintain a sufficient amount of power to its customers without causing a service disruption or reduced power supplies. Thus, only one existing engine demolition and one new engine installation is expected to occur each year. On a peak day, there will be one engine installation at Facility 2. Barge trips are not expected to occur on the same day as the installation of one new engine.
c. Appendix C contains the detailed calculations.

Table 2-8B
Peak Daily Construction Emissions
To Install One New Engine and SCR unit at Facility 2

Construction Activity	VOC (lb/day)	NOx (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
1 Engine Demolition and 1 New Engine Installation	4.3	40	27	0.1	3.4	2.3
Total Peak Daily Construction Emissions	**4.3**	**40**	**27**	**0.1**	**3.4**	**2.3**
SIGNIFICANCE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55
SIGNIFICANT?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

a. The emissions were estimated using CalEEMod version 2016.3.2 and include emissions from on-road vehicles and off-road construction equipment.
b. Facility 2 is assumed to replace five engines in sequential order because only one engine can be offline at a time in order for the facility to maintain a sufficient amount of power to its customers without causing a service disruption or reduced power supplies. Thus, only one existing engine demolition and one new engine installation is expected to occur each year. On a peak day, there will be one engine installation at Facility 2. Barge trips are not expected to occur on the same day as the installation of one new engine.
c. Appendix C contains the detailed calculations.

Table 2-9
Peak Daily Construction Emissions to Remove Three Boilers and Install Three New Turbines, Three New SCR Units, and One New Aqueous Ammonia Storage Tank at Facility 3

Construction Activity	VOC (lb/day)	NOx (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Remove 3 Existing Boilers and Install 3 New Turbines, 3 New SCR units, and 1 New Aqueous Ammonia Storage Tank	16	51	22	0.1	6.3	3.3
Total Peak Daily Construction Emissions	16	51	22	0.1	6.3	3.3
SIGNIFICANCE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55
SIGNIFICANT?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

a. The emissions are estimated using CalEEMod version 2016.3.2 and include emissions from on-road vehicles and off-road construction equipment.
b. Due to space constraints and to avoid having more than one unit being offline at a time, the demolition/removal of existing equipment and the installation of new equipment is assumed to occur on different days in multiple stages.
c. Appendix C contains the detailed calculations.

Given the duration of the construction expected at each of the ~~three~~ six affected facilities and the length of time to comply with the requirements of PAR 1135 (on or before January 1, 2024, approximately five years for compliance), the construction phases for each facility are not expected to overlap on a peak day. In the most conservative assumption, if two facilities were to overlap their construction phases, the air quality impacts due to construction are expected to be less than

significant. Thus, as shown in Tables 2-7 through 2-9 the air quality impacts due to construction from implementation of PAR 1135 are expected to be less than significant.

Operational Impacts

As explained previously, secondary air quality operational impacts are expected to occur from the following activities: 1) Facility 1, 4, 5, and 6's proposed replacement and upgrade of the catalyst modules in each of the four existing SCR units for their four existing turbines at Facility 1, the one existing SCR unit for their one existing turbine at Facility 4, the seven existing SCR units for their seven existing turbines at Facility 5, and the one existing SCR unit for the one existing turbine at Facility 6; and 2) Facility 3's deliveries and usage of aqueous ammonia for their new aqueous ammonia tank and the new five-year maintenance schedule to replace spent catalyst in their three new SCRs.

It is important to note that there are other types of ongoing, needed maintenance of the electric ~~power~~ generating units themselves and the periodic source tests that are conducted are both types of operational activities which already take place at each of the affected facilities and are considered part of the existing setting. PAR 1135 does not impose new maintenance or source testing requirements that would alter this existing setting.

Total operational emissions were estimated using CARB's EMFAC2017[23] for the following mobile sources: trucks for aqueous ammonia and catalyst module deliveries and trucks for hauling away spent catalysts. Facilities 1 ~~and~~ 3, 4, 5, and 6 already have monthly deliveries of aqueous ammonia, with one delivery occurring on a peak day at each facility. However, after PAR 1135 is implemented, additional annual deliveries of aqueous ammonia are expected at Facility 1, 4, 5, and 6 due to the additional aqueous ammonia required for the four SCRs with upgraded catalyst modules at Facility 1, the one SCR with an upgraded catalyst module at Facility 4 and 6, and the seven SCRs with upgraded catalyst modules at Facility 5, but the deliveries of aqueous ammonia on a peak day are expected to remain the same as the baseline. Facility 3 currently has one existing aqueous ammonia storage tank, so if one additional aqueous ammonia storage tank is installed as a result of PAR 1135, then the amount of aqueous ammonia to be delivered on a peak day is expected to double when compared to the existing setting. Nonetheless, one delivery truck can carry two trailers with sufficient supplies of aqueous ammonia on a peak day. Therefore, it is not expected that there would be an additional increase in ammonia delivery trucks to occur on a peak day due to implementation of PAR 1135.

In addition, Facility 3's spent catalyst modules in the new SCR units will need to be replaced approximately every five years; thus, this analysis assumes one additional delivery of fresh catalyst modules and one haul trip of spent catalyst modules per year for each of the three new SCR units.

For Facility 1, 4, 5, and 6 one truck currently delivers aqueous ammonia on a peak day, driving a round trip distance of 100 miles for each delivery. The existing air quality impacts during operation from one truck delivering aqueous ammonia to Facility 1, 4, 5, and 6 are summarized in Table 2-10. After changing out the SCR catalyst modules, the existing SCR units are anticipated to consume additional aqueous ammonia such that an additional six deliveries of aqueous ammonia to Facility 1 per year will be needed. This annual increase in aqueous ammonia deliveries will not

[23] The EMFAC emissions model is developed and used by CARB to assess emissions from on-road vehicles including cars, trucks, and buses in California. It should be noted that EMFAC2017 has not yet been approved by U.S. EPA but does provide the latest factors developed. https://www.arb.ca.gov/msei/categories.htm#onroad_motor_vehicles

change the number of aqueous ammonia deliveries occurring on a peak day (e.g., one truck). The detailed spreadsheet with the assumptions used for this analysis are provided in Appendix C.

Table 2-10
Existing Peak Daily Operational Emissions from One Aqueous Ammonia ~~Deliveries~~Delivery to Facility 1, 4, 5, and 6

Key Activities During Operation	VOC (lb/day)	NOx (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
One Existing Delivery Truck	0.34	0.52	0.03	0.02	0.08	0.00
Total Peak Daily Operational Emissions	**0.34**	**0.52**	**0.03**	**0.02**	**0.08**	**0.00**
SIGNIFICANCE THRESHOLD DURING OPERATION	55	55	550	150	150	55
SIGNIFICANT?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

a. On a peak day, there is currently one aqueous ammonia delivery to Facility 1, 4, 5, and 6 and PAR 1135 will not increase the number of deliveries on a peak day. However, on an annual basis, six additional deliveries of aqueous ammonia will be expected at Facility 1, two additional deliveries of aqueous ammonia will be expected at Facility 4, 11 additional deliveries of aqueous ammonia will be expected at Facility 5, and two additional deliveries of aqueous ammonia will be expected at Facility 6. .
b. Each delivery truck is assumed to travel a round trip distance of 100 miles.
c. The increased T6 instate construction heavy truck is for additional aqueous ammonia deliveries at Facility 1, 4, 5, and 6.
d. See Appendix C for detailed calculations.

For Facility 3, the analysis assumes that there will be either one new truck delivery of aqueous ammonia or fresh catalyst modules or one new haul truck to dispose of spent catalyst modules occurring on a peak day, driving a round trip distance of 100 miles for each delivery type. The air quality impacts from these activities during operation are summarized in Table 2-11. The detailed spreadsheet with the assumptions used for this analysis are provided in Appendix C.

Table 2-11
Peak Daily Operational Emissions – Facility 3

Key Activities During Operation	VOC (lb/day)	NOx (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
One New Delivery or Haul Truck	0.34	0.52	0.03	0.02	0.08	0.00
Total Peak Daily Operational Emissions	0.34	0.52	0.03	0.02	0.08	0.00
SIGNIFICANCE THRESHOLD DURING OPERATION	55	55	550	150	150	55
SIGNIFICANT?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

a. It is conservatively assumed that on a peak day, there will either be one new truck delivery trips of aqueous ammonia or fresh catalyst modules to Facility 3, or one new truck haul trip for removing spent catalyst for disposal from Facility 3.
b. On an annual basis, an additional 24 new aqueous ammonia delivery truck trips and 3 new fresh catalyst module delivery truck trips to Facility 3 and 3 new spent catalyst haul away truck trips trucks (via T6 instate construction heavy truck) from Facility 3 are expected.
c. Each delivery or haul truck is assumed to travel a round trip distance of 100 miles.
d. See Appendix C for detailed calculations.

As indicated in Tables 2-10 and 2-11, operational emissions anticipated from implementing PAR 1135 do not exceed any air quality significance thresholds for any criteria pollutants. Therefore, the operational air quality impacts from implementing the proposed project are considered less than significant.

Construction and Operation Overlap Impact

Given the number of affected facilities and the varying modifications expected to occur at each affected facility in order to comply with PAR 1135, construction activities could potentially overlap with operational activities. Based on key compliance dates in PAR 1135, the overlap could occur from the date of adoption of PAR 1135 until January 1, 2024, which is the date when electricity generating facilities are required to ensure their electric ~~power~~ generating units are in compliance with the emission limits set forth in PAR 1135. The largest amount of peak daily emissions during this overlap period would occur if Facility 3 is undergoing construction (see Table 2-9) on the same day both Facilities 1~~, and~~ 3, 4, 5, and 6 are undergoing operational activities (see Tables 2-10 and 2-11, respectively). According to SCAQMD policy, in the event that there is an overlap of construction and operation phases, the peak daily emissions from the construction and operation overlap period should be summed and compared to the SCAQMD's CEQA significance thresholds for operation because the latter are more stringent, and thus, more conservative. As such, emissions data from these three tables is presented in Table 2-12 and the total emissions have been compared to the air quality significance thresholds for operation.

Table 2-12
Peak Daily Emissions in Construction and Operation Overlap Phase

Construction and Operation Overlap Phase	VOC (lb/day)	NOx (lb/day)	CO (lb/day)	SOx (lb/day)	PM10 (lb/day)	PM2.5 (lb/day)
Peak Construction Emissions (Facility 3)[a]	16	51	22	0.1	6.3	3.3
Peak Operational Emissions (Facility 1)[b]	0.34	0.52	0.03	0.02	0.08	0.0
Peak Operational Emissions (Facility 3)[b]	0.34	0.52	0.03	0.02	0.08	0.0
Peak Operational Emissions (Facility 4)[b]	0.34	0.52	0.03	0.02	0.08	0.0
Peak Operational Emissions (Facility 5)[b]	0.34	0.52	0.03	0.02	0.08	0.0
Peak Operational Emissions (Facility 6)[b]	0.34	0.52	0.03	0.02	0.08	0.0
Total Overlapping Emissions[c]	~~17~~17.7	~~52~~53.6	~~22.6~~22.2	~~0.14~~0.2	~~6.46~~6.7	3.3
SIGNIFICANCE THRESHOLD DURING OPERATION	55	55	550	150	150	55
SIGNIFICANT?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

a. The maximum construction impact during the overlap phase is conservatively assumed to be the peak daily construction emissions from Table 2-9.
b. The maximum operational impact during the overlap phase is conservatively assumed to be the peak daily operational emissions from Tables 2-10 and Table 2-11 combined.
c. Once construction is completed at Facility 2, operational emissions from periodic maintenance are expected to be about the same as the pre-project operational emissions. Therefore, no new operational emissions from Facility 2 are expected.

As indicated in Table 2-12, the peak daily emissions during the construction and operational overlap period do not exceed any of the SCAQMD's air quality significance thresholds for operation. Therefore, the air quality impacts from construction and operation overlap are considered to be less than significant. In conclusion, the proposed project is also not expected to result in significant adverse air quality impacts during the construction and operation overlap period.

III. c) Less Than Significant Impact.

Cumulatively Considerable Impacts

Based on the foregoing analysis, since criteria pollutant project-specific air quality impacts from implementing PAR 1135 would not be expected to exceed any of the air quality significance thresholds in Table 2-2, cumulative air quality impacts are also expected to be less than significant. SCAQMD cumulative significance thresholds are the same as project-specific significance thresholds. Therefore, potential adverse impacts from implementing PAR 1135 would not be "cumulatively considerable" as defined by CEQA Guidelines Section 15064(h)(1) for air quality impacts. Per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable.

The SCAQMD's guidance on addressing cumulative impacts for air quality is as follows: "As Lead Agency, the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR." "Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."[24]

This approach was upheld by the court in *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 334. The Court determined that where it can be found that a project did not exceed the South Coast Air Quality Management District's established air quality significance thresholds, the City of Chula Vista properly concluded that the project would not cause a significant environmental effect, nor result in a cumulatively considerable increase in these pollutants. The court found this determination to be consistent with CEQA Guidelines Section 15064.7, stating: "The lead agency may rely on a threshold of significance standard to determine whether a project will cause a significant environmental effect." The court found that, "[a]lthough the project will contribute additional air pollutants to an existing nonattainment area, these increases are below the significance criteria." "Thus, we conclude that no fair argument exists that the Project will cause a significant unavoidable cumulative contribution to an air quality impact." In *Rialto Citizens for Responsible Growth*, the court upheld the SCAQMD's approach to utilizing the established air quality significance thresholds to determine whether the impacts of a project would be cumulatively considerable. *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal. App. 4th 899. As in *Chula Vista* and *Rialto Citizens for Responsible Growth*, here the SCAQMD has demonstrated, when using accurate and appropriate data and assumptions, that the project will not

[24] SCAQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3. http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf.

exceed the established SCAQMD significance thresholds. Thus, it may be concluded that the proposed project will not contribute to a significant unavoidable cumulative air quality impact.

III. d) Less Than Significant Impact. Diesel particulate matter (DPM) is considered a carcinogenic and chronic toxic air contaminant (TAC). Since the on- and off-road diesel equipment that may be used at Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 are expected to occur over a short-term during construction (e.g., no more than off and on over a five year period at any facility) and operation (e.g., delivery or haul trips would occur on one day), a Health Risk Assessment (HRA) was not conducted. The analysis in Section III. b) and f) concluded that the quantity of pollutants that may be generated from implementing the proposed project would be less than significant during construction, operation, and the construction and operation overlap period. Thus, the quantity of pollutants that may be generated from implementing PAR 1135 would not be considered substantial, irrespective of whether sensitive receptors are located near the affected facilities. For these reasons, implementation of PAR 1135 is not expected to expose sensitive receptors to substantial pollutant concentrations. Therefore, no significant adverse air quality impacts to sensitive receptors are expected from implementing PAR 1135.

III. e) Less Than Significant Impact.

Odor Impacts

With regard to odors, for all diesel-fueled equipment and vehicles that may be used during construction and operation at Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 the diesel fuel is required to have a low sulfur content (e.g., 15 ppm by weight or less) in accordance with SCAQMD Rule 431.2 – Sulfur Content of Liquid Fuels. Such fuel is expected to minimize odor. Construction equipment will be primarily utilized within the confines of Facilities. Dispersion of diesel emissions over distance generally occurs so that odors associated with diesel emissions may not be discernable to offsite receptors, depending on the location of the equipment and its distance relative to the nearest offsite receptor. Further, the diesel trucks that may be used during both construction and operation activities will be operated on road until arriving at their destination facilities. Once on-site, the diesel trucks will not be allowed to idle longer than five minutes at any one location in accordance with the CARB idling regulation, so odors from these vehicles would not be expected for a prolonged period of time. Therefore, the addition of several pieces of construction equipment and trucks that will operate intermittently over a relatively short period of time, are not expected to generate diesel exhaust odor substantially greater than what is already typically present at the affected facilities.

The operation of the barge will occur over a short period of time (less than one day) and because dispersion of diesel emissions over distance generally occurs so that odors associated with diesel emissions may not be discernable to nearby receptors, especially since the barge would be traveling across the ocean. Therefore, operation of the barge is not expected to create objectionable odors affecting a substantial number of people.

The operation of gasoline fueled passenger vehicles for construction workers will be primarily utilized to transport construction workers to and from each facility during construction. The amount of gasoline fueled passenger vehicles used as part of the proposed project is relatively low when compared to the total population of passenger vehicles within the SCAQMD. Also, the gasoline fueled passenger vehicles would be used over a relatively short period of time and are not expected to generate gasoline exhaust odor substantially greater than what is already typically present on existing roadways.

Thus, PAR 1135 is not expected to create significant adverse objectionable odors during construction or operation. Since no significant impacts were identified for this issue, no mitigation measures for odors are necessary or required.

III. g) and h) Less Than Significant Impact.

Greenhouse Gas (GHG) Impacts

Significant changes in global climate patterns have recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming. State law defines GHG to include the following: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6) (Health and Safety Code Section 38505(g)). The most common GHG that results from human activity is CO2, followed by CH4 and N2O.

Traditionally, GHGs and other global warming pollutants are perceived as solely global in their impacts and that increasing emissions anywhere in the world contributes to climate change anywhere in the world. However, a study conducted on the health impacts of CO2 "domes" that form over urban areas cause increases in local temperatures and local criteria pollutants, which have adverse health effects[25].

The analysis of GHGs is different than the analysis of criteria pollutants for the following reasons. For criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one-hour and eight-hour standards). Since the half-life of CO2 is approximately 100 years, for example, the effects of GHGs occur over a longer term. They affect the global climate over a relatively long time frame. As a result, the SCAQMD's current position is to evaluate the effects of GHGs over a longer timeframe than a single day (i.e., annual emissions). GHG emissions are typically considered to have a cumulative impact because they contribute to global climate effects.

The SCAQMD convened a Greenhouse Gas CEQA Significance Threshold Working Group to consider a variety of benchmarks and potential significance thresholds to evaluate GHG impacts. On December 5, 2008, the SCAQMD adopted an interim CEQA GHG Significance Threshold for projects where SCAQMD is the lead agency (SCAQMD 2008). This GHG interim threshold is set at 10,000 metric tons of CO2 equivalent emissions (CO2e) per year (MT/yr). Projects with incremental increases below this threshold will not be cumulatively considerable.

[25] Jacobsen, Mark Z. "Enhancement of Local Air Pollution by Urban CO2 Domes," Environmental Science and Technology, as describe in Stanford University press release on March 16, 2010 available at: http://news.stanford.edu/news/2010/march/urban-carbon-domes-031610.html.

GHG emission impacts from implementing PAR 1135 were calculated at the project-specific level during construction and operation for Facilities 1, 2, ~~and~~ 3, 4, 5, and 6. For example, the replacement of catalyst modules in the four existing SCR units and the corresponding annual increase in deliveries of aqueous ammonia at Facilities~~Facility~~ 1, 4, 5, and 6 has the potential to increase the use of fuel (e.g., gasoline and diesel) during construction and operation which will in turn cause an increase CO2 emissions. Similar increases in both gasoline and diesel fuel use are also expected to occur at Facilities 2 and 3.

Table 2-13 summarizes the GHG analysis, which shows that the implementation of PAR 1135 may result in the generation of ~~25.9~~26.2 amortized[26] MT/yr of CO2e emissions during construction and ~~0.11~~0.15 MT/yr of CO2e emissions from mobile sources during operation from all the affected facilities, which is less than the SCAQMD's air quality significance threshold of 10,000 MT/yr of CO2e for GHGs. The detailed calculations of project GHG emissions can be found in Appendix C.

Table 2-13
GHG Emissions From Facilities 1, 2, ~~and~~ 3, 4, 5, and 6

Activity	CO2e (MT/year[a])
Construction [b] – on-road vehicles, barges, and off-road equipment	~~25.9~~26.2
Operation – on-road vehicles	~~0.01~~0.15
Total Project Emissions	~~25.91~~26.35
SIGNIFICANCE THRESHOLD	**10,000**
SIGNIFICANT?	**NO**

[a.] 1 metric ton = 2,205 pounds
[b.] GHGs from short-term construction activities are amortized over 30 years

Thus, as shown in Table 2-13 the SCAQMD's GHG significance threshold for industrial sources will not be exceeded. For this reason, implementing the proposed project is not expected to generate significant adverse cumulative GHG air quality impacts. Further, PAR 1135 is not expected to generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment or conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHG gases.

Conclusion
Based upon these considerations, significant air quality and GHG emissions impacts are not expected from implementing PAR 1135. Since no significant air quality and GHG emissions impacts were identified, no mitigation measures are necessary or required.

[26] GHGs from short-term construction activities are amortized over 30 years. To amortize GHGs from temporary construction activities over a 30-year period (*est. life of the project/ equipment*), the amount of CO_2e emissions during construction are calculated and then divided by 30.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV.	**BIOLOGICAL RESOURCES.** Would the project:				
a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☑
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☑
f)	Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.
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Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

IV. a), b), c), & d) No Impact. The proposed project does not require the acquisition of land, building new structures, or construction on greenland to comply with PAR 1135. Also, PAR 1135 does not require the conversion of riparian habitats or sensitive natural communities where endangered or sensitive species may be found. Physical modifications at Facilities 2 and 3 may require some demolition and concrete pours which could involve some minor earth-moving activities, but these activities are expected to take place within each facility's boundaries that are already paved and developed. The sites of the affected facilities that would be subject to PAR 1135 currently do not support riparian habitat, federally protected wetlands, or migratory corridors because they are existing developed and established facilities currently used for industrial

purposes. Additionally, special status plants, animals, or natural communities identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service are not expected to be found on or in close proximity to the affected facilities because the affected facilities are in existing industrial or commercial land use areas. Therefore, PAR 1135 would have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely with the SCAQMD's jurisdiction.

Finally, the electric ~~power~~ generating units that may undergo modifications as part of implementing PAR 1135 are located at existing facilities and the anticipated modifications would not occur on or near a wetland, riparian habitat, or in the path of migratory species. Therefore, PAR 1135 would have no direct or indirect impacts that could adversely affect plant or animal species or the habitats on which they rely within the SCAQMD's jurisdiction.

IV. e) & f) No Impact. The proposed project is not envisioned to conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by implementing PAR 1135. Additionally, PAR 1135 would not conflict with any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan, and would not create divisions in any existing communities because all activities associated with complying with PAR 1135 would occur at existing electricity generating facilities that are located in previously disturbed areas which are not typically subject to Habitat or Natural Community Conservation Plans.

The SCAQMD, as the Lead Agency, has found that, when considering the record as a whole, there is no evidence that implementation of PAR 1135 would have potential for any new adverse effects on wildlife resources or the habitat upon which wildlife depends. Accordingly, based upon the preceding information, the SCAQMD has, on the basis of substantial evidence, rebutted the presumption of adverse effect contained in Title 14 of the California Code of Regulations Section 753.5 (d) - Projects Eligible for a No Effect Determination.

Conclusion

Based upon these considerations, significant biological resource impacts are not expected from implementing PAR 1135. Since no significant biological resource impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
V.	**CULTURAL RESOURCES.** Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☐	☑
b)	Cause a substantial adverse change in the significance of an archaeological resource as defined in Section 15064.5?	☐	☐	☐	☑
c)	Directly or indirectly destroy a unique paleontological resource, site, or feature?	☐	☐	☐	☑
d)	Disturb any human remains, including those interred outside formal cemeteries?	☐	☐	☐	☑
e)	Cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074?	☐	☐	☐	☑

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance, or tribal cultural significance to a community or ethnic or social group or a California Native American tribe.
- Unique paleontological resources or objects with cultural value to a California Native American tribe are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~

generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

V. a), b), c), d) & e) No Impact. There are existing laws in place that are designed to protect and mitigate potential impacts to cultural resources. For example, CEQA Guidelines state that generally, a resource shall be considered "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources, which include the following:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

- Is associated with the lives of persons important in our past;

- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values;

- Has yielded or may be likely to yield information important in prehistory or history (CEQA Guidelines Section 15064.5).

Buildings, structures, and other potential culturally significant resources that are less than 50 years old are generally excluded from listing in the National Register of Historic Places, unless they are shown to be exceptionally important. For any of the buildings or structures that may be affected by PAR 1135 that are older than 50 years, they are buildings that are currently utilized for industrial purposes and would generally not be considered historically significant since they would not have any of the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values. Therefore, PAR 1135 is not expected to cause any impacts to significant historic cultural resources.

Construction-related activities are expected to be confined within the existing footprint of the affected facilities that have already been fully developed and paved such that PAR 1135 is not expected to require physical changes to the environment which may disturb paleontological or archaeological resources. Furthermore, it is envisioned that these areas are already either devoid of significant cultural resources or whose cultural resources have been previously disturbed. Therefore, PAR 1135 has no potential to cause a substantial adverse change to a historical or archaeological resource, directly or indirectly to destroy a unique paleontological resource or site or unique geologic feature, or disturb any human remains, including those interred outside formal cemeteries. Implementing of PAR 1135 is, therefore, not anticipated to result in any activities or

promote any programs that could have a significant adverse impact on cultural resources in the District.

PAR 1135 is not expected to require physical changes to a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American Tribe. Furthermore, PAR 1135 is not expected to result in a physical change to a resource determined to be eligible for inclusion or listed in the California Register of Historical Resources or included in a local register of historical resources. For these reasons, PAR 1135 is not expected to cause any substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074.

As part of releasing this CEQA document for public review and comment, the SCAQMD also provided a formal notice of the proposed project to all California Native American Tribes (Tribes) that requested to be on the Native American Heritage Commission's (NAHC) notification list per Public Resources Code Section 21080.3.1(b)(1). The NAHC notification list provides a 30-day period during which a Tribe may respond to the formal notice, in writing, requesting consultation on the proposed project.

In the event that a Tribe submits a written request for consultation during this 30-day period, the SCAQMD will initiate a consultation with the Tribe within 30 days of receiving the request in accordance with Public Resources Code Section 21080.3.1(b). Consultation ends when either: 1) both parties agree to measures to avoid or mitigate a significant effect on a Tribal Cultural Resource and agreed upon mitigation measures shall be recommended for inclusion in the environmental document [see Public Resources Code Section 21082.3(a)]; or 2) either party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached [see Public Resources Code Section 21080.3.2(b)(1)-(2) and Section 21080.3.1(b)(1)].

Conclusion

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing PAR 1135. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI.	**ENERGY.** Would the project:				
a)	Conflict with adopted energy conservation plans?	☐	☐	☐	☑
b)	Result in the need for new or substantially altered power or natural gas utility systems?	☐	☐	☐	☑
c)	Create any significant effects on local or regional energy supplies and on requirements for additional energy?	☐	☐	☐	☑
d)	Create any significant effects on peak and base period demands for electricity and other forms of energy?	☐	☐	☐	☑
e)	Comply with existing energy standards?	☐	☐	☐	☑

Significance Criteria

Impacts to energy resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

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Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

VI. a) & e) No Impact. PAR 1135 is not expected to conflict with any adopted energy conservation plans or violate any energy conservation standards because existing facilities would be expected to continue implementing any existing energy conservation plans that are currently in place regardless of whether PAR 1135 is implemented.

PAR 1135 is not expected to cause new development because it does not require new facilities to be built. While PAR 1135 will primarily apply to existing facilities, it will also apply to any new facilities that may be built in the future. However, SCAQMD staff is not aware of any new electricity generating facilities planned to be constructed in the immediate future and is unable to predict or forecast, when, if at all, any would be built in the long-term. Therefore, in accordance with CEQA Guidelines Section 15145, an evaluation of construction and operation energy impacts for new facilities is concluded to be speculative and will not be evaluated further in this analysis. Instead, the focus of the analysis will be on the affected facilities (~~Facility 1, Facility 2, and Facility 3~~Facilities 1, 2, 3, 4, 5, and 6) and the energy effects of complying with PAR 1135 as explained in the following discussion.

Any energy resources that may be necessary to replace, repower, or retrofit electric ~~power~~ generating units in accordance with PAR 1135 would be used to achieve NOx reductions from electricity generating facilities, and therefore, would not be using non-renewable resources in a wasteful manner. In actuality, the potential modifications to the affected electricity generating units as outlined in Table 2-1 would be expected to improve the efficiency of the modified or replaced equipment once construction is completed. Further, the air quality benefits that would be expected to occur as a result of implementing PAR 1135 would not require the affected electricity generating facilities to provide additional electricity and natural gas to their customers; thus, PAR 1135 would not require substantial alterations in order to increase the existing power generated or natural gas supply systems because any additional energy needed to implement PAR 1135 can be provided from existing supplies. For these reasons, PAR 1135 would not be expected to conflict with energy conservation plans or existing energy standards, or use non-renewable resources in a wasteful manner.

VI. b), c) & d) Less Than Significant Impact. PAR 1135 applies to electricity generating facilities that produce power from the operation of electric ~~power~~ generating units. PAR 1135 will not result in the loss of utility systems because the affected facilities will continue to generate the same amount of electricity after the completion of the modifications and new equipment installations. Post-project, the new equipment will continue to be able to handle local and regional needs as well as peak demands.

To implement the physical modifications outlined in Table 2-1, diesel fuel is expected to be needed to operate off-road construction equipment and on-road vehicles (passenger vehicles and trucks) during construction. Gasoline and diesel fuel would be also needed to operate on-road vehicles (passenger vehicles and trucks) during operation.

It is important to note that diesel fuel is expected to continue to be used at Facility 2 since the new replacement engines will also require diesel fuel to operate. However, because the new replacement engines at Facility 2 are expected to be more efficient than their older, less efficient predecessors, an equivalent or less amount of diesel fuel is expected to be needed to produce the same electricity power output, post construction.

Similarly, while no natural gas will be needed during construction, during operation, Facility 1, 4, 5, and 6 will continue to operate ~~its four~~their simple cycle turbines which are currently fueled by natural gas. Thus, ~~Facility~~ Facilities ~~1's~~ 1, 4, 5, and 6's turbines will continue to require natural gas for their operation after the catalyst module upgrades have been made to their ~~four~~ existing SCR units. The upgrades to the catalyst modules will help the existing SCR units operate more efficiently. The SCR units require electricity, not natural gas, to operate. For these reasons, the operation of each affected ~~the four~~ turbine~~s~~ and ~~four~~ each affected SCR unit~~s~~ after the modifications are implemented are not expected to substantially alter the amount of natural gas or electricity needed by Facility 1, 4, 5, and 6 above current baseline levels.

Also, since Facility 3 is anticipated to replace its three natural gas boilers with up to three new natural gas turbines, natural gas will continue to be utilized by Facility 3. Because the new replacement turbines at Facility 3 are expected to be more efficient than the older, less efficient boilers, an equivalent or less amount of natural gas is expected to be needed to produce the same electricity power output, post construction.

The following sections evaluate the various types of energy that may be affected by the implementation of PAR 1135.

Construction

During construction, diesel fuel will be consumed by portable construction equipment (e.g., welders, forklifts, and etc.) needed to replace, retrofit, or repower electric ~~power~~ generating units, gasoline will be consumed by construction workers' vehicles, and diesel fuel will be consumed vendor or haul trucks traveling to and from each affected facility. Also, in particular to Facility 2, one diesel-fueled barge will be needed to transport the replacement internal combustion engines and SCR units and traveling to and from the Port of Los Angeles to Santa Catalina Island (the city of Avalon).

To estimate "worst-case" energy impacts associated with construction activities, SCAQMD staff estimated the total gasoline and diesel fuel consumption for each affected facility during construction and operation based on CARB's OFFROAD2017 model. Also, in order to estimate the amount of diesel fuel that may be consumed by the barge's main engine and two auxiliary engines during equipment transport to and from Facility 2, SCAQMD staff relied on the engine fuel use estimates presented in the July 2008 Final Negative Declaration for Petro-Diamond

Terminal Company Marine Terminal Permit Modification Project[27]. Appendix C contains the assumptions and calculations for estimating fuel usage associated with construction.

CalEEMod version 2016.3.2 was used to calculate construction emissions which was determined from the default trip lengths for construction worker commute trips (e.g., 29.4 miles per worker round trip to/from the construction site per day), vendor trips (e.g., 14 miles per vendor round trip to/from the construction site per day), and waste hauler trips (e.g., 40 miles per waste hauler round trip to/from the construction site per day). The fuel usage per vehicle used during construction round trips was then calculated by taking the CalEEMod output and assuming that each: 1) construction workers' gasoline-fueled passenger vehicle would get a fuel economy rate of approximately 21 miles per gallon (mpg); 2) vendor diesel truck would get a fuel economy rate of approximately 6.6 mpg; and 3) waste hauler diesel truck would get a fuel economy rate of approximately 5.9 mpg. Table 2-14 summarizes the projected fuel use impacts associated with construction at Facilities 1, 2, and 3.

Table 2-14
Total Projected Fuel Usage for Construction Activities

Fuel Type	Year 2016 Estimated Basin Fuel Demand (mmgal/yr)	Fuel Usage (mmgal)	Total % Above Baseline	Exceed Significance Thresholds?[c]
Diesel	749	~~0.0771~~0.0772	0.0103	**NO**
Gasoline	6,997	~~0.0006~~0.0007	0.00001	**NO**

[a] California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets, 2017 California Energy Commission (http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html). [Accessed August 24, 2018.]

[b] Estimated peak fuel usage from construction activities. Diesel usage estimates are based on the usage of portable construction equipment and vendor and haul trips plus barge trips. Gasoline usage estimates are derived from construction workers' vehicle daily trips to and from work.

[c] SCAQMD's energy threshold for both types of fuel used is 1% of fuel supply.

The 2016 California Annual Retail Fuel Outlet Report Results from the California Energy Commission (CEC) state that 749 million gallons of diesel and 6,997 million gallons of gasoline were consumed in 2016 in the Basin. Thus, even if an additional ~~77,304~~77,223 gallons of diesel and ~~649~~ 703 gallons of gasoline are consumed during construction, the fuel usages are 0.0103% and 0.00001% above the 2016 baseline for diesel and gasoline, respectively, and both projected increases are well below the SCAQMD's significance threshold for fuel supply. Thus, no significant adverse impact on fuel supplies would be expected during construction.

Operation - Fuel Use From Vehicles

Once construction is completed, additional vehicle trips and fuel use are expected to be needed from the following activities during operation: 1) delivering six additional trips per year of aqueous ammonia to Facility 1~~,~~; two additional trips per year of aqueous ammonia to Facility 4, 11 additional trips per year of aqueous ammonia to Facility 5, and two additional trips per year of aqueous ammonia to Facility 6; 2) periodically delivering aqueous ammonia to supply the new

[27] Final Negative Declaration for: Petro-Diamond Terminal Company Marine Terminal Permit Modification Project. Appendix A: Emission Calculations: Fuel Use Estimation. July 2008. Page 71. http://www.aqmd.gov/docs/default-source/ceqa/documents/permit-projects/2008/2008petrofnd.pdf

aqueous ammonia storage tank at Facility 3; and 3) replacing spent catalyst modules with fresh catalyst modules in the three new SCRs approximately every five years at Facility 3.

For Facility 1~~ and ~~, 3, 4, 5, and 6 it is assumed one delivery or haul truck (e.g., for either aqueous ammonia, fresh catalyst modules, or spent catalyst modules) would occur on a peak day. In addition, a round trip distance of 100 miles with a fuel economy of approximately 5.9 miles per gallon (mpg) for HDT was assumed for every on-road truck that is used for the delivery of aqueous ammonia or the delivery or hauling of catalyst modules. The air quality impacts for these vehicle trips during operation were analyzed and summarized in Table 2-10 and Table 2-11. The detailed spreadsheet with the assumptions used for this analysis are provided in Appendix C. As previously explained in Section III - Air Quality and Greenhouse Gases, by assuming that Facility 1 will need six HDTs per year,~~and~~ Facility 3 will need 30 HDTs per year, Facility 4 will need two HDTs per year, Facility 5 will need 11 HDTs per year, and Facility 6 will need two HDTs per year the corresponding projected annual total diesel use is presented in Table 2-15 and would be approximately ~~1,231~~1,744 gallons per year.

The 2016 California Annual Retail Fuel Outlet Report Results from California Energy Commission states that 749 million gallons of gasoline are consumed in 2016 in the Basin. Thus, even if an additional ~~1,231~~1,744 gallons per year of diesel are consumed during operation, the diesel fuel usage is 0.0002% above the 2016 baseline for diesel, and the projected increase is well below the SCAQMD's significance threshold for diesel fuel supply As such, no significant adverse impact on diesel fuel supplies would be expected during operation.

Table 2-15
Annual Total Projected Diesel Fuel Usage for Operational Activities

Type of Equipment	Diesel (gal/yr)
HDT – Facility 1	205
HDT – Facility 3	1,026
HDT – Facility 4	68
HDT – Facility 5	376
HDT – Facility 6	68
Total:	~~1,231~~1,744
Year 2016 Estimated Basin Fuel Demand (gal/yr) [a]	749,000,000
Total % Above Baseline	0.0002
SIGNIFICANT?[b]	**NO**

[a] California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets, 2017 California Energy Commission (http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html). [Accessed February 6, 2018.]

[b] SCAQMD's energy threshold for fuel used is 1% of fuel supply.

Conclusion

Based upon these considerations, significant adverse energy impacts are not expected from implementing PAR 1135. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII.	**GEOLOGY AND SOILS.** Would the project:				
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☑
	• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☑
	• Strong seismic ground shaking?	☐	☐	☐	☑
	• Seismic–related ground failure, including liquefaction?	☐	☐	☐	☑
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐	☑
c)	Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☑
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☑
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☑

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction, or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

VII. a), b), c), d), & e) No Impact. Of the physical modifications summarized in Table 2-1 that may occur at Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 only the modifications at Facilities 2 and 3 may require some demolition activities as part of removing old equipment and installing new equipment. If modifications to the foundations and equipment supports are needed, some relatively minor site preparation activities may be required prior to installing equipment and these

activities would occur within facility boundaries. Nevertheless, the degree of site preparation that may be needed would not be on a scale that could adversely affect geophysical conditions at Facilities 1, 2, ~~or~~ 3, 4, 5, or 6.

It is also important to note that PAR 1135 does not contain any requirements that would cause or require a new facility to be built. While PAR 1135 will primarily apply to existing facilities, it will also apply to any new facilities that may be built in the future. However, SCAQMD staff is not aware of any new electricity generating facilities planned to be constructed in the immediate future and is unable to predict or forecast, when, if at all, any would be built in the long-term. Therefore, in accordance with CEQA Guidelines Section 15145, an evaluation of geology and soils impacts for new facilities is concluded to be speculative and will not be evaluated further in this analysis. Instead, the focus of the analysis will be on the affected facilities (Facilities 1, 2, ~~and~~ 3, 4, 5, and 6) and the geology and soils effects of complying with PAR 1135 as explained in the following discussion.

Southern California is an area of known seismic activity. As part of the issuance of building permits, local jurisdictions are responsible for assuring that the Uniform Building Code is adhered to and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represents the foundation condition at the site. The Uniform Building Code requirements also consider liquefaction potential and establish stringent requirements for building foundations in areas potentially subject to liquefaction.

Accordingly, the anticipated physical modifications of electric ~~power~~ generating units and their associated air pollution control equipment at Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 in order to comply with PAR 1135 would be expected to conform to the Uniform Building Code and all other applicable state and local building codes. Structures must be designed to comply with the Uniform Building Code Zone 4 requirements if they are located in a seismically active area. The local city or county is responsible for assuring that the existing affected facilities comply with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage but with some non-structural damage; and 3) resist major earthquakes without collapse but with some structural and non-structural damage.

The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The Uniform Building Code bases seismic design on minimum lateral seismic forces ("ground shaking"). The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site. The Uniform Building Code requirements also consider liquefaction potential and establish stringent requirements for building foundations in areas potentially subject to liquefaction.

Accordingly, existing buildings, structures, and equipment, as well as any that may be modified or replaced as a result of PAR 1135, are likely to conform to the Uniform Building Code and all other applicable state codes in effect at the time they were constructed. Thus, PAR 1135 would not alter the exposure of people or property to geological hazards such as earthquakes, landslides,

mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structures to the risk of loss, injury, or death involving the rupture of an earthquake fault, seismic ground shaking, ground failure or landslides is not anticipated.

Of the physical modifications described in Table 2-1, none would be expected to involve construction activities that will result in substantial soil erosion or the loss of topsoil or make the soils under Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 further susceptible to expansion or liquefaction. Furthermore, subsidence is also not anticipated to be a problem since only minor excavation, grading, or filling activities, if any, are expected to occur at the affected facilities. Additionally, even if the areas where Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 are located may be prone to new landslide impacts or have unique geologic features, PAR 1135 would not be expected to change the pre-existing geology and soils setting or increase or exacerbate any existing risks at these facilities. PAR 1135 would also not require any existing facilities to be relocated onto a geologic unit or soil that is unstable or that would become unstable and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Further, people or property will not be exposed to new impacts related to expansive soils or soils incapable of supporting water disposal because no additional water will be necessary to make the physical modifications that are summarized in Table 2-1. Finally, because each affected facility has an existing sewer system, the installation of septic tanks or alternative wastewater disposal systems or modifications to the existing sewer systems would not be necessary. Thus, implementation of PAR 1135 will not adversely affect soils associated with a installing a new septic system or alternative wastewater disposal system or modifying an existing sewer.

Conclusion

Based upon these considerations, significant adverse geology and soils impacts are not expected from the implementation of PAR 1135. Since no significant geology and soils impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII.	**HAZARDS AND HAZARDOUS MATERIALS.** Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	☐	☐	☑	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	☐	☑	☐	☐
c)	Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☑	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment?	☐	☐	☑	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
g)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☑
h)	Significantly increased fire hazard in areas with flammable materials?	☐	☐	☑	☐

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

VIII. a) Less than Significant Impact. Compliance with PAR 1135 is expected to result in physical modifications to Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 that may require additional deliveries, storage and use of aqueous ammonia which is considered a hazardous chemical.

For example, Facility 1, 4, 5, and 6 currently receives deliveries of and stores aqueous ammonia; the aqueous ammonia is injected into ~~four~~ each facilities SCR units to reduce NOx emissions from ~~their four simple cycle~~each turbine~~s~~. To comply with PAR 1135, Facility 1, 4, 5, and 6 is expected to replace the existing catalyst modules in each of their affected ~~the four~~ SCR units and the new catalyst modules are expected to require additional aqueous ammonia to be injected into each

affected SCR unit in order to achieve the desired NOx emission reductions. The existing aqueous ammonia storage capacity is expected to be sufficient to handle the anticipated increased consumption rate of aqueous ammonia on a peak day such that no new storage tanks would need to be installed and no new deliveries would need to occur on a peak day. However, the increased aqueous ammonia consumption rate will increase the number of turnovers (e.g., refilling frequency) of the storage tank on an annual basis such that deliveries of aqueous ammonia to Facility 1, 4, 5, and 6 are projected to increase by up to six truck trips per year for Facility 1, two truck trips per year for Facility 4, eleven truck trips per year for Facility 5, and two truck trips per year for Facility 6. Facility 1, 4, 5, and 6 currently receives aqueous ammonia from a local supplier located in the greater Los Angeles area and deliveries are made by tanker trucks via public roads; the supplier and delivery amounts per trip are not expected to change as a result of PAR 1135. The maximum capacity of an ammonia tanker truck is approximately 7,000 gallons. Because the amount of aqueous ammonia that is currently delivered to Facility 1, 4, 5, and 6 on a daily basis is not expected to change (e.g., one truck on a peak day per delivery), there will be no increase in the number of peak daily truck trips such that no new significant transportation impacts associated with deliveries of aqueous ammonia at Facility 1, 4, 5, and 6 will be expected to occur.

Facility 2 currently receives deliveries of and stores urea on-site as part of existing operations for their SCR system. The urea is converted to aqueous ammonia on-site for use in their existing SCR units. The amount of urea that may be needed by Facility 2 as a result of PAR 1135 is not expected to change such that the current amount and frequency of urea deliveries at Facility 2 should be sufficient and thus, is also not expected to change. Thus, there will be no increase in the number of peak daily truck trips that no new significant transportation impacts associated with deliveries of urea to Facility 2 will be expected to occur.

Similar to Facility 1, 4, 5, and 6, Facility 3 also currently receives deliveries of and stores aqueous ammonia on-site and the aqueous ammonia is injected into their existing SCR units to reduce NOx emissions from their existing combustion equipment. To comply with PAR 1135, Facility 3 is expected to replace three existing boilers with three new natural gas turbines equipped with three new SCR units. Because the existing aqueous ammonia storage capacity at the site is not expected to be sufficient to handle the anticipated increased need for aqueous ammonia, Facility 3 plans to demolish one aqueous ammonia tank and install a new 12,000 gallon tank constructed above a spill containment basin and equipped with sump vapor control[28]. Facility 3 currently receives aqueous ammonia from a local supplier located in the greater Los Angeles area and deliveries are made by tanker trucks via public roads. As a result of PAR 1135, one new delivery of aqueous ammonia via tanker truck is expected to occur on a peak day. Also, when compared to the existing setting, the new aqueous ammonia tank will have a larger capacity than the size of the tank to be demolished. As such, a net increase in the total amount of aqueous ammonia stored on site is expected to occur at Facility 3.

Overall, even with additional aqueous ammonia deliveries per year at Facility 1, 4, 5, and 6 and the additional aqueous ammonia delivery at Facility 3 on a peak day, the total increase in the number of aqueous ammonia deliveries on a peak day is not expected to exceed a single delivery on a daily basis. Hence, no new significant hazards are expected to the public or environment through the continued routine transport of aqueous ammonia or urea at each of the affected facilities. Further, the transport, storage, use, and disposal of hazardous materials (aqueous

[28] FEIR Grayson Repowering Project. March 2018. Section 3.0 Project Description, Page 3.32. http://graysonrepowering.com/#final-eir

ammonia and urea) at the affected facilities is already required to be managed in accordance with applicable federal, state, and local rules and regulations and compliance with these regulations is expected to continue after PAR 1135 is implemented. Regulations for the transport of hazardous materials by public highway are described in 49 CFR Sections 173 and 177. Therefore, PAR 1135 is not expected to create a significant hazard to the public or environment through the routine transport, storage, use, and disposal of hazardous materials.

VIII. b) Less than Significant Impact with Mitigation. In the process of implementing physical modifications to comply with PAR 1135, facility operators must comply with several requirements relative to hazards and hazardous materials. For example, OSHA requires the preparation of a fire prevention plan per 29 CFR Part 1910 and also implements requirements for the protection of workers handling toxic, flammable, reactive, or explosive materials per 20 CFR Part 1910 and CCR Title 8. In addition, Section 112 (r) of the Federal Clean Air Act Amendments of 1990 [42 USC 7401 et. Seq.] and Article 2, Chapter 6.95 of the California Health and Safety Code require facilities that handle listed regulated substances to develop a Risk Management Plan (RMP) to prevent accidental releases of regulated substances. RMPs consist of three main elements: 1) a hazard assessment that includes off-site consequences analyses and a five-year accident history; 2) a prevention program, and 3) an emergency response program. At the local level, RMPs are implemented by the local fire departments. If any of the facilities subject to PAR 1135 has already prepared an RMP, it may need to be revised to incorporate any modifications that are made as part of efforts to comply with PAR 1135. The Hazardous Materials Transportation Act is the federal legislation that regulates transportation of hazardous materials. Finally, facility operators are required to comply with all applicable design codes and regulations, conform to National Fire Protection Association standards, and conform to policies and procedures concerning leak detection containment and fire protection. Thus, for any physical modifications that are undertaken by Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 to comply with PAR 1135, each facility is assumed to comply with the above mentioned regulations; thus, no significant adverse compliance impacts with these regulatory requirements are expected.

Of the ~~three~~ six facilities identified in Table 2-1 as undergoing physical modifications in order to comply with PAR 1135: 1) ~~Facility~~ Facilities 1, 4, 5, and 6 ~~is~~ are expected to maintain ~~its~~ their existing aqueous ammonia storage capacity; 2) Facility 2 is expected to maintain its existing urea storage capacity; and 3) Facility 3 is expected to increase the amount of aqueous ammonia stored on-site. Facilities 1, 2, ~~and~~ 3, 4, and 5 are all located less than 1,000 feet or one-quarter mile of a sensitive receptor, including individuals at hospitals, nursing facilities, daycare centers, schools, and elderly intensive care facilities, as well as residential and off-site occupational areas. Facility 6 is located more than 2,800 feet from a sensitive receptor. Each of these ~~three~~ six facilities is located within an urbanized, industrial, or commercial land use area.

With the ongoing on-site storage and handling of aqueous ammonia at Facilities 1 ~~and~~ 3, 4, 5, and 6 there is an existing possibility for an accidental spill and release of aqueous ammonia, which could create a potential risk for an offsite public and sensitive receptor exposure. However, since only Facility 3 is expected to increase the amount of aqueous ammonia that is delivered, stored, and used as a result of PAR 1135, only Facility 3 is expected to alter the existing potential risk for an offsite public and sensitive receptor exposure.

Ammonia (NH_3), though not a carcinogen, is a chronic and acutely hazardous material. Located on the MSDS for NH_3 (19 percent by weight), the hazards ratings are as follows: health is rated 3 (highly hazardous), flammability is rated 1 (slight), and reactivity is rated 0 (none). Therefore,

an increase in the use of ammonia in response to the proposed project may increase the current existing risk setting associated with deliveries (i.e., truck and road accidents) and on-site or offsite spills for each facility that currently uses, will begin to use, or will increase the use of ammonia. Exposure to a toxic gas cloud is the potential hazard associated with this type of control equipment. A toxic gas cloud is the release of a volatile chemical such as anhydrous ammonia that could form a cloud and migrate off-site, thus exposing individuals. Anhydrous ammonia is heavier than air such that when released into the atmosphere, it would form a cloud at ground level rather than be dispersed. "Worst-case" conditions tend to arise when very low wind speeds coincide with the accidental release, which can allow the chemicals to accumulate rather than disperse.

~~However, c~~Current SCAQMD ~~policy~~ practice typically does not~~no longer~~ allow~~s~~ the use of anhydrous ammonia for air pollution control equipment. Further, ~~T~~to minimize the hazards associated with using ammonia for air pollution control technology, it is the permitting ~~policy~~ practice of the SCAQMD to typically require the use of 19 percent by volume aqueous ammonia in air pollution control equipment for the following reasons: 1) 19 percent aqueous ammonia does not travel as a dense gas like anhydrous ammonia; and 2) 19 percent aqueous ammonia is not on any acutely hazardous material lists unlike anhydrous ammonia or aqueous ammonia at higher percentages. As such, SCAQMD staff does not typically issue permits for the use of anhydrous ammonia or aqueous ammonia in concentrations higher than 19 percent by volume for use in SCR systems. As a result, this analysis focuses on the use of 19 percent by volume aqueous ammonia. Thus, because aqueous ammonia (at 19 percent by weight) would be required for any permits issued for the installation of air pollution control equipment that utilize ammonia, ~~no new~~ hazards from toxic clouds are expected to be ~~associated~~ lessened when compared to higher concentrations of ammonia~~with the proposed project~~. As a practical matter, the actual concentration that is typically utilized is a solution of 19% aqueous ammonia, which contains approximately 81% water. Due to the high water content, aqueous ammonia is not considered to be flammable. Thus, heat-related hazard impacts such as fires, explosions, and boiling liquid-expanding vapor explosion (BLEVE) are not expected to occur from the increased delivery, storage and use of aqueous ammonia as part of implementing PAR 1135. Therefore, heat-related hazard impacts are not expected to occur as a result of the proposed project and will not be evaluated as part of this hazards analysis.

In addition, the shipping, handling, storage, and disposal of hazardous materials inherently poses a certain risk of a release to the environment. Thus, the routine transport of hazardous materials, use, and disposal of hazardous materials may increase as a result of implementing the proposed project. Further, if a facility installs control technology that utilizes ammonia, such as SCR, the proposed project may alter the transportation modes for feedstock and products to/from the existing facilities such as aqueous ammonia and catalyst.

The accidental release of ammonia from a delivery and use is a localized event (i.e., the release of ammonia would only affect the receptors that are within the zone of the toxic endpoint). The accidental release from a delivery would also be temporally limited in the fact that deliveries are not likely to be made at the same time in the same area. Based on these limitations, it is assumed that an accidental release would be limited to a single delivery or single facility at a time. In addition, it is unlikely that an accidental release from both a delivery truck and the stationary storage tank would result in more than the amount evaluated in the catastrophic release of the storage tank because the level of ammonia in the storage tanks would be low or else the delivery trip would not be necessary.

The analysis of hazard impacts can rely on information from past similar projects (i.e., installing new, or retrofitting existing equipment with NOx control technology that utilizes ammonia to

comply with SCAQMD rules and regulations and installation of associated ammonia storage tanks) where the SCAQMD was the lead agency responsible for preparing an environmental analysis pursuant to CEQA. To the extent that future projects to install NOx control technology that utilizes ammonia and associated ammonia storage equipment conform to the ammonia hazard analysis in this Mitigated SEA, no further hazard analysis may be necessary. If site-specific characteristics are involved with future projects to install NOx control equipment that utilize ammonia that are outside the scope of this analysis, a further ammonia hazards analysis may be warranted.

A hazard analysis is dependent on several parameters about the potential hazard such as the capacity of the aqueous ammonia storage tank, the concentration of the aqueous ammonia, meteorological conditions, location of nearest receptor, and the dimensions of secondary containment, if any. Prior to the development of PAR 1135, the operator of Facility 3, as part of their repowering project, proposed to install a new aqueous ammonia tank to supply additional aqueous ammonia to four new natural gas turbines[29] and the effects of an offsite consequence from an accidental release of aqueous ammonia due to tank rupture was analyzed using the EPA RMP*Comp (Version 1.07) model. For the purpose of conducting a worst-case analysis in this Mitigated SEA, SCAQMD staff relied on the same assumptions as what was previously analyzed for Facility 3's repowering project[30] to evaluate what the offsite consequence hazard impact would be if the new aqueous ammonia storage tank would rupture at Facility 3, as follows:

- Number of new tanks: 1
- Capacity of tank: 12,000 gallons
- Contents: 20% concentration of aqueous ammonia[31]
- Location of tank for Facility 3: less than ¼-mile to existing residences or sensitive receptors (and adjacent to existing ammonia tank)[32]
- Liquid Temperature: 77 °F
- Containment berm: Yes
- Diked Area: 519.75 feet
- Diked Height: 4.5 feet

Based on the worst-case defaults, the toxic endpoint from a catastrophic failure of an aqueous ammonia storage tank at Facility 3 would be within 0.1 mile (528 feet) downwind of the tank location. (See Appendix E for the full analysis.) The nearest sensitive receptor to Facility 3 is located approximately 200 feet away. Thus, the hazards and hazardous materials impacts due to an aqueous ammonia storage tank rupture at Facility 3 will be significant since sensitive receptors could be exposed to an aqueous ammonia release. Therefore, the proposed project has the potential to generate significant adverse hazard impacts as a result of the potential for accidental releases of aqueous ammonia.

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[29] FEIR Grayson Repowering Project. March 2018. Section 3.0 Project Description, Page 3.1. http://graysonrepowering.com/#final-eir

[30] FEIR Grayson Repowering Project. March 2018. Section 4.6 Hazards and Hazardous Materials, Page 4.6.1.6. http://graysonrepowering.com/#final-eir

[31] The EPA RMP*Comp model only has the capability of evaluating the hazard potential of a 20% solution of aqueous ammonia so the offsite consequence evaluation was based on a higher concentration of aqueous ammonia than what would be actually allowed under a SCAQMD permit (e.g., 19% aqueous ammonia).

[32] FEIR Grayson Repowering Project. March 2018. Section Appendix G Hazards and Hazardous Materials Technical Reports, Page 535. http://graysonrepowering.com/#final-eir

If significant adverse environmental impacts are identified in a CEQA document, the CEQA document shall describe feasible measures that could minimize the significant adverse impacts (CEQA Guidelines Section 15126.4). Therefore, feasible mitigation measures to reduce the risk of an offsite consequence to nearby sensitive receptors are necessary.

The following mitigation measures are required for any facility whose operators choose to install a new aqueous ammonia storage tank and the offsite consequence analysis indicates that sensitive receptors will be located within the toxic endpoint distance. If, at the time when each facility-specific project is proposed in response to the proposed project, SCAQMD staff will conduct a CEQA evaluation of the facility-specific project and determine if the project is covered by the analysis in this Mitigated SEA. In addition, these mitigation measures will be included in a mitigation monitoring and reporting plan as part of issuing SCAQMD permits to construct for the facility-specific project. These mitigation measures will be enforceable by SCAQMD personnel.

HZ-1 Require the use of aqueous ammonia at concentrations less than or equal to ~~20~~19 percent by volume for all facilities regulated by Rule 1135.

HZ-2 Install safety devices, including but not limited to: continuous tank level monitors (e.g., high and low level), temperature and pressure monitors, leak monitoring and detection system, alarms, check valves, and emergency block valves.

HZ-3 Install secondary containment such as dikes and/or berms to capture 110 percent of the storage tank volume in the event of a spill.

HZ-4 Install a grating-covered trench around the perimeter of the delivery bay to passively contain potential spills from the tanker truck during the transfer of aqueous ammonia from the delivery truck to the storage tank.

HZ-5 Equip the truck loading/unloading area with an underground gravity drain that flows to a large on-site retention basin to provide sufficient ammonia dilution to the extent that no hazards impact is possible in the event of an accidental release during transfer of aqueous ammonia.

HZ-6 Install tertiary containment that is capable of evacuating 110 percent of the storage tank volume from the secondary containment area.

Implementing Mitigation Measures HZ-1 through HZ-6 would be expected to prevent a catastrophic release of ammonia from leaving the facility property and exposing offsite sensitive receptors, thus, reducing a potentially significant hazards impact to less than significant levels.

VIII. c) Less than Significant Impact. Appendix D contains a list of all of the facilities subject to PAR 1135 that are located within one-quarter mile of a school. However, there are only ~~three~~ six facilities that are expected to make physical modifications to comply with PAR 1135 and only Facility 1 and Facility 5 ~~is~~ are located within a one-quarter mile of a school. As explained in Response VIII. a), no change in the amount of aqueous ammonia to be stored at Facility 1, 4, 5, and 6 is expected.

PAR 1135, if implemented, would reduce human exposure to NOx by requiring electric generating facilities to meet proposed NOx emission limits. All of the facilities that may be subject to PAR 1135, including Facility 1, 4, 5, and 6, are expected to continue to take the appropriate and required

actions to ensure proper handling of existing quantities of hazardous or acutely hazardous materials, substances, or wastes that are currently generated. Further, any increased quantities of hazardous materials that may be collected at each facility would also be expected to be handled in the same or similar manner regardless of each facilities proximity to a school because PAR 1135 does not include new requirements or alter existing requirements for hazardous waste disposal. Therefore, PAR 1135 is not expected to emit new sources of hazardous emissions, or increase the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

VIII. d) No Impact. Government Code Section 65962.5 refers to hazardous waste handling practices at facilities subject to the Resources Conservation and Recovery Act (RCRA). PAR 1135 would affect ~~34~~ 31 facilities that are identified on lists of California Department of Toxics Substances Control hazardous waste facilities per Government Code Section 65962.5. These facilities are identified in Appendix D. PAR 1135 would not alter existing or add new requirements to change how the hazardous materials are stored while awaiting to be transported off-site to a recycling facility or a hazardous waste landfill. Hazardous wastes from the existing facilities are required to be managed in accordance with applicable federal, state, and local rules and regulations and compliance with these regulations is expected to continue after PAR 1135 is implemented. Therefore, compliance with PAR 1135 would not create a new significant hazard waste impact to the public or environment.

VIII. e) No Impact. Federal Aviation Administration regulation, 14 CFR Part 77 – Safe, Efficient Use and Preservation of the Navigable Airspace, provide information regarding the types of projects that may affect navigable airspace. Projects may adversely affect navigable airspace if they involve construction or alteration of structures greater than 200 feet above ground level within a specified distance from the nearest runway or objects within 20,000 feet of an airport or seaplane base with at least one runway more than 3,200 feet in length and the object would exceed a slope of 100:1 horizontally (100 feet horizontally for each one foot vertically from the nearest point of the runway).

Construction activities from implementing the proposed project are expected to occur within the existing confines of Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 and ~~none~~ only Facility 4~~of these facilities have~~has been identified in Appendix D as being located within two miles of an airport. Thus, any construction that may occur at Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 would not be expected to interfere with navigable airspace. Further, construction is expected to be conducted in accordance with all appropriate building, land use and fire codes and any new installations or structures are expected to be well below the height relative to the elevation of existing flight patterns so as to not interfere with plane flight paths consistent with 14 CFR Part 77. Such codes are designed to protect the public from hazards associated with normal operation. Therefore, the proposed project is not expected to result in a safety hazard for people residing or working in the area of Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 even if these facilities are located within the vicinity of an airport.

In addition, there are ~~four~~ two other facilities identified in Appendix D as being located within two miles of an airport but none of these facilities are expected to require physical modifications. Thus, compliance with PAR 1135 at these ~~four~~ two facilities would also not be expected to interfere with navigable airspace.

Therefore, implementation of PAR 1135 at any of the ~~34~~ 31 facilities will not create any new or alter any existing safety hazard for people residing or working near any facility identified in

Appendix D that is either located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip.

VIII. f) No Impact. Health and Safety Code Section 25506 et seq. specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

- Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
- Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
- Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
- Procedures to notify the necessary persons who can respond to an emergency within the facility;
- Details of evacuation plans and procedures;
- Descriptions of the emergency equipment available in the facility;
- Identification of local emergency medical assistance; and,
- Training (initial and refresher) programs for employees in:
    1. The safe handling of hazardous materials used by the business;
    2. Methods of working with the local public emergency response agencies;
    3. The use of emergency response resources under control of the handler;
    4. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a certain amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area.

Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of not only the public (surrounding local communities), but the facility employees as well. The proposed project would not impair implementation of, or physically interfere with any adopted emergency response plan or emergency evacuation plan. Further, the existing facilities already have an emergency response plan in place, as applicable. While the installation of modified or new electric generating units or associated air pollution control equipment may require an update of each affected facilities existing emergency response plan to reflect the new equipment or building modifications, the action of modifying an emergency response plan will not create any environmental impacts. Thus, PAR 1135 is not expected to

impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

VIII. g) No Impact. The facilities affected by PAR 1135 are currently located in existing industrial, commercial or mixed land use areas and the physical activities that may be taken to comply with PAR 1135 would occur inside existing property boundaries which are not located near wildlands; therefore, there is no existing risk from wildland fires and implementation of PAR 1135 would not create a new risk.

The proposed project would also not increase the existing risk of fire hazards in areas with flammable brush, grass, or trees since no substantial or native vegetation typically exists on or near the facilities (specifically because they could be a fire hazard). Thus, PAR 1135 is not expected to expose people or structures to wildfires. Therefore, no significant increase in wildland fire hazards is expected at the facilities that would be affected by the proposed project.

VIII. h) Less Than Significant Impact. The Uniform Fire Code and Uniform Building Code set standards intended to minimize risks from flammable or otherwise hazardous materials. Local jurisdictions are required to adopt the uniform codes or comparable regulations. Local fire agencies require permits for the use or storage of hazardous materials and permit modifications for proposed increases in their use. Permit conditions depend on the type and quantity of the hazardous materials at the facility. Permit conditions may include, but are not limited to, specifications for sprinkler systems, electrical systems, ventilation, and containment. The fire departments make annual business inspections to ensure compliance with permit conditions and other appropriate regulations. Further, businesses are required to report increases in the storage or use of flammable and otherwise hazardous materials to local fire departments. Local fire departments ensure that adequate permit conditions are in place to protect against the potential risk of upset. PAR 1135 would not change the existing requirements and permit conditions for the proper handling of flammable materials. Further, PAR 1135 does not contain any requirements that would prompt facility owners/operators to begin using new flammable materials.

Conclusion

Based upon these considerations, significant adverse hazards and hazardous materials impacts are not expected from implementing PAR 1135 due to implementation of mitigation measures HZ-1 through HZ-6, which would reduce any potential hazards and hazardous materials impacts to less than significant.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX.	**HYDROLOGY AND WATER QUALITY.** Would the project:				
a)	Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	☐	☐	☐	☑
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☑
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?	☐	☐	☐	☑
d)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☑
e)	Place housing or other structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, which would impede or redirect flood flows?	☐	☐	☐	☑

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑
g)	Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
h)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑	☐
i)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☑

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.

- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

IX. a), g) & i) No Impact. Of the physical modifications described in Table 2-1, none would be expected to require water either during construction or operation. Since no water will be needed to implement the projected modifications as part of complying with PAR 1135, no changes to each affected facility's wastewater existing setting will be expected. Since no wastewater will be generated from the implementation of PAR 1135, PAR 1135 would not trigger the need for an adequate wastewater capacity determination by any wastewater treatment provider that may be serving each affected site, if any. PAR 1135 would not require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities. PAR 1135 would not be expected to violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable of the Publicly Owned Treatment Works (POTW) or Regional Water Quality Control Board, or otherwise substantially degrade water quality that the requirements are meant to protect. Therefore, no impacts to either wastewater or wastewater treatment are expected to occur as a result of implementing PAR 1135 at any affected sites.

IX. b) & h) No Impact. As previously explained in Response IX. a), water will not be needed to make the physical modifications that are summarized in Table 2-1. Since no water will be needed to implement the projected modifications as part of complying with PAR 1135, facilities would not be expected to utilize groundwater, substantially deplete groundwater supplies, or interfere substantially with groundwater recharge. Further, since water is not expected to be needed to implement PAR 1135, a determination by the water providers which currently serve the affected facilities that there is adequate existing capacity to provide water will not be necessary. For these reasons, PAR 1135 is not expected to have significant adverse water demand impacts.

IX. c) & d) No Impact. Of the physical modifications expected to take place at Facility 1, 2, ~~and~~ 3, 4, 5, and 6 as a result of PAR 1135, none would require water during construction or operation and no new drainage facilities or alterations to existing drainage facilities will be needed beyond what currently exists at the existing facilities. Similarly, there are no streams or rivers running through the properties of the existing facilities, so any construction activities that may occur as a result of complying with PAR 1135 would not be expected to alter the course of a stream or river. PAR 1135 does not contain any requirements that would change existing drainage patterns or the procedures for how surface runoff water is handled. Thus, PAR 1135 is not expected to alter any existing drainage patterns, or cause an increase rate or amount of surface runoff water that would exceed the capacity of the facilities' existing or planned storm water drainage systems.

IX. e) & f) No Impact. None of the physical modifications that are summarized in Table 2-1 that may occur at Facilities 1, 2, ~~and~~ 3, 4, 5, and 6 in order to comply with PAR 1135 would cause or require a new facility or new housing to be constructed. Therefore, implementation of PAR 1135 is not expected to result in placing houses or structures within 100-year flood hazard areas that could create new flood hazards or create significant adverse risk impacts from flooding as a result of failure of a levee or dam or inundation by seiches, tsunamis, or mudflows.

Conclusion

Based upon these considerations, significant adverse hydrology and water quality impacts are not expected from implementing PAR 1135. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X.	**LAND USE AND PLANNING.** Would the project:				
a)	Physically divide an established community?	☐	☐	☐	☑
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☑

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the three affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135.

Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

X. a) No Impact. Of the physical modifications summarized in Table 2-1, all would occur within the existing physical boundaries of Facilities 1, 2, ~~and~~ 3, 4, 5, and 6. For this reason, implementation of PAR 1135 would not be expected to physically divide an established community. Therefore, no impacts are anticipated.

X. b) No Impact. Land use and other planning considerations are determined by local governments and no land use or planning requirements will be altered by PAR 1135. All construction and operation activities that are expected to occur as a result of complying with PAR 1135 will occur within the confines of the existing facilities and would not be expected to affect or conflict with any applicable land use plans, policies, or regulations. Further, no new development or alterations to existing land designations will occur as a result of the implementation of PAR 1135. Therefore, present or planned land uses in the region will not be affected as a result of implementing PAR 1135.

Conclusion

Based upon these considerations, significant adverse land use and planning impacts are not expected from implementing PAR 1135. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI.	**MINERAL RESOURCES.** Would the project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

    - The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance

with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

XI. a) & b) No Impact. Of the physical modifications summarized in Table 2-1, none of the construction and operation activities necessary to implement PAR 1135 would require the use of a known mineral resource. Thus, there are no provisions in PAR 1135 that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state such as aggregate, coal, clay, shale, et cetera, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Conclusion

Based upon these considerations, significant adverse mineral resource impacts are not expected from implementing PAR 1135. Since no significant mineral resource impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII.	**NOISE.** Would the project result in:				
a)	Exposure of persons to or generation of permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☑	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☑	☐
c)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
d)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☑	☐

Significance Criteria

Noise impact will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia,

CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the three affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

XII. a), b), & c) Less than Significant Impact. The facilities affected by PAR 1135 are currently located in urbanized industrial or commercial land use areas. The existing noise environment at each of the facilities is typically dominated by noise from existing equipment on-site, vehicular traffic around the facilities, and trucks entering and exiting facility premises. Large, potentially noise-intensive construction equipment would be needed temporarily during construction to repower, retrofit, or replace existing electric generating units and associated air pollution control equipment as part of implementing PAR 1135. Operation of the construction equipment would be expected to comply with all existing noise control laws and ordinances. Since the facilities are located in industrial or commercial land use areas, which have a higher background noise level when compared to other areas, the noise generated during construction will likely be indistinguishable from the background noise levels at the property line.

Once the construction is complete, the noise from operation activities will be similar to the existing noise setting currently generated on-site because replacement equipment will have a similar noise profile as the equipment being replaced. Further, SCR technology is not inherently noisy equipment, so it is unlikely that the operation of SCR units will substantially contribute or worse an facility's existing noise profile. Also, due to the attenuation rate of noise based on distance from the source, it is unlikely that noise levels exceeding local noise ordinances from the operation of repowered or retrofitted electric ~~power~~ generating units and any new air pollution control equipment such as SCRs would occur beyond a facility's boundaries. Furthermore, OSHA and CAL-OSHA have established noise standards to protect worker health. Furthermore, compliance with local noise ordinances limiting the hours of construction will reduce the temporary noise impacts from construction to sensitive receptors. These potential noise increases are expected to be within the allowable noise levels established by the local noise ordinances for industrial areas, and thus are expected to be less than significant.

XII. d) Less than Significant Impact. As explained previously in Section VIII e), only ~~four~~ one of the affected facilities ~~are~~ is located within two miles of an airport. However, the provisions in PAR 1135 are not expected to cause changes to electric ~~power~~ generating units at the facilities located within two miles of an airport and if construction activities were to occur it is expected construction activities would be in accordance with all appropriate building, land use and fire codes

and any new installations or structures are expected to be well below the height relative to the elevation of existing flight patterns so as to not interfere with plane flight paths consistent with Federal Aviation Regulation, Part 77. In addition, compliance with PAR 1135 is not expected to expose people residing or working in the vicinity of any affected facility to the same degree of excessive noise levels associated with airplanes because all noise producing equipment at the affected facilities must comply with local noise ordinances and applicable OSHA or CAL-OSHA workplace noise reduction requirements. Therefore, the impacts are expected to be less than significant.

Conclusion

Based upon these considerations, significant adverse noise impacts are not expected from the implementing PAR 1135. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING. Would the project:					
a)	Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	☐	☐	☐	☑
b)	Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during

construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

XIII. a) No Impact. The construction activities associated with PAR 1135 at the affected facilities are relatively minimal such that they would not be expected to require the relocation of individuals, require new housing or commercial facilities, or change the distribution of the population. On a peak day, the analysis assumes that up to three workers may be needed to perform construction activities at Facility 1, 4, 5, and 6, up to 18 workers may be needed to perform construction activities at Facility 2, and up to 297 workers may be needed to perform construction activities at Facility 3 to comply with PAR 1135, and these workers can be supplied from the existing labor pool in the local Southern California area. Further, the physical modifications expected to take place at electricity generating facilities would not be expected to require new employees to operate and maintain the equipment because each of the affected facilities already have existing electric ~~power~~ generating units in place with personnel trained to maintain the equipment. In the event that new employees are hired, the number of new employees hired at any one facility would likely be relatively small. The human population within the SCAQMD is anticipated to grow regardless of implementing PAR 1135. As a result, PAR 1135 is not anticipated to generate any significant adverse effects, either direct or indirect, on population growth in the SCAQMD or population distribution.

XIII. b) No Impact. PAR 1135 proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT at existing electricity generating facilities as previously explained in Section III – Air Quality, SCAQMD staff is not aware of any new electricity generating facilities planned to be constructed in the immediate future and is unable to predict or forecast, when, if at all, any would be built in the long-term. Thus, PAR 1135 is not expected to result in the creation of any industry that would affect population growth, directly or indirectly or cause the displacement of substantial numbers of people that would induce the construction of replacement housing elsewhere in the SCAQMD.

Conclusion

Based upon these considerations, significant adverse population and housing impacts are not expected from implementing PAR 1135. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire protection?	☐	☐	☑	☐
b) Police protection?	☐	☐	☐	☑
c) Schools?	☐	☐	☐	☑
d) Other public facilities?	☐	☐	☐	☑

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time, or other performance objectives.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

XIV. a) Less than Significant Impact. Implementation of PAR 1135 is expected to cause electricity generating facility owners or operators to make physical modifications as summarized in Table 2-1 in order to comply with updated BARCT. In the process of conducting physical modifications, Facilities 1, ~~and~~ 2, 4, 5, and 6 are expected to continue current operations, while Facility 3 would be expected to halt operations for three of its boilers and ancillary equipment in order to demolish and construct three new turbines. In order to construct the retrofitted, repowered, or replaced electric ~~power~~ generating units the owner or operators at each facility would be required to obtain a building permit from the local city or county with jurisdiction over the construction. As each step in the construction process progresses, a building inspector will periodically check in with each facility to verify that construction is proceeding according the specifications in the building permit. Because applications for building permits typically undergo a thorough "plan check" process before a permit to build is issued, new safety hazards are not expected to occur during construction phase of the affected electric ~~power~~ generating units.

Operation of Facilities 1, ~~and~~ 3, 4, 5, and 6 would require periodic delivery of aqueous ammonia to each facility. As discussed in detail in Section VIII, the probability and consequence of an aqueous ammonia release is less than significant with mitigation applied. Therefore, ammonia delivery, storage, and use at Facilities 1 ~~and~~ 3, 4, 5, and 6 is not expected to significantly impact the hazardous material ("Haz Mat") response capabilities of the Los Angeles County Fire Authority. Operation of Facility 2 would require periodic delivery of urea, however no increase in the frequency or amount of urea is already delivered so it is expected to result in no change in order to comply with PAR 1135.

For these reasons, implementation of PAR 1135 is not expected to substantially alter or increase the need or demand for additional public services (e.g., fire and police departments and related emergency services, etc.) above current levels, so no significant impact to these existing services is anticipated.

XIV. b), c), d) No Impact. As noted in Section XIII - Population and Housing, PAR 1135 is not expected to induce population growth in any way because the local labor pool (e.g., workforce) is expected to be sufficient to accommodate three workers at Facility 1, 4, 5, and 6, 18 workers at Facility 2, and 297 workers at Facility 3 to perform any construction activities that may be necessary at affected facilities and operation of new or modified electric ~~power~~ generating units is not expected to require additional employees. In the event that new employees are hired, the number of new employees at any one facility would likely be small. Therefore, with no significant increase in local population, no impacts would be expected to local schools.

XIV. d) No Impact. PAR 1135 is expected to result in the installation and use of new or modified electric ~~power~~ generating units as part of compliance with proposed emission limits to reflect updated BARCT. Besides obtaining building permits from the local agency and SCAQMD permits for retrofitting, repowering, or replacing electric ~~power~~ generating units, there will be no need for other types of government services because the affected facilities will continue their existing operations once physical modifications are completed at each affected facility. Because PAR 1135 would not result in the need for new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives. As explained earlier, there will be no substantive increase in population as a result of implementing PAR 1135, and, therefore, no need for physically altered government facilities.

Conclusion

Based upon these considerations, significant adverse public services impacts are not expected from implementing PAR 1135. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services?	☐	☐	☐	☑

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road

construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

XV. a) & b) No Impact. As explained previously in Section XIII - Population and Housing, the owners or operators of the affected facilities who need to perform any construction activities to comply with PAR 1135 can draw from the existing labor pool in the local Southern California area. Further, the retrofitting, repowering, or replacement of electric ~~power~~ generating units would not be expected to require new employees to operate and maintain the equipment because the affected facilities already have existing electric ~~power~~ generating units in place with personnel trained to maintain the units. In the event that new employees are hired, the number of new employees hired at any one facility would likely be relatively small, perhaps no more than one or two per facility. The human population within the District is anticipated to grow regardless of implementing PAR 1135 (see the population growth projects in the 2016 AQMP). As a result, PAR 1135 is not anticipated to generate any significant adverse effects, either direct or indirect, on population growth in the District or population distribution. Further, there are no provisions in PAR 1135 that would affect or increase the demand for or use of existing neighborhood and regional parks or other recreational facilities. Further, PAR 1135 would not require the construction of new or the expansion of existing recreational facilities that might, in turn, cause adverse physical effects on the environment because PAR 1135 will not directly or indirectly substantively increase or redistribute population.

Conclusion
Based upon these considerations, significant adverse recreation impacts are not expected from implementing PAR 1135. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID AND HAZARDOUS WASTE. Would the project:				
a) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☑	☐
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	☐	☐	☐	☑

Significance Criteria

The proposed project impacts on solid and hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

XVI. a) Less than Significant Impact. Landfills are permitted by the local enforcement agencies with concurrence from the California Department of Resources Recycling and Recovery (CalRecycle). Local agencies establish the maximum amount of solid waste which can be received by a landfill each day and for the operational life of a landfill. This analysis of solid waste impacts assumes that safety and disposal procedures required by various agencies in California will provide reasonable precautions against the improper disposal of hazardous wastes in a municipal waste landfill. Because of state and federal requirements, some facilities are attempting to reduce or minimize the generation of solid and hazardous wastes by incorporating source reduction technologies to reduce the volume or toxicity of wastes generated, including improving operating procedures, using less hazardous or nonhazardous substitute materials, and upgrading or replacing inefficient processes.

PAR 1135 would require electricity generating facilities to comply with proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT and thus the affected facilities would be expected to make physical modifications to their equipment in order to achieve compliance.

Facility 1, 4, 5, and 6 assumes that ~~four~~ each affected SCR catalyst modules would be replaced in ~~all four~~each of the affected existing SCRs. Minimal modifications to the existing catalyst housing are expected to install the replaced catalyst modules. The spent catalyst modules from ~~the four~~each affected SCR unit~~s~~ would need to be disposed of or recycled for their precious metal content. However, because Facility 1, 4, 5, and 6 currently replaces the spent SCR catalyst modules approximately every five years as part of regular maintenance, this analysis assumes that the same maintenance schedule will continue with the upgraded SCR catalyst modules. Thus, disposal of the ~~four~~ each affected spent catalysts would not generate significant waste.

Facility 2 assumes that five diesel combustion engines and SCR units would be replaced with five new diesel combustion engines and SCR units. The replaced diesel engines and SCR units would need to be disposed of. However, because each engine replacement and SCR unit is expected to occur at a frequency of once per year, and since engine replacement requires minimal construction and demolition activities, the replacement of each engine and SCR unit would not generate significant waste. Further, no new waste would be generated during operation of Facility 2 as a result of the replaced engines since there is no change to the amount of urea delivered and stored and the current maintenance schedule to replace spent SCR catalysts is expected to remain the same. Thus, the amount of waste disposal during operations would not change.

Facility 3 assumes that three boilers would need to be removed and replaced with three turbines. Demolition of each boiler and ancillary structures and equipment is expected to occur over a period of 150 days. Facility 3 is also expected to install one new aqueous ammonia tank and three new SCRs which will require spent catalyst to be replaced approximately every five years. Throughout demolition and operation activities, Facility 3 is expected to comply with all applicable local, state, and federal waste disposal regulations. Thus, any waste generated as a result of PAR 1135 would be disposed of as follows: non-hazardous materials would be disposed of at a Class II or III landfill and recycling facility, and hazardous materials including any asbestos containing material would be disposed of at a Class I landfill.

The catalyst in SCR beds generally uses various ceramic materials comprised of precious metals to aid in the capture and conversion of NOx into N2 and water in an exhaust stream. SCRs require periodic regeneration or replacement of the catalyst bed. Regeneration of catalyst is preferred, due to the high cost to purchase new catalyst; however, if the catalyst cannot be regenerated, precious

metals contained in the catalyst can be recovered. These metals could then be recycled and the remaining material would most likely need to be disposed of at a landfill.

If the catalyst is not hazardous, jurisdiction for its disposal then shifts to local agencies such as the Regional Water Quality Control Board (RWQCB) or the county environmental agencies. The RWQCB has indicated that if a spent catalyst is not considered a hazardous waste, it would probably be considered a Designated Waste. A Designated Waste is characterized as a non-hazardous waste consisting of, or containing pollutants that, under ambient environmental conditions, could be released at concentrations in excess of applicable water objectives, or which could cause degradation of the waters of the state. The type of landfill that the material is disposed at will depend upon its final waste designation. As explained previously, the use of SCRs to comply with PAR 1135 is expected to be limited to Facilities 1, 2, ~~and~~ 3, 4, 5, and 6, so its use is not expected to be wide-spread and the amount needed for disposal or recycling is very small relative to the disposal capacities in the region.

Because the waste disposal needs from implementing PAR 1135 are expected to be served by existing landfills with sufficient permitted capacity to accommodate each affected facility's solid waste disposal needs, potential solid and hazardous waste impacts from implementing PAR 1135 would not be significant.

XVI. b) No Impact. It is assumed that facility operators at the facilities currently comply with all applicable local, state, or federal waste disposal regulations and PAR 1135 does not contain any provisions that would alter current practices. Thus, implementation of PAR 1135 is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations in a manner that would cause a significant adverse solid and hazardous waste impact.

Conclusion
Based upon these considerations, significant adverse solid and hazardous waste impacts are not expected from implementing PAR 1135. Since no significant solid and hazardous waste impacts were identified, no mitigation measures are necessary or required.

		Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII.	**TRANSPORTATION AND TRAFFIC.** Would the project:				
a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☑	☐
b)	Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☑	☐
c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d)	Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	☐	☐	☐	☑
e)	Result in inadequate emergency access?	☐	☐	☐	☑
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☑

Significance Criteria

Impacts on transportation and traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees.
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day.
- Increase customer traffic by more than 700 visits per day.

Discussion

As explained in the introductory remarks to the Environmental Checklist, the proposed amendments to PAR 1135 that pertain to applicability and the proposed emission limits for electric ~~power~~ generating units to reflect updated BARCT are the key elements that would be expected to require some facility operators to make physical modifications to their equipment in order to achieve compliance and these activities may create secondary adverse environmental impacts. For the purpose of the analysis in this Mitigated SEA, activities associated with installing new or modifying existing air pollution control systems, and repowering or replacing electric ~~power~~ generating units are the only activities that have been identified as having potential secondary adverse environmental impacts associated with reducing NOx and other pollutants (e.g., ammonia, CO, VOC, and PM) from electric ~~power~~ generating units. Based on the BARCT assessment described in Chapter 1, only three electricity generating facilities have electric ~~power~~ generating units that would be expected to undergo physical modifications (e.g., installing new or modifying existing air pollution control systems, and repowering or replacing existing electric ~~power~~ generating units) in order to comply with PAR 1135 and three would elect to comply due to business decisions for a total of six facilities that are expected to undergo physical modifications.

Of the ~~three~~ six affected electricity generating facilities, there are vast differences between the facilities due to the type of electric ~~power~~ generating units, geographic location, and site layout at each individual facility. Further, each of the ~~three~~ six facilities is very different in how compliance with PAR 1135 may be achieved; Table 2-1 summarizes the potential modifications that may be expected to occur at the ~~three~~ six affected electricity generating facilities. Therefore, at each of the ~~three~~ six affected facilities, secondary impacts associated with the use of on- and off-road

construction equipment, construction worker vehicle trips, and delivery and haul trips during construction and operation, are expected to occur during the implementation of PAR 1135. Therefore, the responses to the following questions rely on the assumptions described in the introductory remarks and are specific to each facility and their individual secondary impacts.

XVII. a) & b) Less Than Significant Impact

Construction

As previously discussed in Section III - Air Quality and Greenhouse Gas Emissions, compliance with PAR 1135 is expected to require construction activities associated with physical modifications to electric ~~power~~ generating units – replacing, retrofitting, or repowering. Facility 1, 4, 5, and 6 ~~is~~ are expected to have approximately three construction worker round trips, one vendor truck round trip, and one haul truck round trip for a total of five construction round trips, which are assumed to be needed on a peak construction day for one SCR catalyst module replacement. Facility 2 is expected to have approximately 28 construction worker round trips, five vendor truck round trips, and 10 haul truck round trips for a total of 43 construction round trips, which are assumed to be needed on a peak construction day for one engine and SCR unit replacement. The estimate of construction round trips for Facility 2 is conservative, as only one engine and SCR unit is expected to be replaced per year and each construction phase is expected to take place on different days. Facility 3 is expected to have approximately 297 construction worker round trips, 14 vendor truck round trips, and 11,120 haul truck round trips for a total of 11,431 round trips, which are assumed for the complete duration of construction activities. Since all of the construction activities at Facility 3 are not expected to occur on the same day, the most conservative trip amount from each phase is used to determine an estimated total amount of construction round trips on a peak day. A Facility 3 peak construction day assumes 200 construction worker trips (round trips), eight vendor truck trips (round trips), and 28 haul truck trips[33] (round trips) for a total of 236 construction round trips needed on a peak construction day.

Thus, construction at each Facility on a peak day is not expected to affect on-site traffic or parking for each affected facility. Further, since the additional five construction round trips at Facility 1, 4, 5, and 6, 43 construction round trips at Facility 2, and 236 construction round trips at Facility 3 that may occur on a peak day are below the significant threshold of 350 round trips, regional traffic and transportation impacts during construction are not expected to cause a significance adverse impact. The estimated vehicle trips from all activities on the peak day during construction are summarized in Table 2-16.

Operation

Of the ~~three~~ six affected facilities, only Facilities 1, ~~and~~ 3, 4, 5, and 6 are expected to have new trips generated during operations. Facility 2 is assumed to not create any new trips as the proposed modifications would not change the amount of urea that is currently delivered and the current SCR catalyst replacement schedule is expected to remain the same. Facility 1 assumes an increase of six aqueous ammonia deliveries per year, Facility 1 assumes an increase of six aqueous ammonia deliveries per year, Facility 4 assumes an increase of two aqueous ammonia deliveries per year, Facility 5 assumes an increase of 11 aqueous ammonia deliveries per year, and Facility 6 assumes an increase of two aqueous ammonia deliveries per year will be needed to supply the increased ammonia demand and that the existing maintenance schedule for replacing spent SCR catalysts

[33] Haul trips on a peak construction day were estimated by dividing the number of total haul trips in the demolition phase by the number of days of demolition.

would remain the same. Facility 3 assumes an increase of 24 aqueous ammonia deliveries per year will be needed to supply the anticipated ammonia demand for a new ammonia tank. Facility 3 would also require spent catalysts to be replaced every five years and assumes an increase of 6 haul trips per year will be needed.

All of the trips needed to haul new SCR catalysts and waste and deliver ammonia will contribute to operational traffic and transportation impacts.

For a "worst case" analysis, SCAQMD staff assumed that ~~three~~ six facilities on a peak day would generate a maximum of one additional truck trip (round trip) to account for an ammonia or catalyst delivery needed to replace a spent SCR catalyst or to provide aqueous ammonia. On a given day no truck trip overlap is anticipated, the one additional truck trip that may occur is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near each of the affected facilities. In fact, this low volume of additional daily truck traffic is negligible over the entire SCAQMD. Further, as previously explained in Section XII – Population and Housing, the physical modifications that would result as part of compliance with PAR 1135 would not be expected to require new, additional permanent employees to operate and maintain the equipment because many of the affected facilities already have existing electric ~~power~~ generating units in place with personnel trained to maintain the equipment. In the event that new employees are hired, it is expected that the number of new employees hired at any one facility would be relatively small, perhaps no more than one or two per facility. Thus, even for the trips that would be associated with employing a small amount of new workers at each affected facility, implementation of PAR 1135 is not expected to cause a significant increase in the number of worker trips during operation at any of the affected facilities. The estimated vehicles from all activities is summarized in Table 2-16.

Table 2-16
Estimation of Vehicle Trips (Round Trips)

Phase	Worker Vehicles	Vendor Trucks	Haul Trucks
Facility 1 - Construction [a]	3 per day	1 per day	1 per day
Facility 2 - Construction [a]	28 per day	5 per day	10 per day
Facility 3 - Construction [a]	200 per day	8 per day	28 per day
Facility 4 - Construction [a]	3 per day	1 per day	1 per day
Facility 5 - Construction [a]	3 per day	1 per day	1 per day
Facility 6 - Construction [a]	3 per day	1 per day	1 per day
Operation (Facility 1, ~~and~~ 3, 4, 5, and 6)	Up to 1 additional truck trip (T6 instate construction heavy) for delivery of aqueous ammonia or for replacement of an SCR catalyst from all the affected facilities per day[b]		

[a] The worst case analysis for construction is based on a maximum of ~~231~~ 240 worker vehicles plus ~~14~~ 17 vendor trucks and ~~39~~ 42 haul trucks per day for all affected facilities during a peak day to account for overlapping construction.

[b] The worst case analysis during operation is based on a maximum of 1 additional delivery truck to deliver ammonia or SCR catalyst replacement at all of the affected facilities.

XVII. c) No Impact. As explained previously in Section VIII – Hazards and Hazardous Materials, ~~four~~ three of the ~~34~~ 31 affected facilities are located within two miles of an airport. However, the physical modifications to retrofit, repower, or replace electric ~~power~~ generating units are expected to be conducted in accordance with all appropriate building, land use and fire codes and any new installations or structures are expected to be well below the height relative to the elevation of existing flight patterns so as to not interfere with plane flight paths consistent with Federal Aviation Regulation, Title 14 Part 77. Thus, compliance with PAR 1135 would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risk.

XVII. d) & e) No Impact. PAR 1135 does not involve or require the construction of new roadways because the focus of PAR 1135 is reducing NOx emissions and other pollutants from electric power generating unit at electricity generating facilities. Thus, there will no change to current public roadway designs that could increase traffic hazards. Further, PAR 1135 is not expected to substantially increase traffic hazards or create incompatible uses at or adjacent to the facilities. Emergency access at each of the affected facilities is not expected to be impacted because PAR 1135 does not contain any requirements specific to emergency access points and each affected facility is expected to continue to maintain their existing emergency access. PAR 1135 does not include provisions which would conflict with emergency access. Since PAR 1135 is expected to involve construction activities that would create new, delivery/haul truck trips that would be expected to cease after construction is completed, the proposed project is not expected to alter the existing long-term circulation patterns within the areas of each affected facility during construction. Similarly, during operation, the projected increase of additional truck trips that may be needed at each affected facility would be at less than significant levels individually and cumulatively such that implementation of the proposed project is not expected to require a modification to circulation. Thus, no long-term impacts on the traffic circulation system are expected to occur during construction or operation.

XVII. f) No Impact. PAR 1135 does not contain any requirements that would affect or alter adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Further, the facilities would still be expected to comply with, and not interfere with adopted policies, plans, or programs supporting alternative transportation (e.g., bicycles or buses) that exist in their respective cities. Since all of the requirements and compliance activities associated with implementing PAR 1135 would be expected to occur on-site, PAR 1135 would have no impact on each facility's ability to comply with any applicable alternative transportation plans or policies.

Conclusion

Based upon these considerations, significant adverse transportation and traffic impacts are not expected from implementing PAR 1135. Since no significant transportation and traffic impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☑
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	☐	☐	☑	☐
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☑	☐

Discussion

XVIII. a) No Impact. As explained in Section IV - Biological Resources, PAR 1135 is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because any construction and operational activities associated with the facilities are expected to occur entirely within the boundaries of existing developed facilities in areas that have been greatly disturbed and that currently do not support any species of concern or the habitat on which they rely. For these reasons, PAR 1135 is not expected to reduce or eliminate any plant or animal species or destroy prehistoric records of the past.

XVIII. b) Less Than Significant Impact. Based on the foregoing analyses, PAR 1135 would not result in significant adverse project-specific environmental impacts due to mitigation measures set forth in this Mitigated SEA. Potential adverse impacts from implementing PAR 1135 would be rendered "less than cumulatively considerable" as defined by CEQA Guidelines Section 15064(h)(2) for any environmental topic because mitigation measures set forth within this

Mitigated SEA render any potentially significant impacts to be less than significant. Per CEQA Guidelines Section 15064(h)(4), the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulative considerable. SCAQMD cumulative significant thresholds are the same as project-specific significance thresholds.

This approach was upheld by the court in *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 334. The Court determined that where it can be found that a project did not exceed the South Coast Air Quality Management District's established air quality significance thresholds, the City of Chula Vista properly concluded that the project would not cause a significant environmental effect, nor result in a cumulatively considerable increase in these pollutants. The court found this determination to be consistent with CEQA Guidelines Section 15064.7, stating: "The lead agency may rely on a threshold of significance standard to determine whether a project will cause a significant environmental effect." The court found that, "[a]lthough the project will contribute additional air pollutants to an existing nonattainment area, these increases are below the significance criteria." "Thus, we conclude that no fair argument exists that the Project will cause a significant unavoidable cumulative contribution to an air quality impact." In *Rialto Citizens for Responsible Growth*, the court upheld the SCAQMD's approach to utilizing the established air quality significance thresholds to determine whether the impacts of a project would be cumulatively considerable. *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal. App. 4th 899. As in *Chula Vista* and *Rialto Citizens for Responsible Growth*, here the SCAQMD has demonstrated, when using accurate and appropriate data and assumptions, that the project will not exceed the established SCAQMD significance thresholds. Thus, it may be concluded that the proposed project will not contribute to a significant unavoidable cumulative air quality impact.

Therefore, there is no potential for significant adverse cumulative or cumulatively considerable impacts to be generated by PAR 1135 for any environmental topic.

XVIII. c) Less Than Significant Impact. Based on the foregoing analyses, PAR 1135 is not expected to cause adverse effects on human beings for any environmental topic, either directly or indirectly because: 1) the air quality and GHG impacts were determined to be less than the significance thresholds as analyzed in Section III – Air Quality and Greenhouse Gases; 2) the increased demand for energy, water, and solid waste disposal can be met by utilizing existing services as analyzed in Section VI – Energy, Section IX – Hydrology and Water Quality, and Section XVI – Solid and Hazardous Waste; 3) the hazards and hazardous materials impacts were determined to be less than significant, after mitigation, as analyzed in Section VIII – Hazards and Hazardous Materials; 4) the noise impacts were determined to be less than significant as analyzed in Section XII – Noise; and 5) the transportation and traffic impacts were determined to be less than the significance thresholds as analyzed in Section XVI – Transportation and Traffic. In addition, the analysis concluded that there would be no significant environmental impacts for the remaining environmental impact topic areas: aesthetics, agriculture and forestry resources, biological resources, cultural resources, geology and soils, land use and planning, mineral resources, public services, population and housing, and recreation.

Conclusion

As previously discussed in environmental topics I through XVIII, after mitigation, the proposed project has no potential to cause significant adverse environmental effects.

APPENDICES

Appendix A: Proposed Amended Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities

Appendix B: CalEEMod Files and Assumptions

- **B-1: Facility 1**
- **B-2: Facility 2**
- **B-3: Facility 3**

Appendix C: CEQA Impact Evaluations – Assumptions and Calculations

- **C-1: Construction Summary**
- **C-2: Operations Summary**
- **C-3: Construction (Facility 1)**
- **C-4: Operation (Facility 1)**
- **C-5: Construction (Facility 2)**
- **C-6: Construction (Facility 3)**
- **C-7: Operation (Facility 3)**
- **C-8: Construction (Facility 4)**
- **C-9: Operation (Facility 4)**
- **C-10: Construction (Facility 5)**
- **C-11: Operation (Facility 5)**
- **C-12: Construction (Facility 6)**
- **C-13: Operation (Facility 6)**

Appendix D: PAR 1135 List of Affected Facilities

Appendix E: Hazards Analysis

Appendix F: Comment Letters Received on the Draft Mitigated SEA and Response to Comments

APPENDIX A

Proposed Amended Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities

In order to save space and avoid repetition, please refer to the latest version of Proposed Amended Rule 1135 located elsewhere in the Governing Board Package (meeting date November 2, 2018). The version of Proposed Amended Rule 1135 that was circulated with the Draft Mitigated SEA and released on September 18, 2018 for a 30-day public review and comment period ending on October 18, 2018 was identified as "PAR 1135 Preliminary Draft Rule July 2018." Original hard copies of the Draft Mitigated SEA, which include the draft version of the proposed amended rule listed above, can be obtained by visiting the Public Information Center at SCAQMD Headquarters located at 21865 Copley Drive, Diamond Bar, CA 91765, by contacting Fabian Wesson, Public Advisor by phone at (909) 396-2039 or by email at PICrequests@aqmd.gov.

APPENDIX B

CalEEMod Files And Assumptions

APPENDIX B-1

CalEEMod Files And Assumptions

Replace Catalyst Modules in One SCR Unit at Facility 1

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

Air District, Annual

PAR 1135 - SCR Catalyst Module Replacement

(1) South Coast AQMD Air District, 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	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2018
Utility Company	Pasadena Water & Power				
CO2 Intensity (lb/MWhr)	1664.14	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

Project Characteristics - Air District, Annual

Land Use -

Construction Phase - No demolition, site preparation, grading, paving, or architectural coating is expected as part of the proposed project.

Off-road Equipment - Off-Road Equipment - No Architectural Coating

Off-road Equipment - Off-Road Equipment - Building Construction - Cranes (1): 4 Hours Per Day; Forklifts (1): 4 Hours Per Day; Aerial Lifts (1): 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Demolition

Off-road Equipment - Off-Road Equipment - No Grading

Off-road Equipment - Off-Road Equipment - No Paving

Off-road Equipment - Off-Road Equipment - No Site Preparation

Trips and VMT - Trips and VMT - Building Construction - 3 Workers, 1 Vendor, 1 Haul

Architectural Coating - Architectural Coatings - No Architectural Coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	0.00	5.00
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/7/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblOffRoadEquipment	HorsePower	63.00	97.00
tblOffRoadEquipment	LoadFactor	0.31	0.37

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00

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tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	0.00	3.00

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2.0 Emissions Summary

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

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2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	1.0900e-003	0.0126	7.6300e-003	1.0000e-005	1.1000e-004	5.7000e-004	6.8000e-004	3.0000e-005	5.3000e-004	5.6000e-004	0.0000	1.3648	1.3648	3.8000e-004	0.0000	1.3743
Maximum	**1.0900e-003**	**0.0126**	**7.6300e-003**	**1.0000e-005**	**1.1000e-004**	**5.7000e-004**	**6.8000e-004**	**3.0000e-005**	**5.3000e-004**	**5.6000e-004**	**0.0000**	**1.3648**	**1.3648**	**3.8000e-004**	**0.0000**	**1.3743**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	1.0900e-003	0.0126	7.6300e-003	1.0000e-005	1.1000e-004	5.7000e-004	6.8000e-004	3.0000e-005	5.3000e-004	5.6000e-004	0.0000	1.3648	1.3648	3.8000e-004	0.0000	1.3743
Maximum	**1.0900e-003**	**0.0126**	**7.6300e-003**	**1.0000e-005**	**1.1000e-004**	**5.7000e-004**	**6.8000e-004**	**3.0000e-005**	**5.3000e-004**	**5.6000e-004**	**0.0000**	**1.3648**	**1.3648**	**3.8000e-004**	**0.0000**	**1.3743**

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

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

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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	0.0000	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	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

Air District, Annual

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	0.0000	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	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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

3.0 Construction Detail

Construction Phase

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

Phase Number	Phase Name	Phase Type	Air District - Annual Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/1/2018	12/1/2018	5	0	
2	Grading	Grading	12/1/2018	12/1/2018	5	0	
3	Building Construction	Building Construction	12/1/2018	12/7/2018	5	5	
4	Paving	Paving	12/1/2018	12/1/2018	5	0	
5	Architectural Coating	Architectural Coating	12/1/2018	12/1/2018	5	0	
6	Demolition	Demolition	12/2/2018	12/1/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

PAR 1135 - SCR Replacement (1) - South Coast AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Site Preparation	Graders	0	0.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Concrete/Industrial Saws	0	0.00	81	0.73
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Aerial Lifts	1	4.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	0	0.00	130	0.42
Paving	Rollers	0	0.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

PAR 1135 - SCR Replacement (1) - South Coast AQMD Air District, Annual

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
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	3.00	1.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

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

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

Air District, Annual

3.2 Site Preparation - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

Air District, Annual

3.2 Site Preparation - 2018

Mitigated Construction Off-Site

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

3.3 Grading - 2018

Unmitigated Construction On-Site

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

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

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3.3 Grading - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

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3.3 Grading - 2018

Mitigated Construction Off-Site

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

3.4 Building Construction - 2018

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	1.0300e-003	0.0121	7.1700e-003	1.0000e-005		5.7000e-004	5.7000e-004		5.3000e-004	5.3000e-004	0.0000	1.1848	1.1848	3.7000e-004	0.0000	1.1941
Total	**1.0300e-003**	**0.0121**	**7.1700e-003**	**1.0000e-005**		**5.7000e-004**	**5.7000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**1.1848**	**1.1848**	**3.7000e-004**	**0.0000**	**1.1941**

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

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3.4 Building Construction - 2018

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	1.6000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0386	0.0386	0.0000	0.0000	0.0386
Vendor	1.0000e-005	3.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0625	0.0625	0.0000	0.0000	0.0626
Worker	4.0000e-005	3.0000e-005	3.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0789	0.0789	0.0000	0.0000	0.0790
Total	**5.0000e-005**	**5.0000e-004**	**4.6000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1800**	**0.1800**	**0.0000**	**0.0000**	**0.1802**

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	1.0300e-003	0.0121	7.1700e-003	1.0000e-005		5.7000e-004	5.7000e-004		5.3000e-004	5.3000e-004	0.0000	1.1848	1.1848	3.7000e-004	0.0000	1.1941
Total	**1.0300e-003**	**0.0121**	**7.1700e-003**	**1.0000e-005**		**5.7000e-004**	**5.7000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**1.1848**	**1.1848**	**3.7000e-004**	**0.0000**	**1.1941**

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3.4 Building Construction - 2018

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	1.6000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0386	0.0386	0.0000	0.0000	0.0386
Vendor	1.0000e-005	3.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0625	0.0625	0.0000	0.0000	0.0626
Worker	4.0000e-005	3.0000e-005	3.5000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0789	0.0789	0.0000	0.0000	0.0790
Total	**5.0000e-005**	**5.0000e-004**	**4.6000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**2.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.1800**	**0.1800**	**0.0000**	**0.0000**	**0.1802**

3.5 Paving - 2018

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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3.5 Paving - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.5 Paving - 2018

Mitigated Construction Off-Site

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

3.6 Architectural Coating - 2018

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					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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3.6 Architectural Coating - 2018

Mitigated Construction Off-Site

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

3.7 Demolition - 2018

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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3.7 Demolition - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.7 Demolition - 2018

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.544547	0.044708	0.198656	0.126890	0.018261	0.005879	0.019662	0.030939	0.001958	0.002113	0.004656	0.000702	0.001029

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	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	3.0000e-005
Unmitigated	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	3.0000e-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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					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	3.0000e-005
Total	**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**	**3.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					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	3.0000e-005
Total	**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**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

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

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD

Air District, Annual

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PAR 1135 - SCR Catalyst Module Replacement (1) South Coast AQMD Air District, Summer

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	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2018
Utility Company	Pasadena Water & Power				
CO2 Intensity (lb/MWhr)	1664.14	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Summer

Project Characteristics -

Land Use -

Construction Phase - No demolition, site preparation, grading, paving, or architectural coating is expected as part of the proposed project.

Off-road Equipment - Off-Road Equipment - No Architectural Coating

Off-road Equipment - Off-Road Equipment - Building Construction - Cranes (1): 4 Hours Per Day; Forklifts (1): 4 Hours Per Day; Aerial Lifts (1): 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Demolition

Off-road Equipment - Off-Road Equipment - No Grading

Off-road Equipment - Off-Road Equipment - No Paving

Off-road Equipment - Off-Road Equipment - No Site Preparation

Trips and VMT - Trips and VMT - Building Construction - 3 Workers, 1 Vendor, 1 Haul

Architectural Coating - Architectural Coatings - No Architectural Coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	0.00	5.00
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/7/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblOffRoadEquipment	HorsePower	63.00	97.00
tblOffRoadEquipment	LoadFactor	0.31	0.37

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Summer

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00

tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	0.00	3.00

2.0 Emissions Summary

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Summer

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.4352	5.0451	3.0610	5.9800e-003	0.0434	0.2299	0.2733	0.0117	0.2115	0.2232	0.0000	604.0078	604.0078	0.1670	0.0000	608.1816
Maximum	**0.4352**	**5.0451**	**3.0610**	**5.9800e-003**	**0.0434**	**0.2299**	**0.2733**	**0.0117**	**0.2115**	**0.2232**	**0.0000**	**604.0078**	**604.0078**	**0.1670**	**0.0000**	**608.1816**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.4352	5.0451	3.0610	5.9800e-003	0.0434	0.2299	0.2733	0.0117	0.2115	0.2232	0.0000	604.0078	604.0078	0.1670	0.0000	608.1816
Maximum	**0.4352**	**5.0451**	**3.0610**	**5.9800e-003**	**0.0434**	**0.2299**	**0.2733**	**0.0117**	**0.2115**	**0.2232**	**0.0000**	**604.0078**	**604.0078**	**0.1670**	**0.0000**	**608.1816**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Summer

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/1/2018	12/1/2018	5	0	
2	Grading	Grading	12/1/2018	12/1/2018	5	0	
3	Building Construction	Building Construction	12/1/2018	12/7/2018	5	5	
4	Paving	Paving	12/1/2018	12/1/2018	5	0	
5	Architectural Coating	Architectural Coating	12/1/2018	12/1/2018	5	0	
6	Demolition	Demolition	12/2/2018	12/1/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Site Preparation	Graders	0	0.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Concrete/Industrial Saws	0	0.00	81	0.73
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Aerial Lifts	1	4.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	0	0.00	130	0.42
Paving	Rollers	0	0.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Summer

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
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	3.00	1.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

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

3.2 Site Preparation - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.2 Site Preparation - 2018

Mitigated Construction Off-Site

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

3.3 Grading - 2018

Unmitigated Construction On-Site

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

3.3 Grading - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.3 Grading - 2018

Mitigated Construction Off-Site

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

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4130	4.8508	2.8688	5.1900e-003		0.2285	0.2285		0.2102	0.2102		522.4257	522.4257	0.1626		526.4917
Total	**0.4130**	**4.8508**	**2.8688**	**5.1900e-003**		**0.2285**	**0.2285**		**0.2102**	**0.2102**		**522.4257**	**522.4257**	**0.1626**		**526.4917**

3.4 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7300e-003	0.0616	0.0114	1.6000e-004	3.4900e-003	2.4000e-004	3.7300e-003	9.6000e-004	2.3000e-004	1.1800e-003		17.1357	17.1357	1.1700e-003		17.1650
Vendor	4.2600e-003	0.1212	0.0302	2.6000e-004	6.4000e-003	8.9000e-004	7.2900e-003	1.8400e-003	8.5000e-004	2.6900e-003		27.8658	27.8658	1.9000e-003		27.9132
Worker	0.0162	0.0116	0.1505	3.7000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		36.5806	36.5806	1.2500e-003		36.6117
Total	**0.0222**	**0.1944**	**0.1921**	**7.9000e-004**	**0.0434**	**1.4000e-003**	**0.0448**	**0.0117**	**1.3300e-003**	**0.0130**		**81.5821**	**81.5821**	**4.3200e-003**		**81.6900**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4130	4.8508	2.8688	5.1900e-003		0.2285	0.2285		0.2102	0.2102	0.0000	522.4257	522.4257	0.1626		526.4916
Total	**0.4130**	**4.8508**	**2.8688**	**5.1900e-003**		**0.2285**	**0.2285**		**0.2102**	**0.2102**	**0.0000**	**522.4257**	**522.4257**	**0.1626**		**526.4916**

3.4 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7300e-003	0.0616	0.0114	1.6000e-004	3.4900e-003	2.4000e-004	3.7300e-003	9.6000e-004	2.3000e-004	1.1800e-003		17.1357	17.1357	1.1700e-003		17.1650
Vendor	4.2600e-003	0.1212	0.0302	2.6000e-004	6.4000e-003	8.9000e-004	7.2900e-003	1.8400e-003	8.5000e-004	2.6900e-003		27.8658	27.8658	1.9000e-003		27.9132
Worker	0.0162	0.0116	0.1505	3.7000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		36.5806	36.5806	1.2500e-003		36.6117
Total	**0.0222**	**0.1944**	**0.1921**	**7.9000e-004**	**0.0434**	**1.4000e-003**	**0.0448**	**0.0117**	**1.3300e-003**	**0.0130**		**81.5821**	**81.5821**	**4.3200e-003**		**81.6900**

3.5 Paving - 2018

Unmitigated Construction On-Site

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

3.5 Paving - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.5 Paving - 2018

Mitigated Construction Off-Site

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

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2018

Mitigated Construction Off-Site

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

3.7 Demolition - 2018

Unmitigated Construction On-Site

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

3.7 Demolition - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.7 Demolition - 2018

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.544547	0.044708	0.198656	0.126890	0.018261	0.005879	0.019662	0.030939	0.001958	0.002113	0.004656	0.000702	0.001029

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Winter

PAR 1135 - SCR Catalyst Module Replacement (1) South Coast AQMD Air District, Winter

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	0.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2018
Utility Company	Pasadena Water & Power				
CO2 Intensity (lb/MWhr)	1664.14	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Winter

Project Characteristics -

Land Use -

Construction Phase - No demolition, site preparation, grading, paving, or architectural coating is expected as part of the proposed project.

Off-road Equipment - Off-Road Equipment - No Architectural Coating

Off-road Equipment - Off-Road Equipment - Building Construction - Cranes (1): 4 Hours Per Day; Forklifts (1): 4 Hours Per Day; Aerial Lifts (1): 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Demolition

Off-road Equipment - Off-Road Equipment - No Grading

Off-road Equipment - Off-Road Equipment - No Paving

Off-road Equipment - Off-Road Equipment - No Site Preparation

Trips and VMT - Trips and VMT - Building Construction - 3 Workers, 1 Vendor, 1 Haul

Architectural Coating - Architectural Coatings - No Architectural Coatings

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	0.00	5.00
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/7/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	11/30/2018	12/1/2018
tblOffRoadEquipment	HorsePower	63.00	97.00
tblOffRoadEquipment	LoadFactor	0.31	0.37

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Winter

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00

tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	7.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	1.00
tblTripsAndVMT	VendorTripNumber	0.00	1.00
tblTripsAndVMT	WorkerTripNumber	0.00	3.00

2.0 Emissions Summary

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.4368	5.0473	3.0509	5.9400e-003	0.0434	0.2299	0.2733	0.0117	0.2116	0.2232	0.0000	600.5501	600.5501	0.1671	0.0000	604.7268
Maximum	**0.4368**	**5.0473**	**3.0509**	**5.9400e-003**	**0.0434**	**0.2299**	**0.2733**	**0.0117**	**0.2116**	**0.2232**	**0.0000**	**600.5501**	**600.5501**	**0.1671**	**0.0000**	**604.7268**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.4368	5.0473	3.0509	5.9400e-003	0.0434	0.2299	0.2733	0.0117	0.2116	0.2232	0.0000	600.5501	600.5501	0.1671	0.0000	604.7268
Maximum	**0.4368**	**5.0473**	**3.0509**	**5.9400e-003**	**0.0434**	**0.2299**	**0.2733**	**0.0117**	**0.2116**	**0.2232**	**0.0000**	**600.5501**	**600.5501**	**0.1671**	**0.0000**	**604.7268**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Winter

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/1/2018	12/1/2018	5	0	
2	Grading	Grading	12/1/2018	12/1/2018	5	0	
3	Building Construction	Building Construction	12/1/2018	12/7/2018	5	5	
4	Paving	Paving	12/1/2018	12/1/2018	5	0	
5	Architectural Coating	Architectural Coating	12/1/2018	12/1/2018	5	0	
6	Demolition	Demolition	12/2/2018	12/1/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Site Preparation	Graders	0	0.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Concrete/Industrial Saws	0	0.00	81	0.73
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Aerial Lifts	1	4.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Paving	Pavers	0	0.00	130	0.42
Paving	Rollers	0	0.00	80	0.38
Paving	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Architectural Coating	Air Compressors	0	0.00	78	0.48

Trips and VMT

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District, Winter

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
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	3	3.00	1.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2018

Unmitigated Construction On-Site

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

PAR 1135 - SCR Catalyst Module Replacement (1) - South Coast AQMD Air District,

Winter

3.2 Site Preparation - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.2 Site Preparation - 2018

Mitigated Construction Off-Site

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

3.3 Grading - 2018

Unmitigated Construction On-Site

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

3.3 Grading - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.3 Grading - 2018

Mitigated Construction Off-Site

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

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4130	4.8508	2.8688	5.1900e-003		0.2285	0.2285		0.2102	0.2102		522.4257	522.4257	0.1626		526.4917
Total	**0.4130**	**4.8508**	**2.8688**	**5.1900e-003**		**0.2285**	**0.2285**		**0.2102**	**0.2102**		**522.4257**	**522.4257**	**0.1626**		**526.4917**

3.4 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7900e-003	0.0624	0.0124	1.6000e-004	3.4900e-003	2.4000e-004	3.7400e-003	9.6000e-004	2.3000e-004	1.1900e-003		16.8284	16.8284	1.2300e-003		16.8590
Vendor	4.4400e-003	0.1214	0.0335	2.5000e-004	6.4000e-003	9.0000e-004	7.3000e-003	1.8400e-003	8.6000e-004	2.7000e-003		27.0756	27.0756	2.0400e-003		27.1266
Worker	0.0176	0.0127	0.1362	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.2204	34.2204	1.1700e-003		34.2496
Total	**0.0238**	**0.1965**	**0.1821**	**7.5000e-004**	**0.0434**	**1.4100e-003**	**0.0448**	**0.0117**	**1.3400e-003**	**0.0130**		**78.1244**	**78.1244**	**4.4400e-003**		**78.2352**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4130	4.8508	2.8688	5.1900e-003		0.2285	0.2285		0.2102	0.2102	0.0000	522.4257	522.4257	0.1626		526.4916
Total	**0.4130**	**4.8508**	**2.8688**	**5.1900e-003**		**0.2285**	**0.2285**		**0.2102**	**0.2102**	**0.0000**	**522.4257**	**522.4257**	**0.1626**		**526.4916**

3.4 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.7900e-003	0.0624	0.0124	1.6000e-004	3.4900e-003	2.4000e-004	3.7400e-003	9.6000e-004	2.3000e-004	1.1900e-003		16.8284	16.8284	1.2300e-003		16.8590
Vendor	4.4400e-003	0.1214	0.0335	2.5000e-004	6.4000e-003	9.0000e-004	7.3000e-003	1.8400e-003	8.6000e-004	2.7000e-003		27.0756	27.0756	2.0400e-003		27.1266
Worker	0.0176	0.0127	0.1362	3.4000e-004	0.0335	2.7000e-004	0.0338	8.8900e-003	2.5000e-004	9.1400e-003		34.2204	34.2204	1.1700e-003		34.2496
Total	**0.0238**	**0.1965**	**0.1821**	**7.5000e-004**	**0.0434**	**1.4100e-003**	**0.0448**	**0.0117**	**1.3400e-003**	**0.0130**		**78.1244**	**78.1244**	**4.4400e-003**		**78.2352**

3.5 Paving - 2018

Unmitigated Construction On-Site

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

3.5 Paving - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.5 Paving - 2018

Mitigated Construction Off-Site

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

3.6 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Architectural Coating - 2018

Mitigated Construction Off-Site

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

3.7 Demolition - 2018

Unmitigated Construction On-Site

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

3.7 Demolition - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.7 Demolition - 2018

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.544547	0.044708	0.198656	0.126890	0.018261	0.005879	0.019662	0.030939	0.001958	0.002113	0.004656	0.000702	0.001029

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**1.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B-2

CalEEMod Files And Assumptions

Remove One Engine and Install One New Engine at Facility 2

PAR 1135 - Diesel Internal Combustion Engine (1)

South Coast AQMD Air District, 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	0.00	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

Project Characteristics -

Land Use - User Defined Industrial

Construction Phase - Construction Phase - Diesel Internal Combustion Engine: 4 Days; Demolition: 1 Day; Paving 2 Days; Building Construction 2 Days

Off-road Equipment - Off-Road Equipment - Cranes (1): 7 Hours Per Day; Rubber Tired Loaders (2): 7 Hours Per Day; Forklifts (3): 7 Hours Per Day; Welders (1): 7 Hours Per Day; Generator Sets (1): 7 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Site Preparation

Off-road Equipment - Off-Road Equipment - No Grading

Off-road Equipment - Off-Road Equipment - Cranes (1): 7 Hours Per Day; Rubber Tired Loaders (2): 7 Hours Per Day; Forklifts (3): 7 Hours Per Day; Welders (1): 7 Hours Per Day; Generator Sets (1): 7 Hours Per Day

Off-road Equipment - Off-Road Equipment - Paver (1): 4 Hours Per Day; Paving Equipment (1): 4 Hours Per Day; Rollers (1): 2 Hours Per Day; Cement and Mortar Mixers (1): 3 Hours Per Day; Tractors/Loaders/Backhoes (1) 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Architectural Coating

Demolition - Demolition - 1,000 square feet

Trips and VMT - Trips And VMT - Demolition: 10 Worker Trips, 0 Vendor Trips, 5 Hauling Trips
Building Construction: 10 Worker Trips, 0 Vendor Trips, 5 Hauling Trips
Paving: 8 Worker Trips, 5 Vendor Trips, 0 Hausing Trips

Architectural Coating - Architectural Coating - No Architectural Coating

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	500.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,500.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	0.00	2.00
tblConstructionPhase	NumDays	0.00	1.00
tblConstructionPhase	NumDays	0.00	1.00

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

tblConstructionPhase	PhaseEndDate	7/31/2018	8/2/2018
tblConstructionPhase	PhaseEndDate	7/31/2018	8/1/2019
tblConstructionPhase	PhaseEndDate	7/31/2018	8/1/2018
tblConstructionPhase	PhaseStartDate	8/1/2018	8/1/2019
tblLandUse	LandUseSquareFeet	0.00	1,000.00
tblOffRoadEquipment	HorsePower	231.00	81.00
tblOffRoadEquipment	HorsePower	203.00	89.00
tblOffRoadEquipment	HorsePower	203.00	247.00
tblOffRoadEquipment	HorsePower	89.00	97.00
tblOffRoadEquipment	HorsePower	89.00	97.00
tblOffRoadEquipment	LoadFactor	0.29	0.73
tblOffRoadEquipment	LoadFactor	0.36	0.20
tblOffRoadEquipment	LoadFactor	0.36	0.40
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Cranes
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	4.00	7.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	30.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	8.00

2.0 Emissions Summary

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	3.5200e-003	0.0314	0.0235	4.0000e-005	2.1000e-004	2.0300e-003	2.2400e-003	6.0000e-005	1.8900e-003	1.9500e-003	0.0000	3.3784	3.3784	8.1000e-004	0.0000	3.3987
2019	2.1500e-003	0.0201	0.0137	3.0000e-005	5.9000e-004	1.1300e-003	1.7200e-003	1.0000e-004	1.0600e-003	1.1600e-003	0.0000	2.3234	2.3234	5.3000e-004	0.0000	2.3367
Maximum	**3.5200e-003**	**0.0314**	**0.0235**	**4.0000e-005**	**5.9000e-004**	**2.0300e-003**	**2.2400e-003**	**1.0000e-004**	**1.8900e-003**	**1.9500e-003**	**0.0000**	**3.3784**	**3.3784**	**8.1000e-004**	**0.0000**	**3.3987**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	3.5200e-003	0.0314	0.0235	4.0000e-005	2.1000e-004	2.0300e-003	2.2400e-003	6.0000e-005	1.8900e-003	1.9500e-003	0.0000	3.3784	3.3784	8.1000e-004	0.0000	3.3987
2019	2.1500e-003	0.0201	0.0137	3.0000e-005	5.9000e-004	1.1300e-003	1.7200e-003	1.0000e-004	1.0600e-003	1.1600e-003	0.0000	2.3234	2.3234	5.3000e-004	0.0000	2.3367
Maximum	**3.5200e-003**	**0.0314**	**0.0235**	**4.0000e-005**	**5.9000e-004**	**2.0300e-003**	**2.2400e-003**	**1.0000e-004**	**1.8900e-003**	**1.9500e-003**	**0.0000**	**3.3784**	**3.3784**	**8.1000e-004**	**0.0000**	**3.3987**

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

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-1-2018	10-31-2018	0.0249	0.0249
5	8-1-2019	9-30-2019	0.0159	0.0159
		Highest	0.0249	0.0249

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	4.0800e-003	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	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	**4.0800e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

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	4.0800e-003	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	3.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	**4.0800e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

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

3.0 Construction Detail

Construction Phase

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2019	8/1/2019	5	1	
2	Site Preparation	Site Preparation	8/1/2018	7/31/2018	5	0	
3	Grading	Grading	8/1/2018	7/31/2018	5	0	
4	Building Construction	Building Construction	8/1/2018	8/2/2018	5	2	
5	Paving	Paving	8/1/2018	8/1/2018	5	1	
6	Architectural Coating	Architectural Coating	8/1/2018	7/31/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	0.00	78	0.48
Paving	Cement and Mortar Mixers	1	3.00	9	0.56
Demolition	Cranes	1	7.00	81	0.73
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Rubber Tired Loaders	2	7.00	89	0.20
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	4.00	130	0.42
Paving	Rollers	1	2.00	80	0.38
Demolition	Rubber Tired Loaders	2	7.00	247	0.40
Grading	Rubber Tired Dozers	0	1.00	247	0.40
Building Construction	Forklifts	3	7.00	97	0.37
Demolition	Forklifts	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition	Welders	1	7.00	46	0.45
Demolition	Generator Sets	1	7.00	84	0.74
Building Construction	Welders	1	7.00	46	0.45
Building Construction	Generator Sets	1	7.00	84	0.74
Paving	Paving Equipment	1	4.00	132	0.36
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

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
Demolition	12	10.00	0.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	10.00	0.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	8.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

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					4.9000e-004	0.0000	4.9000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1000e-003	0.0193	0.0134	2.0000e-005		1.1200e-003	1.1200e-003		1.0500e-003	1.0500e-003	0.0000	2.0818	2.0818	5.2000e-004	0.0000	2.0948
Total	**2.1000e-003**	**0.0193**	**0.0134**	**2.0000e-005**	**4.9000e-004**	**1.1200e-003**	**1.6100e-003**	**7.0000e-005**	**1.0500e-003**	**1.1200e-003**	**0.0000**	**2.0818**	**2.0818**	**5.2000e-004**	**0.0000**	**2.0948**

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3.2 Demolition - 2019

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	2.0000e-005	7.5000e-004	1.4000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1906	0.1906	1.0000e-005	0.0000	0.1909
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	2.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0510	0.0510	0.0000	0.0000	0.0510
Total	**4.0000e-005**	**7.7000e-004**	**3.5000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**1.1000e-004**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.2416**	**0.2416**	**1.0000e-005**	**0.0000**	**0.2419**

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					4.9000e-004	0.0000	4.9000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1000e-003	0.0193	0.0134	2.0000e-005		1.1200e-003	1.1200e-003		1.0500e-003	1.0500e-003	0.0000	2.0818	2.0818	5.2000e-004	0.0000	2.0947
Total	**2.1000e-003**	**0.0193**	**0.0134**	**2.0000e-005**	**4.9000e-004**	**1.1200e-003**	**1.6100e-003**	**7.0000e-005**	**1.0500e-003**	**1.1200e-003**	**0.0000**	**2.0818**	**2.0818**	**5.2000e-004**	**0.0000**	**2.0947**

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3.2 Demolition - 2019

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	2.0000e-005	7.5000e-004	1.4000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1906	0.1906	1.0000e-005	0.0000	0.1909
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	2.1000e-004	0.0000	5.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0510	0.0510	0.0000	0.0000	0.0510
Total	**4.0000e-005**	**7.7000e-004**	**3.5000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**1.1000e-004**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.2416**	**0.2416**	**1.0000e-005**	**0.0000**	**0.2419**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

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3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

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

3.4 Grading - 2018

Unmitigated Construction On-Site

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

3.4 Grading - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

3.4 Grading - 2018

Mitigated Construction Off-Site

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

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.1600e-003	0.0276	0.0204	3.0000e-005		1.8700e-003	1.8700e-003		1.7500e-003	1.7500e-003	0.0000	2.6673	2.6673	6.9000e-004	0.0000	2.6846
Total	**3.1600e-003**	**0.0276**	**0.0204**	**3.0000e-005**		**1.8700e-003**	**1.8700e-003**		**1.7500e-003**	**1.7500e-003**	**0.0000**	**2.6673**	**2.6673**	**6.9000e-004**	**0.0000**	**2.6846**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

3.5 Building Construction - 2018

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	2.0000e-005	7.9000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1932
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.7000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1053	0.1053	0.0000	0.0000	0.1053
Total	**7.0000e-005**	**8.3000e-004**	**6.2000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.2981**	**0.2981**	**1.0000e-005**	**0.0000**	**0.2985**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.1600e-003	0.0276	0.0204	3.0000e-005		1.8700e-003	1.8700e-003		1.7500e-003	1.7500e-003	0.0000	2.6673	2.6673	6.9000e-004	0.0000	2.6846
Total	**3.1600e-003**	**0.0276**	**0.0204**	**3.0000e-005**		**1.8700e-003**	**1.8700e-003**		**1.7500e-003**	**1.7500e-003**	**0.0000**	**2.6673**	**2.6673**	**6.9000e-004**	**0.0000**	**2.6846**

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3.5 Building Construction - 2018

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	2.0000e-005	7.9000e-004	1.5000e-004	0.0000	4.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1929	0.1929	1.0000e-005	0.0000	0.1932
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.7000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1053	0.1053	0.0000	0.0000	0.1053
Total	**7.0000e-005**	**8.3000e-004**	**6.2000e-004**	**0.0000**	**1.5000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.2981**	**0.2981**	**1.0000e-005**	**0.0000**	**0.2985**

3.6 Paving - 2018

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	2.5000e-004	2.6000e-003	2.2400e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.3085	0.3085	9.0000e-005	0.0000	0.3108
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5000e-004**	**2.6000e-003**	**2.2400e-003**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.3085**	**0.3085**	**9.0000e-005**	**0.0000**	**0.3108**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

3.6 Paving - 2018

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	1.0000e-005	3.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0625	0.0625	0.0000	0.0000	0.0626
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0421	0.0421	0.0000	0.0000	0.0421
Total	**3.0000e-005**	**3.3000e-004**	**2.7000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**0.0000**	**0.0000**	**0.1047**

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	2.5000e-004	2.6000e-003	2.2400e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.3085	0.3085	9.0000e-005	0.0000	0.3108
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.5000e-004**	**2.6000e-003**	**2.2400e-003**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.3085**	**0.3085**	**9.0000e-005**	**0.0000**	**0.3108**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

3.6 Paving - 2018

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	1.0000e-005	3.1000e-004	8.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0625	0.0625	0.0000	0.0000	0.0626
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0421	0.0421	0.0000	0.0000	0.0421
Total	**3.0000e-005**	**3.3000e-004**	**2.7000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**1.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.1046**	**0.1046**	**0.0000**	**0.0000**	**0.1047**

3.7 Architectural Coating - 2018

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					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

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5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.0800e-003	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	3.0000e-005
Unmitigated	4.0800e-003	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	3.0000e-005

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6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6100e-003					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	3.0000e-005
Total	**4.0700e-003**	**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**	**3.0000e-005**

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	4.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6100e-003					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	3.0000e-005
Total	**4.0700e-003**	**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**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Annual

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PAR 1135 - Diesel Internal Combustion Engine (1)

South Coast AQMD Air District, Summer

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	0.00	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

Project Characteristics -

Land Use - User Defined Industrial

Construction Phase - Construction Phase - Diesel Internal Combustion Engine: 4 Days; Demolition: 1 Day; Paving 2 Days; Building Construction 2 Days

Off-road Equipment - Off-Road Equipment - Cranes (1): 7 Hours Per Day; Rubber Tired Loaders (2): 7 Hours Per Day; Forklifts (3): 7 Hours Per Day; Welders (1): 7 Hours Per Day; Generator Sets (1): 7 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Site Preparation

Off-road Equipment - Off-Road Equipment - No Grading

Off-road Equipment - Off-Road Equipment - Cranes (1): 7 Hours Per Day; Rubber Tired Loaders (2): 7 Hours Per Day; Forklifts (3): 7 Hours Per Day; Welders (1): 7 Hours Per Day; Generator Sets (1): 7 Hours Per Day

Off-road Equipment - Off-Road Equipment - Paver (1): 4 Hours Per Day; Paving Equipment (1): 4 Hours Per Day; Rollers (1): 2 Hours Per Day; Cement and Mortar Mixers (1): 3 Hours Per Day; Tractors/Loaders/Backhoes (1) 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Architectural Coating

Demolition - Demolition - 1,000 square feet

Trips and VMT - Trips And VMT - Demolition: 10 Worker Trips, 0 Vendor Trips, 5 Hauling Trips
Building Construction: 10 Worker Trips, 0 Vendor Trips, 5 Hauling Trips
Paving: 8 Worker Trips, 5 Vendor Trips, 0 Hausing Trips

Architectural Coating - Architectural Coating - No Architectural Coating

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	500.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,500.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	0.00	2.00
tblConstructionPhase	NumDays	0.00	1.00
tblConstructionPhase	NumDays	0.00	1.00

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

tblConstructionPhase	PhaseEndDate	7/31/2018	8/2/2018
tblConstructionPhase	PhaseEndDate	7/31/2018	8/1/2019
tblConstructionPhase	PhaseEndDate	7/31/2018	8/1/2018
tblConstructionPhase	PhaseStartDate	8/1/2018	8/1/2019
tblLandUse	LandUseSquareFeet	0.00	1,000.00
tblOffRoadEquipment	HorsePower	231.00	81.00
tblOffRoadEquipment	HorsePower	203.00	89.00
tblOffRoadEquipment	HorsePower	203.00	247.00
tblOffRoadEquipment	HorsePower	89.00	97.00
tblOffRoadEquipment	HorsePower	89.00	97.00
tblOffRoadEquipment	LoadFactor	0.29	0.73
tblOffRoadEquipment	LoadFactor	0.36	0.20
tblOffRoadEquipment	LoadFactor	0.36	0.40
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Cranes
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	4.00	7.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	30.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	8.00

2.0 Emissions Summary

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.8031	34.2743	26.0985	0.0423	0.2769	2.1756	2.4525	0.0745	2.0285	2.1031	0.0000	4,193.2878	4,193.2878	1.0027	0.0000	4,218.3540
2019	4.2916	40.1480	27.4429	0.0524	1.1835	2.2534	3.4369	0.2026	2.1144	2.3171	0.0000	5,131.1027	5,131.1027	1.1738	0.0000	5,160.4488
Maximum	**4.2916**	**40.1480**	**27.4429**	**0.0524**	**1.1835**	**2.2534**	**3.4369**	**0.2026**	**2.1144**	**2.3171**	**0.0000**	**5,131.1027**	**5,131.1027**	**1.1738**	**0.0000**	**5,160.4488**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.8031	34.2743	26.0985	0.0423	0.2769	2.1756	2.4525	0.0745	2.0285	2.1031	0.0000	4,193.2878	4,193.2878	1.0027	0.0000	4,218.3539
2019	4.2916	40.1480	27.4429	0.0524	1.1835	2.2534	3.4369	0.2026	2.1144	2.3171	0.0000	5,131.1027	5,131.1027	1.1738	0.0000	5,160.4488
Maximum	**4.2916**	**40.1480**	**27.4429**	**0.0524**	**1.1835**	**2.2534**	**3.4369**	**0.2026**	**2.1144**	**2.3171**	**0.0000**	**5,131.1027**	**5,131.1027**	**1.1738**	**0.0000**	**5,160.4488**

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2019	8/1/2019	5	1	
2	Site Preparation	Site Preparation	8/1/2018	7/31/2018	5	0	
3	Grading	Grading	8/1/2018	7/31/2018	5	0	
4	Building Construction	Building Construction	8/1/2018	8/2/2018	5	2	
5	Paving	Paving	8/1/2018	8/1/2018	5	1	
6	Architectural Coating	Architectural Coating	8/1/2018	7/31/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	0.00	78	0.48
Paving	Cement and Mortar Mixers	1	3.00	9	0.56
Demolition	Cranes	1	7.00	81	0.73
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Rubber Tired Loaders	2	7.00	89	0.20
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	4.00	130	0.42
Paving	Rollers	1	2.00	80	0.38
Demolition	Rubber Tired Loaders	2	7.00	247	0.40
Grading	Rubber Tired Dozers	0	1.00	247	0.40
Building Construction	Forklifts	3	7.00	97	0.37
Demolition	Forklifts	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition	Welders	1	7.00	46	0.45
Demolition	Generator Sets	1	7.00	84	0.74
Building Construction	Welders	1	7.00	46	0.45
Building Construction	Generator Sets	1	7.00	84	0.74
Paving	Paving Equipment	1	4.00	132	0.36
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

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
Demolition	12	10.00	0.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	10.00	0.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	8.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.9844	0.0000	0.9844	0.1490	0.0000	0.1490			0.0000			0.0000
Off-Road	4.2015	38.6583	26.7149	0.0473		2.2471	2.2471		2.1085	2.1085		4,589.5953	4,589.5953	1.1413		4,618.1268
Total	**4.2015**	**38.6583**	**26.7149**	**0.0473**	**0.9844**	**2.2471**	**3.2314**	**0.1490**	**2.1085**	**2.2575**		**4,589.5953**	**4,589.5953**	**1.1413**		**4,618.1268**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0411	1.4556	0.2786	3.9200e-003	0.0874	5.4000e-003	0.0928	0.0239	5.1700e-003	0.0291		423.4086	423.4086	0.0289		424.1307
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0490	0.0341	0.4493	1.1900e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		118.0989	118.0989	3.6900e-003		118.1912
Total	**0.0901**	**1.4897**	**0.7280**	**5.1100e-003**	**0.1992**	**6.2700e-003**	**0.2054**	**0.0536**	**5.9700e-003**	**0.0596**		**541.5075**	**541.5075**	**0.0326**		**542.3219**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.9844	0.0000	0.9844	0.1490	0.0000	0.1490			0.0000			0.0000
Off-Road	4.2015	38.6583	26.7149	0.0473		2.2471	2.2471		2.1085	2.1085	0.0000	4,589.5953	4,589.5953	1.1413		4,618.1268
Total	**4.2015**	**38.6583**	**26.7149**	**0.0473**	**0.9844**	**2.2471**	**3.2314**	**0.1490**	**2.1085**	**2.2575**	**0.0000**	**4,589.5953**	**4,589.5953**	**1.1413**		**4,618.1268**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0411	1.4556	0.2786	3.9200e-003	0.0874	5.4000e-003	0.0928	0.0239	5.1700e-003	0.0291		423.4086	423.4086	0.0289		424.1307
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0490	0.0341	0.4493	1.1900e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		118.0989	118.0989	3.6900e-003		118.1912
Total	**0.0901**	**1.4897**	**0.7280**	**5.1100e-003**	**0.1992**	**6.2700e-003**	**0.2054**	**0.0536**	**5.9700e-003**	**0.0596**		**541.5075**	**541.5075**	**0.0326**		**542.3219**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

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

3.4 Grading - 2018

Unmitigated Construction On-Site

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

3.4 Grading - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

3.4 Grading - 2018

Mitigated Construction Off-Site

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

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1632	27.6373	20.4199	0.0300		1.8728	1.8728		1.7492	1.7492		2,940.1920	2,940.1920	0.7632		2,959.2731
Total	**3.1632**	**27.6373**	**20.4199**	**0.0300**		**1.8728**	**1.8728**		**1.7492**	**1.7492**		**2,940.1920**	**2,940.1920**	**0.7632**		**2,959.2731**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0217	0.7698	0.1425	1.9900e-003	0.0437	2.9600e-003	0.0467	0.0120	2.8300e-003	0.0148		214.1966	214.1966	0.0147		214.5628
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.0756**	**0.8084**	**0.6443**	**3.2200e-003**	**0.1555**	**3.8500e-003**	**0.1593**	**0.0416**	**3.6500e-003**	**0.0453**		**336.1317**	**336.1317**	**0.0188**		**336.6019**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1632	27.6373	20.4199	0.0300		1.8728	1.8728		1.7492	1.7492	0.0000	2,940.1920	2,940.1920	0.7632		2,959.2731
Total	**3.1632**	**27.6373**	**20.4199**	**0.0300**		**1.8728**	**1.8728**		**1.7492**	**1.7492**	**0.0000**	**2,940.1920**	**2,940.1920**	**0.7632**		**2,959.2731**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0217	0.7698	0.1425	1.9900e-003	0.0437	2.9600e-003	0.0467	0.0120	2.8300e-003	0.0148		214.1966	214.1966	0.0147		214.5628
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.0756**	**0.8084**	**0.6443**	**3.2200e-003**	**0.1555**	**3.8500e-003**	**0.1593**	**0.0416**	**3.6500e-003**	**0.0453**		**336.1317**	**336.1317**	**0.0188**		**336.6019**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4999	5.1917	4.4820	6.8400e-003		0.2938	0.2938		0.2708	0.2708		680.0869	680.0869	0.2078		685.2816
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4999**	**5.1917**	**4.4820**	**6.8400e-003**		**0.2938**	**0.2938**		**0.2708**	**0.2708**		**680.0869**	**680.0869**	**0.2078**		**685.2816**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0213	0.6059	0.1509	1.3100e-003	0.0320	4.4300e-003	0.0364	9.2100e-003	4.2400e-003	0.0135		139.3290	139.3290	9.4800e-003		139.5661
Worker	0.0431	0.0309	0.4014	9.8000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		97.5481	97.5481	3.3300e-003		97.6313
Total	**0.0644**	**0.6368**	**0.5523**	**2.2900e-003**	**0.1214**	**5.1400e-003**	**0.1266**	**0.0329**	**4.9000e-003**	**0.0378**		**236.8772**	**236.8772**	**0.0128**		**237.1974**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4999	5.1917	4.4820	6.8400e-003		0.2938	0.2938		0.2708	0.2708	0.0000	680.0869	680.0869	0.2078		685.2816
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4999**	**5.1917**	**4.4820**	**6.8400e-003**		**0.2938**	**0.2938**		**0.2708**	**0.2708**	**0.0000**	**680.0869**	**680.0869**	**0.2078**		**685.2816**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0213	0.6059	0.1509	1.3100e-003	0.0320	4.4300e-003	0.0364	9.2100e-003	4.2400e-003	0.0135		139.3290	139.3290	9.4800e-003		139.5661
Worker	0.0431	0.0309	0.4014	9.8000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		97.5481	97.5481	3.3300e-003		97.6313
Total	**0.0644**	**0.6368**	**0.5523**	**2.2900e-003**	**0.1214**	**5.1400e-003**	**0.1266**	**0.0329**	**4.9000e-003**	**0.0378**		**236.8772**	**236.8772**	**0.0128**		**237.1974**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Summer

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0198					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0198					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PAR 1135 - Diesel Internal Combustion Engine (1)

South Coast AQMD Air District, Winter

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	0.00	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	9			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

Project Characteristics -

Land Use - User Defined Industrial

Construction Phase - Construction Phase - Diesel Internal Combustion Engine: 4 Days; Demolition: 1 Day; Paving 2 Days; Building Construction 2 Days

Off-road Equipment - Off-Road Equipment - Cranes (1): 7 Hours Per Day; Rubber Tired Loaders (2): 7 Hours Per Day; Forklifts (3): 7 Hours Per Day; Welders (1): 7 Hours Per Day; Generator Sets (1): 7 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Site Preparation

Off-road Equipment - Off-Road Equipment - No Grading

Off-road Equipment - Off-Road Equipment - Cranes (1): 7 Hours Per Day; Rubber Tired Loaders (2): 7 Hours Per Day; Forklifts (3): 7 Hours Per Day; Welders (1): 7 Hours Per Day; Generator Sets (1): 7 Hours Per Day

Off-road Equipment - Off-Road Equipment - Paver (1): 4 Hours Per Day; Paving Equipment (1): 4 Hours Per Day; Rollers (1): 2 Hours Per Day; Cement and Mortar Mixers (1): 3 Hours Per Day; Tractors/Loaders/Backhoes (1) 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Architectural Coating

Demolition - Demolition - 1,000 square feet

Trips and VMT - Trips And VMT - Demolition: 10 Worker Trips, 0 Vendor Trips, 5 Hauling Trips
Building Construction: 10 Worker Trips, 0 Vendor Trips, 5 Hauling Trips
Paving: 8 Worker Trips, 5 Vendor Trips, 0 Hausing Trips

Architectural Coating - Architectural Coating - No Architectural Coating

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	500.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,500.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	0.00	2.00
tblConstructionPhase	NumDays	0.00	1.00
tblConstructionPhase	NumDays	0.00	1.00

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

tblConstructionPhase	PhaseEndDate	7/31/2018	8/2/2018
tblConstructionPhase	PhaseEndDate	7/31/2018	8/1/2019
tblConstructionPhase	PhaseEndDate	7/31/2018	8/1/2018
tblConstructionPhase	PhaseStartDate	8/1/2018	8/1/2019
tblLandUse	LandUseSquareFeet	0.00	1,000.00
tblOffRoadEquipment	HorsePower	231.00	81.00
tblOffRoadEquipment	HorsePower	203.00	89.00
tblOffRoadEquipment	HorsePower	203.00	247.00
tblOffRoadEquipment	HorsePower	89.00	97.00
tblOffRoadEquipment	HorsePower	89.00	97.00
tblOffRoadEquipment	LoadFactor	0.29	0.73
tblOffRoadEquipment	LoadFactor	0.36	0.20
tblOffRoadEquipment	LoadFactor	0.36	0.40
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Cranes
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType		Generator Sets
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	4.00	7.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	7.00	2.00
tblOffRoadEquipment	UsageHours	6.00	7.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	VendorTripNumber	0.00	5.00
tblTripsAndVMT	WorkerTripNumber	30.00	10.00
tblTripsAndVMT	WorkerTripNumber	0.00	10.00
tblTripsAndVMT	WorkerTripNumber	13.00	8.00

2.0 Emissions Summary

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.8131	34.2927	26.0413	0.0421	0.2769	2.1757	2.4526	0.0745	2.0287	2.1032	0.0000	4,171.3337	4,171.3337	1.0036	0.0000	4,196.4225
2019	4.2971	40.1709	27.4217	0.0522	1.1835	2.2535	3.4370	0.2026	2.1145	2.3172	0.0000	5,115.7858	5,115.7858	1.1749	0.0000	5,145.1585
Maximum	**4.2971**	**40.1709**	**27.4217**	**0.0522**	**1.1835**	**2.2535**	**3.4370**	**0.2026**	**2.1145**	**2.3172**	**0.0000**	**5,115.7858**	**5,115.7858**	**1.1749**	**0.0000**	**5,145.1585**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.8131	34.2927	26.0413	0.0421	0.2769	2.1757	2.4526	0.0745	2.0287	2.1032	0.0000	4,171.3337	4,171.3337	1.0036	0.0000	4,196.4225
2019	4.2971	40.1709	27.4217	0.0522	1.1835	2.2535	3.4370	0.2026	2.1145	2.3172	0.0000	5,115.7858	5,115.7858	1.1749	0.0000	5,145.1585
Maximum	**4.2971**	**40.1709**	**27.4217**	**0.0522**	**1.1835**	**2.2535**	**3.4370**	**0.2026**	**2.1145**	**2.3172**	**0.0000**	**5,115.7858**	**5,115.7858**	**1.1749**	**0.0000**	**5,145.1585**

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**0.0000**	**2.3000e-004**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/1/2019	8/1/2019	5	1	
2	Site Preparation	Site Preparation	8/1/2018	7/31/2018	5	0	
3	Grading	Grading	8/1/2018	7/31/2018	5	0	
4	Building Construction	Building Construction	8/1/2018	8/2/2018	5	2	
5	Paving	Paving	8/1/2018	8/1/2018	5	1	
6	Architectural Coating	Architectural Coating	8/1/2018	7/31/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	0	0.00	78	0.48
Paving	Cement and Mortar Mixers	1	3.00	9	0.56
Demolition	Cranes	1	7.00	81	0.73
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Rubber Tired Loaders	2	7.00	89	0.20
Site Preparation	Graders	0	8.00	187	0.41
Paving	Pavers	1	4.00	130	0.42
Paving	Rollers	1	2.00	80	0.38
Demolition	Rubber Tired Loaders	2	7.00	247	0.40
Grading	Rubber Tired Dozers	0	1.00	247	0.40
Building Construction	Forklifts	3	7.00	97	0.37
Demolition	Forklifts	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	0	6.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Demolition	Welders	1	7.00	46	0.45
Demolition	Generator Sets	1	7.00	84	0.74
Building Construction	Welders	1	7.00	46	0.45
Building Construction	Generator Sets	1	7.00	84	0.74
Paving	Paving Equipment	1	4.00	132	0.36
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37

Trips and VMT

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

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
Demolition	12	10.00	0.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	10.00	0.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	8.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.9844	0.0000	0.9844	0.1490	0.0000	0.1490			0.0000			0.0000
Off-Road	4.2015	38.6583	26.7149	0.0473		2.2471	2.2471		2.1085	2.1085		4,589.5953	4,589.5953	1.1413		4,618.1268
Total	**4.2015**	**38.6583**	**26.7149**	**0.0473**	**0.9844**	**2.2471**	**3.2314**	**0.1490**	**2.1085**	**2.2575**		**4,589.5953**	**4,589.5953**	**1.1413**		**4,618.1268**

3.2 Demolition - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0423	1.4752	0.3014	3.8500e-003	0.0874	5.5000e-003	0.0929	0.0239	5.2600e-003	0.0292		415.7250	415.7250	0.0302		416.4798
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0533	0.0373	0.4054	1.1100e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		110.4656	110.4656	3.4500e-003		110.5519
Total	**0.0956**	**1.5125**	**0.7068**	**4.9600e-003**	**0.1992**	**6.3700e-003**	**0.2055**	**0.0536**	**6.0600e-003**	**0.0597**		**526.1906**	**526.1906**	**0.0336**		**527.0316**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.9844	0.0000	0.9844	0.1490	0.0000	0.1490			0.0000			0.0000
Off-Road	4.2015	38.6583	26.7149	0.0473		2.2471	2.2471		2.1085	2.1085	0.0000	4,589.5953	4,589.5953	1.1413		4,618.1268
Total	**4.2015**	**38.6583**	**26.7149**	**0.0473**	**0.9844**	**2.2471**	**3.2314**	**0.1490**	**2.1085**	**2.2575**	**0.0000**	**4,589.5953**	**4,589.5953**	**1.1413**		**4,618.1268**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

3.2 Demolition - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0423	1.4752	0.3014	3.8500e-003	0.0874	5.5000e-003	0.0929	0.0239	5.2600e-003	0.0292		415.7250	415.7250	0.0302		416.4798
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0533	0.0373	0.4054	1.1100e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		110.4656	110.4656	3.4500e-003		110.5519
Total	**0.0956**	**1.5125**	**0.7068**	**4.9600e-003**	**0.1992**	**6.3700e-003**	**0.2055**	**0.0536**	**6.0600e-003**	**0.0597**		**526.1906**	**526.1906**	**0.0336**		**527.0316**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

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

3.4 Grading - 2018

Unmitigated Construction On-Site

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

3.4 Grading - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

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

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

3.4 Grading - 2018

Mitigated Construction Off-Site

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

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1632	27.6373	20.4199	0.0300		1.8728	1.8728		1.7492	1.7492		2,940.1920	2,940.1920	0.7632		2,959.2731
Total	**3.1632**	**27.6373**	**20.4199**	**0.0300**		**1.8728**	**1.8728**		**1.7492**	**1.7492**		**2,940.1920**	**2,940.1920**	**0.7632**		**2,959.2731**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

3.5 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0223	0.7805	0.1546	1.9500e-003	0.0437	3.0200e-003	0.0467	0.0120	2.8900e-003	0.0149		210.3543	210.3543	0.0153		210.7375
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.0809**	**0.8228**	**0.6087**	**3.1000e-003**	**0.1555**	**3.9100e-003**	**0.1594**	**0.0416**	**3.7100e-003**	**0.0453**		**324.4222**	**324.4222**	**0.0192**		**324.9027**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1632	27.6373	20.4199	0.0300		1.8728	1.8728		1.7492	1.7492	0.0000	2,940.1920	2,940.1920	0.7632		2,959.2731
Total	**3.1632**	**27.6373**	**20.4199**	**0.0300**		**1.8728**	**1.8728**		**1.7492**	**1.7492**	**0.0000**	**2,940.1920**	**2,940.1920**	**0.7632**		**2,959.2731**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

3.5 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0223	0.7805	0.1546	1.9500e-003	0.0437	3.0200e-003	0.0467	0.0120	2.8900e-003	0.0149		210.3543	210.3543	0.0153		210.7375
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.0809**	**0.8228**	**0.6087**	**3.1000e-003**	**0.1555**	**3.9100e-003**	**0.1594**	**0.0416**	**3.7100e-003**	**0.0453**		**324.4222**	**324.4222**	**0.0192**		**324.9027**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4999	5.1917	4.4820	6.8400e-003		0.2938	0.2938		0.2708	0.2708		680.0869	680.0869	0.2078		685.2816
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4999**	**5.1917**	**4.4820**	**6.8400e-003**		**0.2938**	**0.2938**		**0.2708**	**0.2708**		**680.0869**	**680.0869**	**0.2078**		**685.2816**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0222	0.6069	0.1675	1.2700e-003	0.0320	4.5000e-003	0.0365	9.2100e-003	4.3000e-003	0.0135		135.3782	135.3782	0.0102		135.6329
Worker	0.0469	0.0339	0.3633	9.2000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		91.2543	91.2543	3.1100e-003		91.3322
Total	**0.0691**	**0.6408**	**0.5308**	**2.1900e-003**	**0.1214**	**5.2100e-003**	**0.1266**	**0.0329**	**4.9600e-003**	**0.0379**		**226.6326**	**226.6326**	**0.0133**		**226.9651**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4999	5.1917	4.4820	6.8400e-003		0.2938	0.2938		0.2708	0.2708	0.0000	680.0869	680.0869	0.2078		685.2816
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.4999**	**5.1917**	**4.4820**	**6.8400e-003**		**0.2938**	**0.2938**		**0.2708**	**0.2708**	**0.0000**	**680.0869**	**680.0869**	**0.2078**		**685.2816**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0222	0.6069	0.1675	1.2700e-003	0.0320	4.5000e-003	0.0365	9.2100e-003	4.3000e-003	0.0135		135.3782	135.3782	0.0102		135.6329
Worker	0.0469	0.0339	0.3633	9.2000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		91.2543	91.2543	3.1100e-003		91.3322
Total	**0.0691**	**0.6408**	**0.5308**	**2.1900e-003**	**0.1214**	**5.2100e-003**	**0.1266**	**0.0329**	**4.9600e-003**	**0.0379**		**226.6326**	**226.6326**	**0.0133**		**226.9651**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

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

4.2 Trip Summary Information

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

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

5.0 Energy Detail

Historical Energy Use: N

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

5.1 Mitigation Measures Energy

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

PAR 1135 - Diesel Internal Combustion Engine (1) - South Coast AQMD Air District, Winter

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0198					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0198					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B-3

CalEEMod Files And Assumptions

Remove Three Boilers and Install Three New Turbines, Three New SCR Units, and One New Aqueous Ammonia Storage Tank at Facility 3

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

PAR 1135 - Boiler (3) to Turbine (3) Repower

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	0.02	15,000.00	0
Other Asphalt Surfaces	1.00	1000sqft	0.02	85,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2021
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	1115.33	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

Project Characteristics -

Land Use - Land Use - Most building footprints are occupied by non-populated structures, such as turbines, ammonia tanks, etc.

Construction Phase - Estimated Construction Schedule.

Off-road Equipment - Off-Road Equipment - Air Compressors (1): 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - Demolition: Cranes (1): 3 Hours Per Day; Excavators (2): 3 Hours Per Day; Forklifts (2): 2 Hours Per Day; Other General Industrial Equipment (2): 2 Hour Per Day; Graders (1): 1 Hour Per Day; Rollers (1): 1 Hour Per Day; Rubber Tired Dozers (2): 2 Hours Per Day; Tractors/Loaders/Backhoes (2): 4 Hours Per Day; Tractors/Loaders/Backhoes (2): 2 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Site Preparation

Off-road Equipment - Off-Road Equipment - Grading: Excavators (2): 3 Hours Per Day; Graders (1): 4 Hours Per Day; Rollers (1): 4 Hours Per Day; Tractors/Loaders/Backhoes (1): 4 Hours Per Day; Tractors/Loaders/Backhoes (2): 3 Hours Per Day; Rubber Tired Dozers (1): 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - Const.: Welders (1): 4 Hours/Day; Tract/Load/Back (1): 1 Hour/Day; Rubber Tired Loaders (2): 2 Hours/Day; Cranes (2): 3 Hours/Day; Cranes (2): 1 Hour/Day; Welders (1): 4 Hours/Day; Tract/Load/Back (2): 1 Hours/Day; Rubber Tired Loaders (1): 2 Hours/Day; Rollers (1): 1 Hour/Day; Excavators (2): 1 Hour/Day; Cranes (2): 1 Hour/Day; Rollers (1): 1 Hour/Day

Off-road Equipment - Off-Road Equipment - Paving: Aerial Lifts (1): 1 Hour Per Day; Cranes (1): 4 Hours Per Day; Forklifts (1): 3 Hours Per Day; Pavers (2): 5 Hours Per Day; Paving Equipment (2): 5 Hours Per Day; Rollers (2): 5 Hours Per Day

Grading - No Site Preparation, Acres of Grading (4)

Demolition -

Trips and VMT - Worker, Vendor, Haul Trips Estimated Based on FIER Grayson Repowering Project and modified for compliance with PAR 1135.

Architectural Coating - Architectural Coating Estimated.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	7,500.00	36,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	22,500.00	12,000.00
tblArchitecturalCoating	ConstArea_Parking	5,100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	10.00	150.00
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	NumDays	2.00	30.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

tblConstructionPhase	NumDays	100.00	300.00
tblConstructionPhase	NumDays	5.00	14.00
tblConstructionPhase	NumDays	5.00	14.00
tblConstructionPhase	PhaseEndDate	12/14/2018	6/28/2019
tblConstructionPhase	PhaseEndDate	12/17/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	12/19/2018	8/9/2019
tblConstructionPhase	PhaseEndDate	5/8/2019	10/23/2020
tblConstructionPhase	PhaseEndDate	5/15/2019	12/18/2020
tblConstructionPhase	PhaseEndDate	5/22/2019	11/19/2020
tblConstructionPhase	PhaseStartDate	12/15/2018	12/1/2018
tblConstructionPhase	PhaseStartDate	12/18/2018	7/1/2019
tblConstructionPhase	PhaseStartDate	12/20/2018	9/1/2019
tblConstructionPhase	PhaseStartDate	5/9/2019	12/1/2020
tblConstructionPhase	PhaseStartDate	5/16/2019	11/1/2020
tblGrading	AcresOfGrading	7.50	4.00
tblGrading	MaterialMoistureContentBulldozing	7.90	0.00
tblGrading	MaterialMoistureContentTruckLoading	12.00	0.00
tblGrading	MaterialSiltContent	6.90	0.00
tblGrading	MeanVehicleSpeed	7.10	0.00
tblLandUse	LandUseSquareFeet	1,000.00	15,000.00
tblLandUse	LandUseSquareFeet	1,000.00	85,000.00
tblOffRoadEquipment	HorsePower	63.00	9.00
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	HorsePower	46.00	35.00
tblOffRoadEquipment	HorsePower	97.00	79.00
tblOffRoadEquipment	HorsePower	78.00	0.00
tblOffRoadEquipment	HorsePower	203.00	147.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

tblOffRoadEquipment	HorsePower	187.00	0.00
tblOffRoadEquipment	HorsePower	231.00	130.00
tblOffRoadEquipment	HorsePower	89.00	80.00
tblOffRoadEquipment	HorsePower	158.00	247.00
tblOffRoadEquipment	HorsePower	187.00	247.00
tblOffRoadEquipment	HorsePower	231.00	97.00
tblOffRoadEquipment	HorsePower	231.00	250.00
tblOffRoadEquipment	HorsePower	89.00	97.00
tblOffRoadEquipment	HorsePower	88.00	97.00
tblOffRoadEquipment	HorsePower	80.00	97.00
tblOffRoadEquipment	HorsePower	97.00	200.00
tblOffRoadEquipment	HorsePower	130.00	97.00
tblOffRoadEquipment	HorsePower	97.00	0.00
tblOffRoadEquipment	HorsePower	97.00	200.00
tblOffRoadEquipment	HorsePower	46.00	38.00
tblOffRoadEquipment	HorsePower	78.00	0.00
tblOffRoadEquipment	HorsePower	203.00	140.00
tblOffRoadEquipment	HorsePower	158.00	99.00
tblOffRoadEquipment	HorsePower	231.00	500.00
tblOffRoadEquipment	HorsePower	80.00	65.00
tblOffRoadEquipment	HorsePower	172.00	350.00
tblOffRoadEquipment	LoadFactor	0.31	0.56
tblOffRoadEquipment	LoadFactor	0.29	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.45	0.29
tblOffRoadEquipment	LoadFactor	0.37	0.29
tblOffRoadEquipment	LoadFactor	0.48	0.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

tblOffRoadEquipment	LoadFactor	0.36	0.20
tblOffRoadEquipment	LoadFactor	0.41	0.00
tblOffRoadEquipment	LoadFactor	0.29	0.42
tblOffRoadEquipment	LoadFactor	0.20	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.40
tblOffRoadEquipment	LoadFactor	0.41	0.40
tblOffRoadEquipment	LoadFactor	0.29	0.37
tblOffRoadEquipment	LoadFactor	0.29	0.37
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.34	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.42	0.37
tblOffRoadEquipment	LoadFactor	0.37	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.48	0.00
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Other General Industrial Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Graders
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Welders
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Cement and Mortar Mixers	Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Pavers	Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Rollers	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	3.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	3.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	1.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblTripsAndVMT	HaulingTripNumber	318.00	4,200.00
tblTripsAndVMT	HaulingTripNumber	0.00	3,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	3,700.00
tblTripsAndVMT	HaulingTripNumber	0.00	220.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	16.00	8.00

tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	40.00	68.00
tblTripsAndVMT	WorkerTripNumber	23.00	15.00
tblTripsAndVMT	WorkerTripNumber	42.00	200.00
tblTripsAndVMT	WorkerTripNumber	35.00	10.00
tblTripsAndVMT	WorkerTripNumber	8.00	4.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0398	0.4526	0.2341	7.1000e-004	0.0413	0.0183	0.0596	9.9900e-003	0.0171	0.0271	0.0000	65.6991	65.6991	0.0114	0.0000	65.9839
2019	0.3954	4.3015	2.6155	8.2100e-003	0.3132	0.1618	0.4751	0.0926	0.1508	0.2433	0.0000	760.7670	760.7670	0.1152	0.0000	763.6478
2020	0.4080	2.3225	2.2733	5.8700e-003	0.2717	0.1013	0.3730	0.0724	0.0938	0.1662	0.0000	531.9443	531.9443	0.0741	0.0000	533.7958
Maximum	**0.4080**	**4.3015**	**2.6155**	**8.2100e-003**	**0.3132**	**0.1618**	**0.4751**	**0.0926**	**0.1508**	**0.2433**	**0.0000**	**760.7670**	**760.7670**	**0.1152**	**0.0000**	**763.6478**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0398	0.4526	0.2341	7.1000e-004	0.0413	0.0183	0.0596	9.9900e-003	0.0171	0.0271	0.0000	65.6990	65.6990	0.0114	0.0000	65.9839
2019	0.3954	4.3015	2.6155	8.2100e-003	0.3132	0.1618	0.4751	0.0926	0.1508	0.2433	0.0000	760.7666	760.7666	0.1152	0.0000	763.6474
2020	0.4080	2.3225	2.2733	5.8700e-003	0.2717	0.1013	0.3730	0.0724	0.0938	0.1662	0.0000	531.9441	531.9441	0.0741	0.0000	533.7955
Maximum	**0.4080**	**4.3015**	**2.6155**	**8.2100e-003**	**0.3132**	**0.1618**	**0.4751**	**0.0926**	**0.1508**	**0.2433**	**0.0000**	**760.7666**	**760.7666**	**0.1152**	**0.0000**	**763.6474**

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**12-1-2018**	**2-28-2019**	1.4240	1.4240
2	**3-1-2019**	**5-31-2019**	1.4095	1.4095
3	**6-1-2019**	**8-31-2019**	1.1951	1.1951
4	**9-1-2019**	**11-30-2019**	0.8164	0.8164
5	**12-1-2019**	**2-29-2020**	0.7734	0.7734
6	**3-1-2020**	**5-31-2020**	0.7543	0.7543
7	**6-1-2020**	**8-31-2020**	0.7522	0.7522
8	**9-1-2020**	**9-30-2020**	0.2453	0.2453
		Highest	1.4240	1.4240

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	0.0678	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	1.4600e-003	0.0133	0.0112	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	98.7215	98.7215	2.4700e-003	7.2000e-004	98.9974
Mobile	1.8900e-003	0.0111	0.0285	1.1000e-004	8.8600e-003	9.0000e-005	8.9400e-003	2.3700e-003	8.0000e-005	2.4500e-003	0.0000	9.8824	9.8824	4.7000e-004	0.0000	9.8941
Waste						0.0000	0.0000		0.0000	0.0000	0.2517	0.0000	0.2517	0.0149	0.0000	0.6236
Water						0.0000	0.0000		0.0000	0.0000	0.0734	1.5233	1.5967	7.5700e-003	1.9000e-004	1.8415
Total	**0.0712**	**0.0244**	**0.0397**	**1.9000e-004**	**8.8600e-003**	**1.1000e-003**	**9.9500e-003**	**2.3700e-003**	**1.0900e-003**	**3.4600e-003**	**0.3251**	**110.1272**	**110.4523**	**0.0254**	**9.1000e-004**	**111.3567**

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	0.0678	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	1.4600e-003	0.0133	0.0112	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	98.7215	98.7215	2.4700e-003	7.2000e-004	98.9974
Mobile	1.8900e-003	0.0111	0.0285	1.1000e-004	8.8600e-003	9.0000e-005	8.9400e-003	2.3700e-003	8.0000e-005	2.4500e-003	0.0000	9.8824	9.8824	4.7000e-004	0.0000	9.8941
Waste						0.0000	0.0000		0.0000	0.0000	0.2517	0.0000	0.2517	0.0149	0.0000	0.6236
Water						0.0000	0.0000		0.0000	0.0000	0.0734	1.5233	1.5967	7.5700e-003	1.9000e-004	1.8415
Total	**0.0712**	**0.0244**	**0.0397**	**1.9000e-004**	**8.8600e-003**	**1.1000e-003**	**9.9500e-003**	**2.3700e-003**	**1.0900e-003**	**3.4600e-003**	**0.3251**	**110.1272**	**110.4523**	**0.0254**	**9.1000e-004**	**111.3567**

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

3.0 Construction Detail

Construction Phase

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2018	6/28/2019	5	150	Demolition of affected existing power generating units
2	Site Preparation	Site Preparation	12/1/2018	12/1/2018	5	0	No site preparation activity
3	Grading	Grading	7/1/2019	8/9/2019	5	30	Grading Activity
4	Building Construction	Building Construction	9/1/2019	10/23/2020	5	300	Include site mobilzation, equipment, electric conduit, cable
5	Paving	Paving	12/1/2020	12/18/2020	5	14	Paving activity occurs during the commissioning period
6	Architectural Coating	Architectural Coating	11/1/2020	11/19/2020	5	14	Coating Activity is estimated

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.02

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 12,000; Non-Residential Outdoor: 36,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Cranes	1	3.00	231	0.73
Demolition	Graders	1	1.00	187	0.41
Demolition	Rollers	1	1.00	80	0.38
Demolition	Rubber Tired Dozers	2	3.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Demolition	Excavators	2	3.00	247	0.40
Demolition	Forklifts	2	2.00	97	0.37
Demolition	Other General Industrial Equipment	2	2.00	97	0.37
Site Preparation	Graders	0	0.00	0	0.00
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	0	0.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

Grading	Excavators	2	3.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	2	3.00	200	0.37
Grading	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Grading	Graders	1	4.00	247	0.40
Grading	Rollers	1	4.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	4.00	200	0.37
Grading	Rubber Tired Dozers	1	4.00	247	0.40
Building Construction	Welders	1	4.00	35	0.29
Building Construction	Tractors/Loaders/Backhoes	1	1.00	79	0.29
Building Construction	Air Compressors	0	0.00	0	0.00
Building Construction	Welders	1	4.00	38	0.45
Building Construction	Rubber Tired Loaders	2	2.00	147	0.20
Building Construction	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Building Construction	Air Compressors	0	0.00	0	0.00
Building Construction	Rubber Tired Loaders	1	2.00	140	0.36
Building Construction	Rollers	1	1.00	80	0.38
Building Construction	Cranes	2	3.00	97	0.37
Building Construction	Cranes	2	1.00	250	0.37
Building Construction	Excavators	2	1.00	99	0.38
Paving	Aerial Lifts	1	1.00	9	0.56
Building Construction	Cranes	2	1.00	500	0.29
Building Construction	Rollers	1	1.00	65	0.38
Paving	Cranes	1	4.00	130	0.42
Building Construction	Other Construction Equipment	2	1.00	350	0.42
Paving	Forklifts	1	3.00	80	0.38
Paving	Pavers	2	5.00	97	0.37
Architectural Coating	Air Compressors	1	4.00	78	0.48

Paving	Paving Equipment	2	5.00	132	0.36
Paving	Rollers	2	5.00	80	0.38
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Forklifts	2	6.00	89	0.20
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	16	68.00	3.00	4,200.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	15.00	0.00	3,000.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	22	200.00	8.00	3,700.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	14	10.00	3.00	220.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

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					4.8200e-003	0.0000	4.8200e-003	7.3000e-004	0.0000	7.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0333	0.3521	0.1824	3.8000e-004		0.0179	0.0179		0.0167	0.0167	0.0000	34.7180	34.7180	9.4900e-003	0.0000	34.9552
Total	**0.0333**	**0.3521**	**0.1824**	**3.8000e-004**	**4.8200e-003**	**0.0179**	**0.0227**	**7.3000e-004**	**0.0167**	**0.0174**	**0.0000**	**34.7180**	**34.7180**	**9.4900e-003**	**0.0000**	**34.9552**

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	2.5800e-003	0.0935	0.0174	2.3000e-004	0.0284	3.5000e-004	0.0288	7.1200e-003	3.4000e-004	7.4600e-003	0.0000	22.6794	22.6794	1.5900e-003	0.0000	22.7193
Vendor	1.4000e-004	3.8900e-003	1.0000e-003	1.0000e-005	2.0000e-004	3.0000e-005	2.3000e-004	6.0000e-005	3.0000e-005	8.0000e-005	0.0000	0.7868	0.7868	6.0000e-005	0.0000	0.7882
Worker	3.7900e-003	3.1000e-003	0.0333	8.0000e-005	7.8300e-003	6.0000e-005	7.9000e-003	2.0800e-003	6.0000e-005	2.1400e-003	0.0000	7.5149	7.5149	2.6000e-004	0.0000	7.5213
Total	**6.5100e-003**	**0.1004**	**0.0517**	**3.2000e-004**	**0.0365**	**4.4000e-004**	**0.0369**	**9.2600e-003**	**4.3000e-004**	**9.6800e-003**	**0.0000**	**30.9811**	**30.9811**	**1.9100e-003**	**0.0000**	**31.0288**

3.2 Demolition - 2018

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					4.8200e-003	0.0000	4.8200e-003	7.3000e-004	0.0000	7.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0333	0.3521	0.1824	3.8000e-004		0.0179	0.0179		0.0167	0.0167	0.0000	34.7180	34.7180	9.4900e-003	0.0000	34.9552
Total	**0.0333**	**0.3521**	**0.1824**	**3.8000e-004**	**4.8200e-003**	**0.0179**	**0.0227**	**7.3000e-004**	**0.0167**	**0.0174**	**0.0000**	**34.7180**	**34.7180**	**9.4900e-003**	**0.0000**	**34.9552**

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	2.5800e-003	0.0935	0.0174	2.3000e-004	0.0284	3.5000e-004	0.0288	7.1200e-003	3.4000e-004	7.4600e-003	0.0000	22.6794	22.6794	1.5900e-003	0.0000	22.7193
Vendor	1.4000e-004	3.8900e-003	1.0000e-003	1.0000e-005	2.0000e-004	3.0000e-005	2.3000e-004	6.0000e-005	3.0000e-005	8.0000e-005	0.0000	0.7868	0.7868	6.0000e-005	0.0000	0.7882
Worker	3.7900e-003	3.1000e-003	0.0333	8.0000e-005	7.8300e-003	6.0000e-005	7.9000e-003	2.0800e-003	6.0000e-005	2.1400e-003	0.0000	7.5149	7.5149	2.6000e-004	0.0000	7.5213
Total	**6.5100e-003**	**0.1004**	**0.0517**	**3.2000e-004**	**0.0365**	**4.4000e-004**	**0.0369**	**9.2600e-003**	**4.3000e-004**	**9.6800e-003**	**0.0000**	**30.9811**	**30.9811**	**1.9100e-003**	**0.0000**	**31.0288**

3.2 Demolition - 2019

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					0.0296	0.0000	0.0296	4.4900e-003	0.0000	4.4900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1879	1.9755	1.0921	2.3600e-003		0.0981	0.0981		0.0914	0.0914	0.0000	210.3119	210.3119	0.0580	0.0000	211.7621
Total	**0.1879**	**1.9755**	**1.0921**	**2.3600e-003**	**0.0296**	**0.0981**	**0.1277**	**4.4900e-003**	**0.0914**	**0.0959**	**0.0000**	**210.3119**	**210.3119**	**0.0580**	**0.0000**	**211.7621**

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	0.0150	0.5425	0.1042	1.4100e-003	0.0349	1.9700e-003	0.0368	9.4600e-003	1.8800e-003	0.0113	0.0000	137.6830	137.6830	9.6500e-003	0.0000	137.9243
Vendor	7.6000e-004	0.0226	5.6600e-003	5.0000e-005	1.2200e-003	1.5000e-004	1.3700e-003	3.5000e-004	1.4000e-004	4.9000e-004	0.0000	4.7905	4.7905	3.3000e-004	0.0000	4.7988
Worker	0.0212	0.0168	0.1829	4.9000e-004	0.0481	3.8000e-004	0.0485	0.0128	3.5000e-004	0.0131	0.0000	44.7062	44.7062	1.4000e-003	0.0000	44.7411
Total	**0.0370**	**0.5819**	**0.2928**	**1.9500e-003**	**0.0842**	**2.5000e-003**	**0.0867**	**0.0226**	**2.3700e-003**	**0.0250**	**0.0000**	**187.1797**	**187.1797**	**0.0114**	**0.0000**	**187.4642**

3.2 Demolition - 2019

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					0.0296	0.0000	0.0296	4.4900e-003	0.0000	4.4900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1879	1.9755	1.0921	2.3600e-003		0.0981	0.0981		0.0914	0.0914	0.0000	210.3116	210.3116	0.0580	0.0000	211.7618
Total	**0.1879**	**1.9755**	**1.0921**	**2.3600e-003**	**0.0296**	**0.0981**	**0.1277**	**4.4900e-003**	**0.0914**	**0.0959**	**0.0000**	**210.3116**	**210.3116**	**0.0580**	**0.0000**	**211.7618**

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	0.0150	0.5425	0.1042	1.4100e-003	0.0349	1.9700e-003	0.0368	9.4600e-003	1.8800e-003	0.0113	0.0000	137.6830	137.6830	9.6500e-003	0.0000	137.9243
Vendor	7.6000e-004	0.0226	5.6600e-003	5.0000e-005	1.2200e-003	1.5000e-004	1.3700e-003	3.5000e-004	1.4000e-004	4.9000e-004	0.0000	4.7905	4.7905	3.3000e-004	0.0000	4.7988
Worker	0.0212	0.0168	0.1829	4.9000e-004	0.0481	3.8000e-004	0.0485	0.0128	3.5000e-004	0.0131	0.0000	44.7062	44.7062	1.4000e-003	0.0000	44.7411
Total	**0.0370**	**0.5819**	**0.2928**	**1.9500e-003**	**0.0842**	**2.5000e-003**	**0.0867**	**0.0226**	**2.3700e-003**	**0.0250**	**0.0000**	**187.1797**	**187.1797**	**0.0114**	**0.0000**	**187.4642**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

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

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

3.3 Site Preparation - 2018

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.4 Grading - 2019

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					0.0473	0.0000	0.0473	0.0251	0.0000	0.0251	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0309	0.3233	0.2010	3.8000e-004		0.0164	0.0164		0.0153	0.0153	0.0000	34.0925	34.0925	8.8000e-003	0.0000	34.3126
Total	**0.0309**	**0.3233**	**0.2010**	**3.8000e-004**	**0.0473**	**0.0164**	**0.0637**	**0.0251**	**0.0153**	**0.0404**	**0.0000**	**34.0925**	**34.0925**	**8.8000e-003**	**0.0000**	**34.3126**

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	0.0125	0.4506	0.0866	1.1700e-003	0.0258	1.6300e-003	0.0274	7.0800e-003	1.5600e-003	8.6400e-003	0.0000	114.3547	114.3547	8.0200e-003	0.0000	114.5551
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0900e-003	8.6000e-004	9.3800e-003	3.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.2934	2.2934	7.0000e-005	0.0000	2.2952
Total	**0.0136**	**0.4514**	**0.0960**	**1.2000e-003**	**0.0283**	**1.6500e-003**	**0.0299**	**7.7400e-003**	**1.5800e-003**	**9.3100e-003**	**0.0000**	**116.6481**	**116.6481**	**8.0900e-003**	**0.0000**	**116.8503**

3.4 Grading - 2019

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					0.0473	0.0000	0.0473	0.0251	0.0000	0.0251	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0309	0.3233	0.2010	3.8000e-004		0.0164	0.0164		0.0153	0.0153	0.0000	34.0925	34.0925	8.8000e-003	0.0000	34.3125
Total	**0.0309**	**0.3233**	**0.2010**	**3.8000e-004**	**0.0473**	**0.0164**	**0.0637**	**0.0251**	**0.0153**	**0.0404**	**0.0000**	**34.0925**	**34.0925**	**8.8000e-003**	**0.0000**	**34.3125**

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	0.0125	0.4506	0.0866	1.1700e-003	0.0258	1.6300e-003	0.0274	7.0800e-003	1.5600e-003	8.6400e-003	0.0000	114.3547	114.3547	8.0200e-003	0.0000	114.5551
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0900e-003	8.6000e-004	9.3800e-003	3.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.6000e-004	2.0000e-005	6.7000e-004	0.0000	2.2934	2.2934	7.0000e-005	0.0000	2.2952
Total	**0.0136**	**0.4514**	**0.0960**	**1.2000e-003**	**0.0283**	**1.6500e-003**	**0.0299**	**7.7400e-003**	**1.5800e-003**	**9.3100e-003**	**0.0000**	**116.6481**	**116.6481**	**8.0900e-003**	**0.0000**	**116.8503**

3.5 Building Construction - 2019

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	0.0783	0.7344	0.5298	8.4000e-004		0.0416	0.0416		0.0385	0.0385	0.0000	74.3401	74.3401	0.0227	0.0000	74.9080
Total	**0.0783**	**0.7344**	**0.5298**	**8.4000e-004**		**0.0416**	**0.0416**		**0.0385**	**0.0385**	**0.0000**	**74.3401**	**74.3401**	**0.0227**	**0.0000**	**74.9080**

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	4.4600e-003	0.1612	0.0310	4.2000e-004	0.0262	5.8000e-004	0.0268	6.7000e-003	5.6000e-004	7.2600e-003	0.0000	40.9009	40.9009	2.8700e-003	0.0000	40.9725
Vendor	1.3700e-003	0.0406	0.0102	9.0000e-005	2.1900e-003	2.7000e-004	2.4600e-003	6.3000e-004	2.5000e-004	8.9000e-004	0.0000	8.6155	8.6155	6.0000e-004	0.0000	8.6304
Worker	0.0420	0.0334	0.3627	9.8000e-004	0.0955	7.6000e-004	0.0962	0.0254	7.0000e-004	0.0261	0.0000	88.6784	88.6784	2.7700e-003	0.0000	88.7477
Total	**0.0479**	**0.2351**	**0.4039**	**1.4900e-003**	**0.1239**	**1.6100e-003**	**0.1255**	**0.0327**	**1.5100e-003**	**0.0342**	**0.0000**	**138.1947**	**138.1947**	**6.2400e-003**	**0.0000**	**138.3506**

3.5 Building Construction - 2019

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	0.0783	0.7344	0.5298	8.4000e-004		0.0416	0.0416		0.0385	0.0385	0.0000	74.3401	74.3401	0.0227	0.0000	74.9080
Total	**0.0783**	**0.7344**	**0.5298**	**8.4000e-004**		**0.0416**	**0.0416**		**0.0385**	**0.0385**	**0.0000**	**74.3401**	**74.3401**	**0.0227**	**0.0000**	**74.9080**

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	4.4600e-003	0.1612	0.0310	4.2000e-004	0.0262	5.8000e-004	0.0268	6.7000e-003	5.6000e-004	7.2600e-003	0.0000	40.9009	40.9009	2.8700e-003	0.0000	40.9725
Vendor	1.3700e-003	0.0406	0.0102	9.0000e-005	2.1900e-003	2.7000e-004	2.4600e-003	6.3000e-004	2.5000e-004	8.9000e-004	0.0000	8.6155	8.6155	6.0000e-004	0.0000	8.6304
Worker	0.0420	0.0334	0.3627	9.8000e-004	0.0955	7.6000e-004	0.0962	0.0254	7.0000e-004	0.0261	0.0000	88.6784	88.6784	2.7700e-003	0.0000	88.7477
Total	**0.0479**	**0.2351**	**0.4039**	**1.4900e-003**	**0.1239**	**1.6100e-003**	**0.1255**	**0.0327**	**1.5100e-003**	**0.0342**	**0.0000**	**138.1947**	**138.1947**	**6.2400e-003**	**0.0000**	**138.3506**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1751	1.6424	1.2554	2.0600e-003		0.0908	0.0908		0.0841	0.0841	0.0000	178.3523	178.3523	0.0554	0.0000	179.7364
Total	**0.1751**	**1.6424**	**1.2554**	**2.0600e-003**		**0.0908**	**0.0908**		**0.0841**	**0.0841**	**0.0000**	**178.3523**	**178.3523**	**0.0554**	**0.0000**	**179.7364**

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	0.0101	0.3686	0.0735	1.0100e-003	0.0295	1.1600e-003	0.0307	7.9000e-003	1.1100e-003	9.0100e-003	0.0000	99.1220	99.1220	6.8300e-003	0.0000	99.2927
Vendor	2.8500e-003	0.0909	0.0225	2.2000e-004	5.3700e-003	4.5000e-004	5.8200e-003	1.5500e-003	4.3000e-004	1.9800e-003	0.0000	20.9551	20.9551	1.3800e-003	0.0000	20.9895
Worker	0.0951	0.0729	0.8067	2.3300e-003	0.2337	1.8100e-003	0.2355	0.0621	1.6600e-003	0.0637	0.0000	210.3729	210.3729	6.0400e-003	0.0000	210.5238
Total	**0.1080**	**0.5324**	**0.9027**	**3.5600e-003**	**0.2686**	**3.4200e-003**	**0.2720**	**0.0715**	**3.2000e-003**	**0.0747**	**0.0000**	**330.4499**	**330.4499**	**0.0143**	**0.0000**	**330.8060**

3.5 Building Construction - 2020

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	0.1751	1.6424	1.2554	2.0600e-003		0.0908	0.0908		0.0841	0.0841	0.0000	178.3521	178.3521	0.0554	0.0000	179.7362
Total	**0.1751**	**1.6424**	**1.2554**	**2.0600e-003**		**0.0908**	**0.0908**		**0.0841**	**0.0841**	**0.0000**	**178.3521**	**178.3521**	**0.0554**	**0.0000**	**179.7362**

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	0.0101	0.3686	0.0735	1.0100e-003	0.0295	1.1600e-003	0.0307	7.9000e-003	1.1100e-003	9.0100e-003	0.0000	99.1220	99.1220	6.8300e-003	0.0000	99.2927
Vendor	2.8500e-003	0.0909	0.0225	2.2000e-004	5.3700e-003	4.5000e-004	5.8200e-003	1.5500e-003	4.3000e-004	1.9800e-003	0.0000	20.9551	20.9551	1.3800e-003	0.0000	20.9895
Worker	0.0951	0.0729	0.8067	2.3300e-003	0.2337	1.8100e-003	0.2355	0.0621	1.6600e-003	0.0637	0.0000	210.3729	210.3729	6.0400e-003	0.0000	210.5238
Total	**0.1080**	**0.5324**	**0.9027**	**3.5600e-003**	**0.2686**	**3.4200e-003**	**0.2720**	**0.0715**	**3.2000e-003**	**0.0747**	**0.0000**	**330.4499**	**330.4499**	**0.0143**	**0.0000**	**330.8060**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0112	0.1064	0.0962	1.4000e-004		6.4300e-003	6.4300e-003		5.9400e-003	5.9400e-003	0.0000	12.1651	12.1651	3.7200e-003	0.0000	12.2582
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0112**	**0.1064**	**0.0962**	**1.4000e-004**		**6.4300e-003**	**6.4300e-003**		**5.9400e-003**	**5.9400e-003**	**0.0000**	**12.1651**	**12.1651**	**3.7200e-003**	**0.0000**	**12.2582**

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	8.5000e-004	0.0309	6.1600e-003	8.0000e-005	1.8900e-003	1.0000e-004	1.9900e-003	5.2000e-004	9.0000e-005	6.1000e-004	0.0000	8.3010	8.3010	5.7000e-004	0.0000	8.3153
Vendor	7.0000e-005	2.2400e-003	5.6000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5165	0.5165	3.0000e-005	0.0000	0.5174
Worker	3.1000e-004	2.4000e-004	2.6500e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6914	0.6914	2.0000e-005	0.0000	0.6919
Total	**1.2300e-003**	**0.0334**	**9.3700e-003**	**1.0000e-004**	**2.7900e-003**	**1.2000e-004**	**2.9000e-003**	**7.6000e-004**	**1.1000e-004**	**8.7000e-004**	**0.0000**	**9.5089**	**9.5089**	**6.2000e-004**	**0.0000**	**9.5246**

3.6 Paving - 2020

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	0.0112	0.1064	0.0962	1.4000e-004		6.4300e-003	6.4300e-003		5.9400e-003	5.9400e-003	0.0000	12.1651	12.1651	3.7200e-003	0.0000	12.2582
Paving	3.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0112**	**0.1064**	**0.0962**	**1.4000e-004**		**6.4300e-003**	**6.4300e-003**		**5.9400e-003**	**5.9400e-003**	**0.0000**	**12.1651**	**12.1651**	**3.7200e-003**	**0.0000**	**12.2582**

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	8.5000e-004	0.0309	6.1600e-003	8.0000e-005	1.8900e-003	1.0000e-004	1.9900e-003	5.2000e-004	9.0000e-005	6.1000e-004	0.0000	8.3010	8.3010	5.7000e-004	0.0000	8.3153
Vendor	7.0000e-005	2.2400e-003	5.6000e-004	1.0000e-005	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	0.5165	0.5165	3.0000e-005	0.0000	0.5174
Worker	3.1000e-004	2.4000e-004	2.6500e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6914	0.6914	2.0000e-005	0.0000	0.6919
Total	**1.2300e-003**	**0.0334**	**9.3700e-003**	**1.0000e-004**	**2.7900e-003**	**1.2000e-004**	**2.9000e-003**	**7.6000e-004**	**1.1000e-004**	**8.7000e-004**	**0.0000**	**9.5089**	**9.5089**	**6.2000e-004**	**0.0000**	**9.5246**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1112					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	7.8600e-003	8.5500e-003	1.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.1915	1.1915	9.0000e-005	0.0000	1.1938
Total	**0.1124**	**7.8600e-003**	**8.5500e-003**	**1.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**1.1915**	**1.1915**	**9.0000e-005**	**0.0000**	**1.1938**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	1.0000e-004	1.0600e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2766	0.2766	1.0000e-005	0.0000	0.2767
Total	**1.2000e-004**	**1.0000e-004**	**1.0600e-003**	**0.0000**	**3.1000e-004**	**0.0000**	**3.1000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2766**	**0.2766**	**1.0000e-005**	**0.0000**	**0.2767**

3.7 Architectural Coating - 2020

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					
Archit. Coating	0.1112					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.1300e-003	7.8600e-003	8.5500e-003	1.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.1915	1.1915	9.0000e-005	0.0000	1.1938
Total	**0.1124**	**7.8600e-003**	**8.5500e-003**	**1.0000e-005**		**5.2000e-004**	**5.2000e-004**		**5.2000e-004**	**5.2000e-004**	**0.0000**	**1.1915**	**1.1915**	**9.0000e-005**	**0.0000**	**1.1938**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	1.0000e-004	1.0600e-003	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2766	0.2766	1.0000e-005	0.0000	0.2767
Total	**1.2000e-004**	**1.0000e-004**	**1.0600e-003**	**0.0000**	**3.1000e-004**	**0.0000**	**3.1000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2766**	**0.2766**	**1.0000e-005**	**0.0000**	**0.2767**

4.0 Operational Detail - Mobile

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

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	1.8900e-003	0.0111	0.0285	1.1000e-004	8.8600e-003	9.0000e-005	8.9400e-003	2.3700e-003	8.0000e-005	2.4500e-003	0.0000	9.8824	9.8824	4.7000e-004	0.0000	9.8941
Unmitigated	1.8900e-003	0.0111	0.0285	1.1000e-004	8.8600e-003	9.0000e-005	8.9400e-003	2.3700e-003	8.0000e-005	2.4500e-003	0.0000	9.8824	9.8824	4.7000e-004	0.0000	9.8941

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	6.97	1.32	0.68	23,312	23,312
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	6.97	1.32	0.68	23,312	23,312

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925
Other Asphalt Surfaces	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	84.2332	84.2332	2.1900e-003	4.5000e-004	84.4230
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	84.2332	84.2332	2.1900e-003	4.5000e-004	84.4230
NaturalGas Mitigated	1.4600e-003	0.0133	0.0112	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	14.4883	14.4883	2.8000e-004	2.7000e-004	14.5744
NaturalGas Unmitigated	1.4600e-003	0.0133	0.0112	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	14.4883	14.4883	2.8000e-004	2.7000e-004	14.5744

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	271500	1.4600e-003	0.0133	0.0112	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	14.4883	14.4883	2.8000e-004	2.7000e-004	14.5744
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.4600e-003**	**0.0133**	**0.0112**	**8.0000e-005**		**1.0100e-003**	**1.0100e-003**		**1.0100e-003**	**1.0100e-003**	**0.0000**	**14.4883**	**14.4883**	**2.8000e-004**	**2.7000e-004**	**14.5744**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	271500	1.4600e-003	0.0133	0.0112	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	14.4883	14.4883	2.8000e-004	2.7000e-004	14.5744
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**1.4600e-003**	**0.0133**	**0.0112**	**8.0000e-005**		**1.0100e-003**	**1.0100e-003**		**1.0100e-003**	**1.0100e-003**	**0.0000**	**14.4883**	**14.4883**	**2.8000e-004**	**2.7000e-004**	**14.5744**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	166500	84.2332	2.1900e-003	4.5000e-004	84.4230
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**84.2332**	**2.1900e-003**	**4.5000e-004**	**84.4230**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	166500	84.2332	2.1900e-003	4.5000e-004	84.4230
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**84.2332**	**2.1900e-003**	**4.5000e-004**	**84.4230**

6.0 Area Detail

6.1 Mitigation Measures Area

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Annual

	ROG	NOx	CO	SO2	Fugitive 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	0.0678	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Unmitigated	0.0678	0.0000	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-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	8.1300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0597					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	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total	**0.0678**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**5.0000e-005**

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	8.1300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0597					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	3.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Total	**0.0678**	**0.0000**	**3.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**5.0000e-005**	**5.0000e-005**	**0.0000**	**0.0000**	**5.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.5967	7.5700e-003	1.9000e-004	1.8415
Unmitigated	1.5967	7.5700e-003	1.9000e-004	1.8415

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0.23125 / 0	1.5967	7.5700e-003	1.9000e-004	1.8415
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**1.5967**	**7.5700e-003**	**1.9000e-004**	**1.8415**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0.23125 / 0	1.5967	7.5700e-003	1.9000e-004	1.8415
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**1.5967**	**7.5700e-003**	**1.9000e-004**	**1.8415**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2517	0.0149	0.0000	0.6236
Unmitigated	0.2517	0.0149	0.0000	0.6236

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	1.24	0.2517	0.0149	0.0000	0.6236
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.2517**	**0.0149**	**0.0000**	**0.6236**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	1.24	0.2517	0.0149	0.0000	0.6236
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.2517**	**0.0149**	**0.0000**	**0.6236**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PAR 1135 - Boiler (3) to Turbine (3) Repower

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	0.02	15,000.00	0
Other Asphalt Surfaces	1.00	1000sqft	0.02	85,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2021
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	1115.33	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Summer

Project Characteristics -

Land Use - Land Use - Most building footprints are occupied by non-populated structures, such as turbines, ammonia tanks, etc.

Construction Phase - Estimated Construction Schedule.

Off-road Equipment - Off-Road Equipment - Air Compressors (1): 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - Demolition: Cranes (1): 3 Hours Per Day; Excavators (2): 3 Hours Per Day; Forklifts (2): 2 Hours Per Day; Other General Industrial Equipment (2): 2 Hour Per Day; Graders (1): 1 Hour Per Day; Rollers (1): 1 Hour Per Day; Rubber Tired Dozers (2): 2 Hours Per Day; Tractors/Loaders/Backhoes (2): 4 Hours Per Day; Tractors/Loaders/Backhoes (2): 2 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Site Preparation

Off-road Equipment - Off-Road Equipment - Grading: Excavators (2): 3 Hours Per Day; Graders (1): 4 Hours Per Day; Rollers (1): 4 Hours Per Day; Tractors/Loaders/Backhoes (1): 4 Hours Per Day; Tractors/Loaders/Backhoes (2): 3 Hours Per Day; Rubber Tired Dozers (1): 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - Const.: Welders (1): 4 Hours/Day; Tract/Load/Back (1): 1 Hour/Day; Rubber Tired Loaders (2): 2 Hours/Day; Cranes (2): 3 Hours/Day; Cranes (2): 1 Hour/Day; Welders (1): 4 Hours/Day; Tract/Load/Back (2): 1 Hours/Day; Rubber Tired Loaders (1): 2 Hours/Day; Rollers (1): 1 Hour/Day; Excavators (2): 1 Hour/Day; Cranes (2): 1 Hour/Day; Rollers (1): 1 Hour/Day

Off-road Equipment - Off-Road Equipment - Paving: Aerial Lifts (1): 1 Hour Per Day; Cranes (1): 4 Hours Per Day; Forklifts (1): 3 Hours Per Day; Pavers (2): 5 Hours Per Day; Paving Equipment (2): 5 Hours Per Day; Rollers (2): 5 Hours Per Day

Grading - No Site Preparation, Acres of Grading (4)

Demolition -

Trips and VMT - Worker, Vendor, Haul Trips Estimated Based on FIER Grayson Repowering Project and modified for compliance with PAR 1135.

Architectural Coating - Architectural Coating Estimated.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	7,500.00	36,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	22,500.00	12,000.00
tblArchitecturalCoating	ConstArea_Parking	5,100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	10.00	150.00
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	NumDays	2.00	30.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Summer

tblConstructionPhase	NumDays	100.00	300.00
tblConstructionPhase	NumDays	5.00	14.00
tblConstructionPhase	NumDays	5.00	14.00
tblConstructionPhase	PhaseEndDate	12/14/2018	6/28/2019
tblConstructionPhase	PhaseEndDate	12/17/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	12/19/2018	8/9/2019
tblConstructionPhase	PhaseEndDate	5/8/2019	10/23/2020
tblConstructionPhase	PhaseEndDate	5/15/2019	12/18/2020
tblConstructionPhase	PhaseEndDate	5/22/2019	11/19/2020
tblConstructionPhase	PhaseStartDate	12/15/2018	12/1/2018
tblConstructionPhase	PhaseStartDate	12/18/2018	7/1/2019
tblConstructionPhase	PhaseStartDate	12/20/2018	9/1/2019
tblConstructionPhase	PhaseStartDate	5/9/2019	12/1/2020
tblConstructionPhase	PhaseStartDate	5/16/2019	11/1/2020
tblGrading	AcresOfGrading	7.50	4.00
tblGrading	MaterialMoistureContentBulldozing	7.90	0.00
tblGrading	MaterialMoistureContentTruckLoading	12.00	0.00
tblGrading	MaterialSiltContent	6.90	0.00
tblGrading	MeanVehicleSpeed	7.10	0.00
tblLandUse	LandUseSquareFeet	1,000.00	15,000.00
tblLandUse	LandUseSquareFeet	1,000.00	85,000.00
tblOffRoadEquipment	HorsePower	63.00	9.00
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	HorsePower	46.00	35.00
tblOffRoadEquipment	HorsePower	97.00	79.00
tblOffRoadEquipment	HorsePower	78.00	0.00
tblOffRoadEquipment	HorsePower	203.00	147.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Summer

tblOffRoadEquipment	HorsePower	187.00	0.00
tblOffRoadEquipment	HorsePower	231.00	130.00
tblOffRoadEquipment	HorsePower	89.00	80.00
tblOffRoadEquipment	HorsePower	158.00	247.00
tblOffRoadEquipment	HorsePower	187.00	247.00
tblOffRoadEquipment	HorsePower	231.00	97.00
tblOffRoadEquipment	HorsePower	231.00	250.00
tblOffRoadEquipment	HorsePower	89.00	97.00
tblOffRoadEquipment	HorsePower	88.00	97.00
tblOffRoadEquipment	HorsePower	80.00	97.00
tblOffRoadEquipment	HorsePower	97.00	200.00
tblOffRoadEquipment	HorsePower	130.00	97.00
tblOffRoadEquipment	HorsePower	97.00	0.00
tblOffRoadEquipment	HorsePower	97.00	200.00
tblOffRoadEquipment	HorsePower	46.00	38.00
tblOffRoadEquipment	HorsePower	78.00	0.00
tblOffRoadEquipment	HorsePower	203.00	140.00
tblOffRoadEquipment	HorsePower	158.00	99.00
tblOffRoadEquipment	HorsePower	231.00	500.00
tblOffRoadEquipment	HorsePower	80.00	65.00
tblOffRoadEquipment	HorsePower	172.00	350.00
tblOffRoadEquipment	LoadFactor	0.31	0.56
tblOffRoadEquipment	LoadFactor	0.29	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.45	0.29
tblOffRoadEquipment	LoadFactor	0.37	0.29
tblOffRoadEquipment	LoadFactor	0.48	0.00

tblOffRoadEquipment	LoadFactor	0.36	0.20
tblOffRoadEquipment	LoadFactor	0.41	0.00
tblOffRoadEquipment	LoadFactor	0.29	0.42
tblOffRoadEquipment	LoadFactor	0.20	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.40
tblOffRoadEquipment	LoadFactor	0.41	0.40
tblOffRoadEquipment	LoadFactor	0.29	0.37
tblOffRoadEquipment	LoadFactor	0.29	0.37
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.34	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.42	0.37
tblOffRoadEquipment	LoadFactor	0.37	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.48	0.00
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Other General Industrial Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Summer

tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Graders
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Welders
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Cement and Mortar Mixers	Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Pavers	Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Rollers	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Summer

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	3.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	3.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	1.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblTripsAndVMT	HaulingTripNumber	318.00	4,200.00
tblTripsAndVMT	HaulingTripNumber	0.00	3,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	3,700.00
tblTripsAndVMT	HaulingTripNumber	0.00	220.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	16.00	8.00

tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	40.00	68.00
tblTripsAndVMT	WorkerTripNumber	23.00	15.00
tblTripsAndVMT	WorkerTripNumber	42.00	200.00
tblTripsAndVMT	WorkerTripNumber	35.00	10.00
tblTripsAndVMT	WorkerTripNumber	8.00	4.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.7912	42.7850	22.4733	0.0679	4.0020	1.7451	5.7471	0.9689	1.6282	2.5971	0.0000	6,956.5235	6,956.5235	1.1941	0.0000	6,986.3756
2019	3.4871	50.7148	22.0752	0.1058	5.0676	1.5593	6.2681	2.1938	1.4542	3.3206	0.0000	11,150.6892	11,150.6892	1.2301	0.0000	11,181.4415
2020	16.0710	20.2255	20.8319	0.0539	2.5689	0.9341	3.4537	0.6830	0.8634	1.5023	0.0000	5,388.3400	5,388.3400	0.7220	0.0000	5,406.3907
Maximum	**16.0710**	**50.7148**	**22.4733**	**0.1058**	**5.0676**	**1.7451**	**6.2681**	**2.1938**	**1.6282**	**3.3206**	**0.0000**	**11,150.6892**	**11,150.6892**	**1.2301**	**0.0000**	**11,181.4415**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.7912	42.7850	22.4733	0.0679	4.0020	1.7451	5.7471	0.9689	1.6282	2.5971	0.0000	6,956.5235	6,956.5235	1.1941	0.0000	6,986.3756
2019	3.4871	50.7148	22.0752	0.1058	5.0676	1.5593	6.2681	2.1938	1.4542	3.3206	0.0000	11,150.6892	11,150.6892	1.2301	0.0000	11,181.4415
2020	16.0710	20.2255	20.8319	0.0539	2.5689	0.9341	3.4537	0.6830	0.8634	1.5023	0.0000	5,388.3400	5,388.3400	0.7220	0.0000	5,406.3907
Maximum	**16.0710**	**50.7148**	**22.4733**	**0.1058**	**5.0676**	**1.7451**	**6.2681**	**2.1938**	**1.6282**	**3.3206**	**0.0000**	**11,150.6892**	**11,150.6892**	**1.2301**	**0.0000**	**11,181.4415**

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Summer

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3717	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301
Mobile	0.0147	0.0770	0.2196	8.1000e-004	0.0656	6.3000e-004	0.0663	0.0176	5.9000e-004	0.0182		82.4797	82.4797	3.8100e-003		82.5749
Total	**0.3944**	**0.1499**	**0.2811**	**1.2500e-003**	**0.0656**	**6.1700e-003**	**0.0718**	**0.0176**	**6.1300e-003**	**0.0237**		**169.9902**	**169.9902**	**5.4900e-003**	**1.6000e-003**	**170.6055**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3717	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301
Mobile	0.0147	0.0770	0.2196	8.1000e-004	0.0656	6.3000e-004	0.0663	0.0176	5.9000e-004	0.0182		82.4797	82.4797	3.8100e-003		82.5749
Total	**0.3944**	**0.1499**	**0.2811**	**1.2500e-003**	**0.0656**	**6.1700e-003**	**0.0718**	**0.0176**	**6.1300e-003**	**0.0237**		**169.9902**	**169.9902**	**5.4900e-003**	**1.6000e-003**	**170.6055**

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Summer

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2018	6/28/2019	5	150	Demolition of affected existing power generating units
2	Site Preparation	Site Preparation	12/1/2018	12/1/2018	5	0	No site preparation activity
3	Grading	Grading	7/1/2019	8/9/2019	5	30	Grading Activity
4	Building Construction	Building Construction	9/1/2019	10/23/2020	5	300	Include site mobilzation, equipment, electric conduit, cable
5	Paving	Paving	12/1/2020	12/18/2020	5	14	Paving activity occurs during the commissioning period
6	Architectural Coating	Architectural Coating	11/1/2020	11/19/2020	5	14	Coating Activity is estimated

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.02

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 12,000; Non-Residential Outdoor: 36,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Cranes	1	3.00	231	0.73
Demolition	Graders	1	1.00	187	0.41
Demolition	Rollers	1	1.00	80	0.38

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Summer

Demolition	Rubber Tired Dozers	2	3.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Demolition	Excavators	2	3.00	247	0.40
Demolition	Forklifts	2	2.00	97	0.37
Demolition	Other General Industrial Equipment	2	2.00	97	0.37
Site Preparation	Graders	0	0.00	0	0.00
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	0	0.00
Grading	Excavators	2	3.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	2	3.00	200	0.37
Grading	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Grading	Graders	1	4.00	247	0.40
Grading	Rollers	1	4.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	4.00	200	0.37
Grading	Rubber Tired Dozers	1	4.00	247	0.40
Building Construction	Welders	1	4.00	35	0.29
Building Construction	Tractors/Loaders/Backhoes	1	1.00	79	0.29
Building Construction	Air Compressors	0	0.00	0	0.00
Building Construction	Welders	1	4.00	38	0.45
Building Construction	Rubber Tired Loaders	2	2.00	147	0.20
Building Construction	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Building Construction	Air Compressors	0	0.00	0	0.00
Building Construction	Rubber Tired Loaders	1	2.00	140	0.36
Building Construction	Rollers	1	1.00	80	0.38
Building Construction	Cranes	2	3.00	97	0.37
Building Construction	Cranes	2	1.00	250	0.37
Building Construction	Excavators	2	1.00	99	0.38
Paving	Aerial Lifts	1	1.00	9	0.56

Building Construction	Cranes	2	1.00	500	0.29
Building Construction	Rollers	1	1.00	65	0.38
Paving	Cranes	1	4.00	130	0.42
Building Construction	Other Construction Equipment	2	1.00	350	0.42
Paving	Forklifts	1	3.00	80	0.38
Paving	Pavers	2	5.00	97	0.37
Architectural Coating	Air Compressors	1	4.00	78	0.48
Paving	Paving Equipment	2	5.00	132	0.36
Paving	Rollers	2	5.00	80	0.38
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Forklifts	2	6.00	89	0.20
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	16	68.00	3.00	4,200.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	15.00	0.00	3,000.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	22	200.00	8.00	3,700.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	14	10.00	3.00	220.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	3.1693	33.5375	17.3743	0.0366		1.7032	1.7032		1.5883	1.5883		3,644.7656	3,644.7656	0.9961		3,669.6668
Total	**3.1693**	**33.5375**	**17.3743**	**0.0366**	**0.4594**	**1.7032**	**2.1626**	**0.0696**	**1.5883**	**1.6579**		**3,644.7656**	**3,644.7656**	**0.9961**		**3,669.6668**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2428	8.6212	1.5965	0.0223	2.7633	0.0332	2.7965	0.6923	0.0317	0.7240		2,399.0013	2,399.0013	0.1641		2,403.1033
Vendor	0.0128	0.3636	0.0905	7.9000e-004	0.0192	2.6600e-003	0.0219	5.5300e-003	2.5400e-003	8.0700e-003		83.5974	83.5974	5.6900e-003		83.7397
Worker	0.3664	0.2627	3.4120	8.3300e-003	0.7601	6.0600e-003	0.7661	0.2016	5.5800e-003	0.2072		829.1591	829.1591	0.0283		829.8659
Total	**0.6219**	**9.2474**	**5.0990**	**0.0314**	**3.5426**	**0.0419**	**3.5845**	**0.8994**	**0.0398**	**0.9392**		**3,311.7579**	**3,311.7579**	**0.1980**		**3,316.7089**

3.2 Demolition - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	3.1693	33.5375	17.3743	0.0366		1.7032	1.7032		1.5883	1.5883	0.0000	3,644.7656	3,644.7656	0.9961		3,669.6668
Total	**3.1693**	**33.5375**	**17.3743**	**0.0366**	**0.4594**	**1.7032**	**2.1626**	**0.0696**	**1.5883**	**1.6579**	**0.0000**	**3,644.7656**	**3,644.7656**	**0.9961**		**3,669.6668**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2428	8.6212	1.5965	0.0223	2.7633	0.0332	2.7965	0.6923	0.0317	0.7240		2,399.0013	2,399.0013	0.1641		2,403.1033
Vendor	0.0128	0.3636	0.0905	7.9000e-004	0.0192	2.6600e-003	0.0219	5.5300e-003	2.5400e-003	8.0700e-003		83.5974	83.5974	5.6900e-003		83.7397
Worker	0.3664	0.2627	3.4120	8.3300e-003	0.7601	6.0600e-003	0.7661	0.2016	5.5800e-003	0.2072		829.1591	829.1591	0.0283		829.8659
Total	**0.6219**	**9.2474**	**5.0990**	**0.0314**	**3.5426**	**0.0419**	**3.5845**	**0.8994**	**0.0398**	**0.9392**		**3,311.7579**	**3,311.7579**	**0.1980**		**3,316.7089**

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	2.9124	30.6280	16.9310	0.0366		1.5209	1.5209		1.4176	1.4176		3,594.2503	3,594.2503	0.9914		3,619.0349
Total	**2.9124**	**30.6280**	**16.9310**	**0.0366**	**0.4594**	**1.5209**	**1.9803**	**0.0696**	**1.4176**	**1.4871**		**3,594.2503**	**3,594.2503**	**0.9914**		**3,619.0349**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2301	8.1515	1.5602	0.0220	0.5496	0.0302	0.5798	0.1489	0.0289	0.1778		2,371.0881	2,371.0881	0.1618		2,375.1319
Vendor	0.0116	0.3433	0.0830	7.8000e-004	0.0192	2.2700e-003	0.0215	5.5300e-003	2.1800e-003	7.7000e-003		82.8659	82.8659	5.4800e-003		83.0030
Worker	0.3330	0.2318	3.0555	8.0700e-003	0.7601	5.9200e-003	0.7660	0.2016	5.4500e-003	0.2070		803.0725	803.0725	0.0251		803.7004
Total	**0.5747**	**8.7265**	**4.6987**	**0.0308**	**1.3288**	**0.0384**	**1.3673**	**0.3560**	**0.0366**	**0.3926**		**3,257.0266**	**3,257.0266**	**0.1924**		**3,261.8353**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	2.9124	30.6280	16.9310	0.0366		1.5209	1.5209		1.4176	1.4176	0.0000	3,594.2503	3,594.2503	0.9914		3,619.0349
Total	**2.9124**	**30.6280**	**16.9310**	**0.0366**	**0.4594**	**1.5209**	**1.9803**	**0.0696**	**1.4176**	**1.4871**	**0.0000**	**3,594.2503**	**3,594.2503**	**0.9914**		**3,619.0349**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2301	8.1515	1.5602	0.0220	0.5496	0.0302	0.5798	0.1489	0.0289	0.1778		2,371.0881	2,371.0881	0.1618		2,375.1319
Vendor	0.0116	0.3433	0.0830	7.8000e-004	0.0192	2.2700e-003	0.0215	5.5300e-003	2.1800e-003	7.7000e-003		82.8659	82.8659	5.4800e-003		83.0030
Worker	0.3330	0.2318	3.0555	8.0700e-003	0.7601	5.9200e-003	0.7660	0.2016	5.4500e-003	0.2070		803.0725	803.0725	0.0251		803.7004
Total	**0.5747**	**8.7265**	**4.6987**	**0.0308**	**1.3288**	**0.0384**	**1.3673**	**0.3560**	**0.0366**	**0.3926**		**3,257.0266**	**3,257.0266**	**0.1924**		**3,261.8353**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

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

3.3 Site Preparation - 2018

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1524	0.0000	3.1524	1.6704	0.0000	1.6704			0.0000			0.0000
Off-Road	2.0578	21.5513	13.4020	0.0256		1.0913	1.0913		1.0223	1.0223		2,505.3690	2,505.3690	0.6469		2,521.5408
Total	**2.0578**	**21.5513**	**13.4020**	**0.0256**	**3.1524**	**1.0913**	**4.2437**	**1.6704**	**1.0223**	**2.6927**		**2,505.3690**	**2,505.3690**	**0.6469**		**2,521.5408**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8217	29.1124	5.5721	0.0784	1.7475	0.1080	1.8555	0.4789	0.1033	0.5822		8,468.1719	8,468.1719	0.5777		8,482.6138
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0735	0.0511	0.6740	1.7800e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		177.1484	177.1484	5.5400e-003		177.2869
Total	**0.8952**	**29.1635**	**6.2461**	**0.0802**	**1.9151**	**0.1093**	**2.0244**	**0.5234**	**0.1045**	**0.6279**		**8,645.3203**	**8,645.3203**	**0.5832**		**8,659.9007**

3.4 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1524	0.0000	3.1524	1.6704	0.0000	1.6704			0.0000			0.0000
Off-Road	2.0578	21.5513	13.4020	0.0256		1.0913	1.0913		1.0223	1.0223	0.0000	2,505.3690	2,505.3690	0.6469		2,521.5408
Total	**2.0578**	**21.5513**	**13.4020**	**0.0256**	**3.1524**	**1.0913**	**4.2437**	**1.6704**	**1.0223**	**2.6927**	**0.0000**	**2,505.3690**	**2,505.3690**	**0.6469**		**2,521.5408**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8217	29.1124	5.5721	0.0784	1.7475	0.1080	1.8555	0.4789	0.1033	0.5822		8,468.1719	8,468.1719	0.5777		8,482.6138
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0735	0.0511	0.6740	1.7800e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		177.1484	177.1484	5.5400e-003		177.2869
Total	**0.8952**	**29.1635**	**6.2461**	**0.0802**	**1.9151**	**0.1093**	**2.0244**	**0.5234**	**0.1045**	**0.6279**		**8,645.3203**	**8,645.3203**	**0.5832**		**8,659.9007**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8003	16.8816	12.1799	0.0193		0.9567	0.9567		0.8854	0.8854		1,883.8155	1,883.8155	0.5756		1,898.2065
Total	**1.8003**	**16.8816**	**12.1799**	**0.0193**		**0.9567**	**0.9567**		**0.8854**	**0.8854**		**1,883.8155**	**1,883.8155**	**0.5756**		**1,898.2065**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1013	3.5905	0.6872	9.6700e-003	0.6147	0.0133	0.6281	0.1571	0.0127	0.1698		1,044.4079	1,044.4079	0.0713		1,046.1890
Vendor	0.0308	0.9154	0.2213	2.0700e-003	0.0512	6.0600e-003	0.0573	0.0147	5.8000e-003	0.0205		220.9758	220.9758	0.0146		221.3413
Worker	0.9795	0.6816	8.9867	0.0237	2.2355	0.0174	2.2529	0.5929	0.0160	0.6089		2,361.9781	2,361.9781	0.0739		2,363.8248
Total	**1.1117**	**5.1875**	**9.8952**	**0.0355**	**2.9015**	**0.0368**	**2.9383**	**0.7647**	**0.0346**	**0.7992**		**3,627.3617**	**3,627.3617**	**0.1597**		**3,631.3552**

3.5 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8003	16.8816	12.1799	0.0193		0.9567	0.9567		0.8854	0.8854	0.0000	1,883.8155	1,883.8155	0.5756		1,898.2065
Total	**1.8003**	**16.8816**	**12.1799**	**0.0193**		**0.9567**	**0.9567**		**0.8854**	**0.8854**	**0.0000**	**1,883.8155**	**1,883.8155**	**0.5756**		**1,898.2065**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1013	3.5905	0.6872	9.6700e-003	0.6147	0.0133	0.6281	0.1571	0.0127	0.1698		1,044.4079	1,044.4079	0.0713		1,046.1890
Vendor	0.0308	0.9154	0.2213	2.0700e-003	0.0512	6.0600e-003	0.0573	0.0147	5.8000e-003	0.0205		220.9758	220.9758	0.0146		221.3413
Worker	0.9795	0.6816	8.9867	0.0237	2.2355	0.0174	2.2529	0.5929	0.0160	0.6089		2,361.9781	2,361.9781	0.0739		2,363.8248
Total	**1.1117**	**5.1875**	**9.8952**	**0.0355**	**2.9015**	**0.0368**	**2.9383**	**0.7647**	**0.0346**	**0.7992**		**3,627.3617**	**3,627.3617**	**0.1597**		**3,631.3552**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	15.4214	11.7878	0.0193		0.8529	0.8529		0.7893	0.7893		1,846.0070	1,846.0070	0.5731		1,860.3333
Total	**1.6437**	**15.4214**	**11.7878**	**0.0193**		**0.8529**	**0.8529**		**0.7893**	**0.7893**		**1,846.0070**	**1,846.0070**	**0.5731**		**1,860.3333**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0937	3.3564	0.6678	9.5600e-003	0.2821	0.0108	0.2929	0.0754	0.0104	0.0858		1,033.9394	1,033.9394	0.0694		1,035.6739
Vendor	0.0263	0.8395	0.1999	2.0600e-003	0.0512	4.1600e-003	0.0554	0.0147	3.9800e-003	0.0187		219.5588	219.5588	0.0138		219.9034
Worker	0.9049	0.6083	8.1764	0.0230	2.2355	0.0170	2.2525	0.5929	0.0156	0.6085		2,288.8349	2,288.8349	0.0658		2,290.4801
Total	**1.0248**	**4.8042**	**9.0441**	**0.0346**	**2.5689**	**0.0319**	**2.6008**	**0.6830**	**0.0300**	**0.7130**		**3,542.3330**	**3,542.3330**	**0.1490**		**3,546.0574**

3.5 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	15.4214	11.7878	0.0193		0.8529	0.8529		0.7893	0.7893	0.0000	1,846.0070	1,846.0070	0.5731		1,860.3333
Total	**1.6437**	**15.4214**	**11.7878**	**0.0193**		**0.8529**	**0.8529**		**0.7893**	**0.7893**	**0.0000**	**1,846.0070**	**1,846.0070**	**0.5731**		**1,860.3333**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0937	3.3564	0.6678	9.5600e-003	0.2821	0.0108	0.2929	0.0754	0.0104	0.0858		1,033.9394	1,033.9394	0.0694		1,035.6739
Vendor	0.0263	0.8395	0.1999	2.0600e-003	0.0512	4.1600e-003	0.0554	0.0147	3.9800e-003	0.0187		219.5588	219.5588	0.0138		219.9034
Worker	0.9049	0.6083	8.1764	0.0230	2.2355	0.0170	2.2525	0.5929	0.0156	0.6085		2,288.8349	2,288.8349	0.0658		2,290.4801
Total	**1.0248**	**4.8042**	**9.0441**	**0.0346**	**2.5689**	**0.0319**	**2.6008**	**0.6830**	**0.0300**	**0.7130**		**3,542.3330**	**3,542.3330**	**0.1490**		**3,546.0574**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5965	15.2039	13.7390	0.0203		0.9179	0.9179		0.8479	0.8479		1,915.6818	1,915.6818	0.5863		1,930.3390
Paving	3.7400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6002**	**15.2039**	**13.7390**	**0.0203**		**0.9179**	**0.9179**		**0.8479**	**0.8479**		**1,915.6818**	**1,915.6818**	**0.5863**		**1,930.3390**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1194	4.2765	0.8509	0.0122	0.2746	0.0138	0.2884	0.0753	0.0132	0.0884		1,317.3745	1,317.3745	0.0884		1,319.5845
Vendor	9.8500e-003	0.3148	0.0750	7.7000e-004	0.0192	1.5600e-003	0.0208	5.5300e-003	1.4900e-003	7.0200e-003		82.3345	82.3345	5.1700e-003		82.4638
Worker	0.0452	0.0304	0.4088	1.1500e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		114.4418	114.4418	3.2900e-003		114.5240
Total	**0.1744**	**4.6217**	**1.3347**	**0.0141**	**0.4056**	**0.0162**	**0.4218**	**0.1104**	**0.0155**	**0.1259**		**1,514.1508**	**1,514.1508**	**0.0969**		**1,516.5723**

3.6 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5965	15.2039	13.7390	0.0203		0.9179	0.9179		0.8479	0.8479	0.0000	1,915.6818	1,915.6818	0.5863		1,930.3390
Paving	3.7400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6002**	**15.2039**	**13.7390**	**0.0203**		**0.9179**	**0.9179**		**0.8479**	**0.8479**	**0.0000**	**1,915.6818**	**1,915.6818**	**0.5863**		**1,930.3390**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1194	4.2765	0.8509	0.0122	0.2746	0.0138	0.2884	0.0753	0.0132	0.0884		1,317.3745	1,317.3745	0.0884		1,319.5845
Vendor	9.8500e-003	0.3148	0.0750	7.7000e-004	0.0192	1.5600e-003	0.0208	5.5300e-003	1.4900e-003	7.0200e-003		82.3345	82.3345	5.1700e-003		82.4638
Worker	0.0452	0.0304	0.4088	1.1500e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		114.4418	114.4418	3.2900e-003		114.5240
Total	**0.1744**	**4.6217**	**1.3347**	**0.0141**	**0.4056**	**0.0162**	**0.4218**	**0.1104**	**0.0155**	**0.1259**		**1,514.1508**	**1,514.1508**	**0.0969**		**1,516.5723**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.8914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1615	1.1226	1.2210	1.9800e-003		0.0740	0.0740		0.0740	0.0740		187.6320	187.6320	0.0145		187.9952
Total	**16.0529**	**1.1226**	**1.2210**	**1.9800e-003**		**0.0740**	**0.0740**		**0.0740**	**0.0740**		**187.6320**	**187.6320**	**0.0145**		**187.9952**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0122	0.1635	4.6000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**0.0447**	**3.4000e-004**	**0.0451**	**0.0119**	**3.1000e-004**	**0.0122**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

3.7 Architectural Coating - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.8914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1615	1.1226	1.2210	1.9800e-003		0.0740	0.0740		0.0740	0.0740	0.0000	187.6320	187.6320	0.0145		187.9952
Total	**16.0529**	**1.1226**	**1.2210**	**1.9800e-003**		**0.0740**	**0.0740**		**0.0740**	**0.0740**	**0.0000**	**187.6320**	**187.6320**	**0.0145**		**187.9952**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0181	0.0122	0.1635	4.6000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		45.7767	45.7767	1.3200e-003		45.8096
Total	**0.0181**	**0.0122**	**0.1635**	**4.6000e-004**	**0.0447**	**3.4000e-004**	**0.0451**	**0.0119**	**3.1000e-004**	**0.0122**		**45.7767**	**45.7767**	**1.3200e-003**		**45.8096**

4.0 Operational Detail - Mobile

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0147	0.0770	0.2196	8.1000e-004	0.0656	6.3000e-004	0.0663	0.0176	5.9000e-004	0.0182		82.4797	82.4797	3.8100e-003		82.5749
Unmitigated	0.0147	0.0770	0.2196	8.1000e-004	0.0656	6.3000e-004	0.0663	0.0176	5.9000e-004	0.0182		82.4797	82.4797	3.8100e-003		82.5749

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	6.97	1.32	0.68	23,312	23,312
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	6.97	1.32	0.68	23,312	23,312

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925
Other Asphalt Surfaces	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301
NaturalGas Unmitigated	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	743.836	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.0200e-003**	**0.0729**	**0.0613**	**4.4000e-004**		**5.5400e-003**	**5.5400e-003**		**5.5400e-003**	**5.5400e-003**		**87.5101**	**87.5101**	**1.6800e-003**	**1.6000e-003**	**88.0301**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.743836	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.0200e-003**	**0.0729**	**0.0613**	**4.4000e-004**		**5.5400e-003**	**5.5400e-003**		**5.5400e-003**	**5.5400e-003**		**87.5101**	**87.5101**	**1.6800e-003**	**1.6000e-003**	**88.0301**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3717	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Unmitigated	0.3717	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3271					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**0.3717**	**0.0000**	**2.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

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	lb/day										lb/day					
Architectural Coating	0.0446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3271					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**0.3717**	**0.0000**	**2.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

PAR 1135 - Boiler (3) to Turbine (3) Repower

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	0.02	15,000.00	0
Other Asphalt Surfaces	1.00	1000sqft	0.02	85,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	12			**Operational Year**	2021
Utility Company	Glendale Water & Power				
CO2 Intensity (lb/MWhr)	1115.33	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

Project Characteristics -

Land Use - Land Use - Most building footprints are occupied by non-populated structures, such as turbines, ammonia tanks, etc.

Construction Phase - Estimated Construction Schedule.

Off-road Equipment - Off-Road Equipment - Air Compressors (1): 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - Demolition: Cranes (1): 3 Hours Per Day; Excavators (2): 3 Hours Per Day; Forklifts (2): 2 Hours Per Day; Other General Industrial Equipment (2): 2 Hour Per Day; Graders (1): 1 Hour Per Day; Rollers (1): 1 Hour Per Day; Rubber Tired Dozers (2): 2 Hours Per Day; Tractors/Loaders/Backhoes (2): 4 Hours Per Day; Tractors/Loaders/Backhoes (2): 2 Hours Per Day

Off-road Equipment - Off-Road Equipment - No Site Preparation

Off-road Equipment - Off-Road Equipment - Grading: Excavators (2): 3 Hours Per Day; Graders (1): 4 Hours Per Day; Rollers (1): 4 Hours Per Day; Tractors/Loaders/Backhoes (1): 4 Hours Per Day; Tractors/Loaders/Backhoes (2): 3 Hours Per Day; Rubber Tired Dozers (1): 4 Hours Per Day

Off-road Equipment - Off-Road Equipment - Const.: Welders (1): 4 Hours/Day; Tract/Load/Back (1): 1 Hour/Day; Rubber Tired Loaders (2): 2 Hours/Day; Cranes (2): 3 Hours/Day; Cranes (2): 1 Hour/Day; Welders (1): 4 Hours/Day; Tract/Load/Back (2): 1 Hours/Day; Rubber Tired Loaders (1): 2 Hours/Day; Rollers (1): 1 Hour/Day; Excavators (2): 1 Hour/Day; Cranes (2): 1 Hour/Day; Rollers (1): 1 Hour/Day

Off-road Equipment - Off-Road Equipment - Paving: Aerial Lifts (1): 1 Hour Per Day; Cranes (1): 4 Hours Per Day; Forklifts (1): 3 Hours Per Day; Pavers (2): 5 Hours Per Day; Paving Equipment (2): 5 Hours Per Day; Rollers (2): 5 Hours Per Day

Grading - No Site Preparation, Acres of Grading (4)

Demolition -

Trips and VMT - Worker, Vendor, Haul Trips Estimated Based on FIER Grayson Repowering Project and modified for compliance with PAR 1135.

Architectural Coating - Architectural Coating Estimated.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	7,500.00	36,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	22,500.00	12,000.00
tblArchitecturalCoating	ConstArea_Parking	5,100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	10.00	150.00
tblConstructionPhase	NumDays	1.00	0.00
tblConstructionPhase	NumDays	2.00	30.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

tblConstructionPhase	NumDays	100.00	300.00
tblConstructionPhase	NumDays	5.00	14.00
tblConstructionPhase	NumDays	5.00	14.00
tblConstructionPhase	PhaseEndDate	12/14/2018	6/28/2019
tblConstructionPhase	PhaseEndDate	12/17/2018	12/1/2018
tblConstructionPhase	PhaseEndDate	12/19/2018	8/9/2019
tblConstructionPhase	PhaseEndDate	5/8/2019	10/23/2020
tblConstructionPhase	PhaseEndDate	5/15/2019	12/18/2020
tblConstructionPhase	PhaseEndDate	5/22/2019	11/19/2020
tblConstructionPhase	PhaseStartDate	12/15/2018	12/1/2018
tblConstructionPhase	PhaseStartDate	12/18/2018	7/1/2019
tblConstructionPhase	PhaseStartDate	12/20/2018	9/1/2019
tblConstructionPhase	PhaseStartDate	5/9/2019	12/1/2020
tblConstructionPhase	PhaseStartDate	5/16/2019	11/1/2020
tblGrading	AcresOfGrading	7.50	4.00
tblGrading	MaterialMoistureContentBulldozing	7.90	0.00
tblGrading	MaterialMoistureContentTruckLoading	12.00	0.00
tblGrading	MaterialSiltContent	6.90	0.00
tblGrading	MeanVehicleSpeed	7.10	0.00
tblLandUse	LandUseSquareFeet	1,000.00	15,000.00
tblLandUse	LandUseSquareFeet	1,000.00	85,000.00
tblOffRoadEquipment	HorsePower	63.00	9.00
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	HorsePower	46.00	35.00
tblOffRoadEquipment	HorsePower	97.00	79.00
tblOffRoadEquipment	HorsePower	78.00	0.00
tblOffRoadEquipment	HorsePower	203.00	147.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

tblOffRoadEquipment	HorsePower	187.00	0.00
tblOffRoadEquipment	HorsePower	231.00	130.00
tblOffRoadEquipment	HorsePower	89.00	80.00
tblOffRoadEquipment	HorsePower	158.00	247.00
tblOffRoadEquipment	HorsePower	187.00	247.00
tblOffRoadEquipment	HorsePower	231.00	97.00
tblOffRoadEquipment	HorsePower	231.00	250.00
tblOffRoadEquipment	HorsePower	89.00	97.00
tblOffRoadEquipment	HorsePower	88.00	97.00
tblOffRoadEquipment	HorsePower	80.00	97.00
tblOffRoadEquipment	HorsePower	97.00	200.00
tblOffRoadEquipment	HorsePower	130.00	97.00
tblOffRoadEquipment	HorsePower	97.00	0.00
tblOffRoadEquipment	HorsePower	97.00	200.00
tblOffRoadEquipment	HorsePower	46.00	38.00
tblOffRoadEquipment	HorsePower	78.00	0.00
tblOffRoadEquipment	HorsePower	203.00	140.00
tblOffRoadEquipment	HorsePower	158.00	99.00
tblOffRoadEquipment	HorsePower	231.00	500.00
tblOffRoadEquipment	HorsePower	80.00	65.00
tblOffRoadEquipment	HorsePower	172.00	350.00
tblOffRoadEquipment	LoadFactor	0.31	0.56
tblOffRoadEquipment	LoadFactor	0.29	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.45	0.29
tblOffRoadEquipment	LoadFactor	0.37	0.29
tblOffRoadEquipment	LoadFactor	0.48	0.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

tblOffRoadEquipment	LoadFactor	0.36	0.20
tblOffRoadEquipment	LoadFactor	0.41	0.00
tblOffRoadEquipment	LoadFactor	0.29	0.42
tblOffRoadEquipment	LoadFactor	0.20	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.40
tblOffRoadEquipment	LoadFactor	0.41	0.40
tblOffRoadEquipment	LoadFactor	0.29	0.37
tblOffRoadEquipment	LoadFactor	0.29	0.37
tblOffRoadEquipment	LoadFactor	0.20	0.37
tblOffRoadEquipment	LoadFactor	0.34	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.37
tblOffRoadEquipment	LoadFactor	0.42	0.37
tblOffRoadEquipment	LoadFactor	0.37	0.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.48	0.00
tblOffRoadEquipment	LoadFactor	0.36	0.36
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Other General Industrial Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType	Rubber Tired Dozers	Graders
tblOffRoadEquipment	OffRoadEquipmentType	Tractors/Loaders/Backhoes	Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Welders
tblOffRoadEquipment	OffRoadEquipmentType	Cranes	Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Welders
tblOffRoadEquipment	OffRoadEquipmentType	Forklifts	Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Air Compressors
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType	Cement and Mortar Mixers	Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType	Pavers	Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentType	Rollers	Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	4.00	3.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	1.00	3.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	6.00	3.00
tblOffRoadEquipment	UsageHours	1.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	7.00	5.00
tblTripsAndVMT	HaulingTripNumber	318.00	4,200.00
tblTripsAndVMT	HaulingTripNumber	0.00	3,000.00
tblTripsAndVMT	HaulingTripNumber	0.00	3,700.00
tblTripsAndVMT	HaulingTripNumber	0.00	220.00
tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	VendorTripNumber	16.00	8.00

tblTripsAndVMT	VendorTripNumber	0.00	3.00
tblTripsAndVMT	WorkerTripNumber	40.00	68.00
tblTripsAndVMT	WorkerTripNumber	23.00	15.00
tblTripsAndVMT	WorkerTripNumber	42.00	200.00
tblTripsAndVMT	WorkerTripNumber	35.00	10.00
tblTripsAndVMT	WorkerTripNumber	8.00	4.00

2.0 Emissions Summary

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.8309	42.9311	22.2940	0.0670	4.0020	1.7458	5.7478	0.9689	1.6288	2.5978	0.0000	6,857.6228	6,857.6228	1.2003	0.0000	6,887.6297
2019	3.5239	51.1115	21.4680	0.1042	5.0676	1.5600	6.2702	2.1938	1.4547	3.3226	0.0000	10,985.5670	10,985.5670	1.2559	0.0000	11,016.9642
2020	16.0726	20.3255	20.0913	0.0522	2.5689	0.9344	3.4540	0.6830	0.8636	1.5025	0.0000	5,214.8547	5,214.8547	0.7216	0.0000	5,232.8959
Maximum	**16.0726**	**51.1115**	**22.2940**	**0.1042**	**5.0676**	**1.7458**	**6.2702**	**2.1938**	**1.6288**	**3.3226**	**0.0000**	**10,985.5670**	**10,985.5670**	**1.2559**	**0.0000**	**11,016.9642**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	3.8309	42.9311	22.2940	0.0670	4.0020	1.7458	5.7478	0.9689	1.6288	2.5978	0.0000	6,857.6228	6,857.6228	1.2003	0.0000	6,887.6297
2019	3.5239	51.1115	21.4680	0.1042	5.0676	1.5600	6.2702	2.1938	1.4547	3.3226	0.0000	10,985.5670	10,985.5670	1.2559	0.0000	11,016.9642
2020	16.0726	20.3255	20.0913	0.0522	2.5689	0.9344	3.4540	0.6830	0.8636	1.5025	0.0000	5,214.8547	5,214.8547	0.7216	0.0000	5,232.8959
Maximum	**16.0726**	**51.1115**	**22.2940**	**0.1042**	**5.0676**	**1.7458**	**6.2702**	**2.1938**	**1.6288**	**3.3226**	**0.0000**	**10,985.5670**	**10,985.5670**	**1.2559**	**0.0000**	**11,016.9642**

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

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

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3717	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301
Mobile	0.0140	0.0790	0.2033	7.7000e-004	0.0656	6.3000e-004	0.0663	0.0176	5.9000e-004	0.0182		78.1523	78.1523	3.7800e-003		78.2468
Total	**0.3937**	**0.1519**	**0.2648**	**1.2100e-003**	**0.0656**	**6.1700e-003**	**0.0718**	**0.0176**	**6.1300e-003**	**0.0237**		**165.6628**	**165.6628**	**5.4600e-003**	**1.6000e-003**	**166.2774**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3717	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Energy	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301
Mobile	0.0140	0.0790	0.2033	7.7000e-004	0.0656	6.3000e-004	0.0663	0.0176	5.9000e-004	0.0182		78.1523	78.1523	3.7800e-003		78.2468
Total	**0.3937**	**0.1519**	**0.2648**	**1.2100e-003**	**0.0656**	**6.1700e-003**	**0.0718**	**0.0176**	**6.1300e-003**	**0.0237**		**165.6628**	**165.6628**	**5.4600e-003**	**1.6000e-003**	**166.2774**

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	12/1/2018	6/28/2019	5	150	Demolition of affected existing power generating units
2	Site Preparation	Site Preparation	12/1/2018	12/1/2018	5	0	No site preparation activity
3	Grading	Grading	7/1/2019	8/9/2019	5	30	Grading Activity
4	Building Construction	Building Construction	9/1/2019	10/23/2020	5	300	Include site mobilzation, equipment, electric conduit, cable
5	Paving	Paving	12/1/2020	12/18/2020	5	14	Paving activity occurs during the commissioning period
6	Architectural Coating	Architectural Coating	11/1/2020	11/19/2020	5	14	Coating Activity is estimated

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.02

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 12,000; Non-Residential Outdoor: 36,000; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Cranes	1	3.00	231	0.73
Demolition	Graders	1	1.00	187	0.41
Demolition	Rollers	1	1.00	80	0.38

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

Demolition	Rubber Tired Dozers	2	3.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	4.00	97	0.37
Demolition	Excavators	2	3.00	247	0.40
Demolition	Forklifts	2	2.00	97	0.37
Demolition	Other General Industrial Equipment	2	2.00	97	0.37
Site Preparation	Graders	0	0.00	0	0.00
Site Preparation	Tractors/Loaders/Backhoes	0	0.00	0	0.00
Grading	Excavators	2	3.00	81	0.73
Demolition	Tractors/Loaders/Backhoes	2	3.00	200	0.37
Grading	Tractors/Loaders/Backhoes	2	3.00	97	0.37
Grading	Graders	1	4.00	247	0.40
Grading	Rollers	1	4.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	4.00	200	0.37
Grading	Rubber Tired Dozers	1	4.00	247	0.40
Building Construction	Welders	1	4.00	35	0.29
Building Construction	Tractors/Loaders/Backhoes	1	1.00	79	0.29
Building Construction	Air Compressors	0	0.00	0	0.00
Building Construction	Welders	1	4.00	38	0.45
Building Construction	Rubber Tired Loaders	2	2.00	147	0.20
Building Construction	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Building Construction	Air Compressors	0	0.00	0	0.00
Building Construction	Rubber Tired Loaders	1	2.00	140	0.36
Building Construction	Rollers	1	1.00	80	0.38
Building Construction	Cranes	2	3.00	97	0.37
Building Construction	Cranes	2	1.00	250	0.37
Building Construction	Excavators	2	1.00	99	0.38
Paving	Aerial Lifts	1	1.00	9	0.56

Building Construction	Cranes	2	1.00	500	0.29
Building Construction	Rollers	1	1.00	65	0.38
Paving	Cranes	1	4.00	130	0.42
Building Construction	Other Construction Equipment	2	1.00	350	0.42
Paving	Forklifts	1	3.00	80	0.38
Paving	Pavers	2	5.00	97	0.37
Architectural Coating	Air Compressors	1	4.00	78	0.48
Paving	Paving Equipment	2	5.00	132	0.36
Paving	Rollers	2	5.00	80	0.38
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Forklifts	2	6.00	89	0.20
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	16	68.00	3.00	4,200.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	9	15.00	0.00	3,000.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	22	200.00	8.00	3,700.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	14	10.00	3.00	220.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	3.1693	33.5375	17.3743	0.0366		1.7032	1.7032		1.5883	1.5883		3,644.7656	3,644.7656	0.9961		3,669.6668
Total	**3.1693**	**33.5375**	**17.3743**	**0.0366**	**0.4594**	**1.7032**	**2.1626**	**0.0696**	**1.5883**	**1.6579**		**3,644.7656**	**3,644.7656**	**0.9961**		**3,669.6668**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2500	8.7416	1.7313	0.0219	2.7633	0.0338	2.7971	0.6923	0.0323	0.7246		2,355.9684	2,355.9684	0.1717		2,360.2597
Vendor	0.0133	0.3642	0.1005	7.6000e-004	0.0192	2.7000e-003	0.0219	5.5300e-003	2.5800e-003	8.1100e-003		81.2269	81.2269	6.1100e-003		81.3797
Worker	0.3984	0.2878	3.0878	7.7900e-003	0.7601	6.0600e-003	0.7661	0.2016	5.5800e-003	0.2072		775.6619	775.6619	0.0265		776.3236
Total	**0.6617**	**9.3935**	**4.9197**	**0.0304**	**3.5426**	**0.0426**	**3.5852**	**0.8994**	**0.0405**	**0.9399**		**3,212.8572**	**3,212.8572**	**0.2042**		**3,217.9630**

3.2 Demolition - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	3.1693	33.5375	17.3743	0.0366		1.7032	1.7032		1.5883	1.5883	0.0000	3,644.7656	3,644.7656	0.9961		3,669.6668
Total	**3.1693**	**33.5375**	**17.3743**	**0.0366**	**0.4594**	**1.7032**	**2.1626**	**0.0696**	**1.5883**	**1.6579**	**0.0000**	**3,644.7656**	**3,644.7656**	**0.9961**		**3,669.6668**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2500	8.7416	1.7313	0.0219	2.7633	0.0338	2.7971	0.6923	0.0323	0.7246		2,355.9684	2,355.9684	0.1717		2,360.2597
Vendor	0.0133	0.3642	0.1005	7.6000e-004	0.0192	2.7000e-003	0.0219	5.5300e-003	2.5800e-003	8.1100e-003		81.2269	81.2269	6.1100e-003		81.3797
Worker	0.3984	0.2878	3.0878	7.7900e-003	0.7601	6.0600e-003	0.7661	0.2016	5.5800e-003	0.2072		775.6619	775.6619	0.0265		776.3236
Total	**0.6617**	**9.3935**	**4.9197**	**0.0304**	**3.5426**	**0.0426**	**3.5852**	**0.8994**	**0.0405**	**0.9399**		**3,212.8572**	**3,212.8572**	**0.2042**		**3,217.9630**

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	2.9124	30.6280	16.9310	0.0366		1.5209	1.5209		1.4176	1.4176		3,594.2503	3,594.2503	0.9914		3,619.0349
Total	**2.9124**	**30.6280**	**16.9310**	**0.0366**	**0.4594**	**1.5209**	**1.9803**	**0.0696**	**1.4176**	**1.4871**		**3,594.2503**	**3,594.2503**	**0.9914**		**3,619.0349**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2369	8.2612	1.6880	0.0216	0.5496	0.0308	0.5804	0.1489	0.0295	0.1784		2,328.0599	2,328.0599	0.1691		2,332.2868
Vendor	0.0121	0.3435	0.0924	7.6000e-004	0.0192	2.3100e-003	0.0215	5.5300e-003	2.2100e-003	7.7400e-003		80.4949	80.4949	5.8900e-003		80.6422
Worker	0.3626	0.2538	2.7566	7.5400e-003	0.7601	5.9200e-003	0.7660	0.2016	5.4500e-003	0.2070		751.1659	751.1659	0.0235		751.7526
Total	**0.6115**	**8.8585**	**4.5371**	**0.0299**	**1.3288**	**0.0390**	**1.3679**	**0.3560**	**0.0371**	**0.3931**		**3,159.7207**	**3,159.7207**	**0.1984**		**3,164.6816**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4594	0.0000	0.4594	0.0696	0.0000	0.0696			0.0000			0.0000
Off-Road	2.9124	30.6280	16.9310	0.0366		1.5209	1.5209		1.4176	1.4176	0.0000	3,594.2503	3,594.2503	0.9914		3,619.0349
Total	**2.9124**	**30.6280**	**16.9310**	**0.0366**	**0.4594**	**1.5209**	**1.9803**	**0.0696**	**1.4176**	**1.4871**	**0.0000**	**3,594.2503**	**3,594.2503**	**0.9914**		**3,619.0349**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.2369	8.2612	1.6880	0.0216	0.5496	0.0308	0.5804	0.1489	0.0295	0.1784		2,328.0599	2,328.0599	0.1691		2,332.2868
Vendor	0.0121	0.3435	0.0924	7.6000e-004	0.0192	2.3100e-003	0.0215	5.5300e-003	2.2100e-003	7.7400e-003		80.4949	80.4949	5.8900e-003		80.6422
Worker	0.3626	0.2538	2.7566	7.5400e-003	0.7601	5.9200e-003	0.7660	0.2016	5.4500e-003	0.2070		751.1659	751.1659	0.0235		751.7526
Total	**0.6115**	**8.8585**	**4.5371**	**0.0299**	**1.3288**	**0.0390**	**1.3679**	**0.3560**	**0.0371**	**0.3931**		**3,159.7207**	**3,159.7207**	**0.1984**		**3,164.6816**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

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

3.3 Site Preparation - 2018

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

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

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1524	0.0000	3.1524	1.6704	0.0000	1.6704			0.0000			0.0000
Off-Road	2.0578	21.5513	13.4020	0.0256		1.0913	1.0913		1.0223	1.0223		2,505.3690	2,505.3690	0.6469		2,521.5408
Total	**2.0578**	**21.5513**	**13.4020**	**0.0256**	**3.1524**	**1.0913**	**4.2437**	**1.6704**	**1.0223**	**2.6927**		**2,505.3690**	**2,505.3690**	**0.6469**		**2,521.5408**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8459	29.5042	6.0287	0.0770	1.7475	0.1101	1.8575	0.4789	0.1053	0.5842		8,314.4997	8,314.4997	0.6038		8,329.5956
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0800	0.0560	0.6081	1.6600e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		165.6984	165.6984	5.1800e-003		165.8278
Total	**0.9259**	**29.5602**	**6.6368**	**0.0787**	**1.9151**	**0.1114**	**2.0265**	**0.5234**	**0.1065**	**0.6299**		**8,480.1980**	**8,480.1980**	**0.6090**		**8,495.4234**

3.4 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.1524	0.0000	3.1524	1.6704	0.0000	1.6704			0.0000			0.0000
Off-Road	2.0578	21.5513	13.4020	0.0256		1.0913	1.0913		1.0223	1.0223	0.0000	2,505.3690	2,505.3690	0.6469		2,521.5408
Total	**2.0578**	**21.5513**	**13.4020**	**0.0256**	**3.1524**	**1.0913**	**4.2437**	**1.6704**	**1.0223**	**2.6927**	**0.0000**	**2,505.3690**	**2,505.3690**	**0.6469**		**2,521.5408**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.8459	29.5042	6.0287	0.0770	1.7475	0.1101	1.8575	0.4789	0.1053	0.5842		8,314.4997	8,314.4997	0.6038		8,329.5956
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0800	0.0560	0.6081	1.6600e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		165.6984	165.6984	5.1800e-003		165.8278
Total	**0.9259**	**29.5602**	**6.6368**	**0.0787**	**1.9151**	**0.1114**	**2.0265**	**0.5234**	**0.1065**	**0.6299**		**8,480.1980**	**8,480.1980**	**0.6090**		**8,495.4234**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8003	16.8816	12.1799	0.0193		0.9567	0.9567		0.8854	0.8854		1,883.8155	1,883.8155	0.5756		1,898.2065
Total	**1.8003**	**16.8816**	**12.1799**	**0.0193**		**0.9567**	**0.9567**		**0.8854**	**0.8854**		**1,883.8155**	**1,883.8155**	**0.5756**		**1,898.2065**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1043	3.6389	0.7435	9.5000e-003	0.6147	0.0136	0.6283	0.1571	0.0130	0.1700		1,025.4550	1,025.4550	0.0745		1,027.3168
Vendor	0.0322	0.9160	0.2465	2.0100e-003	0.0512	6.1600e-003	0.0574	0.0147	5.8900e-003	0.0206		214.6530	214.6530	0.0157		215.0458
Worker	1.0665	0.7466	8.1077	0.0222	2.2355	0.0174	2.2529	0.5929	0.0160	0.6089		2,209.3115	2,209.3115	0.0690		2,211.0371
Total	**1.2030**	**5.3015**	**9.0977**	**0.0337**	**2.9015**	**0.0371**	**2.9386**	**0.7647**	**0.0349**	**0.7996**		**3,449.4195**	**3,449.4195**	**0.1592**		**3,453.3997**

3.5 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8003	16.8816	12.1799	0.0193		0.9567	0.9567		0.8854	0.8854	0.0000	1,883.8155	1,883.8155	0.5756		1,898.2065
Total	**1.8003**	**16.8816**	**12.1799**	**0.0193**		**0.9567**	**0.9567**		**0.8854**	**0.8854**	**0.0000**	**1,883.8155**	**1,883.8155**	**0.5756**		**1,898.2065**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1043	3.6389	0.7435	9.5000e-003	0.6147	0.0136	0.6283	0.1571	0.0130	0.1700		1,025.4550	1,025.4550	0.0745		1,027.3168
Vendor	0.0322	0.9160	0.2465	2.0100e-003	0.0512	6.1600e-003	0.0574	0.0147	5.8900e-003	0.0206		214.6530	214.6530	0.0157		215.0458
Worker	1.0665	0.7466	8.1077	0.0222	2.2355	0.0174	2.2529	0.5929	0.0160	0.6089		2,209.3115	2,209.3115	0.0690		2,211.0371
Total	**1.2030**	**5.3015**	**9.0977**	**0.0337**	**2.9015**	**0.0371**	**2.9386**	**0.7647**	**0.0349**	**0.7996**		**3,449.4195**	**3,449.4195**	**0.1592**		**3,453.3997**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	15.4214	11.7878	0.0193		0.8529	0.8529		0.7893	0.7893		1,846.0070	1,846.0070	0.5731		1,860.3333
Total	**1.6437**	**15.4214**	**11.7878**	**0.0193**		**0.8529**	**0.8529**		**0.7893**	**0.7893**		**1,846.0070**	**1,846.0070**	**0.5731**		**1,860.3333**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0964	3.3995	0.7189	9.3900e-003	0.2821	0.0110	0.2931	0.0754	0.0105	0.0859		1,014.9076	1,014.9076	0.0724		1,016.7175
Vendor	0.0275	0.8386	0.2229	2.0000e-003	0.0512	4.2200e-003	0.0554	0.0147	4.0400e-003	0.0188		213.2103	213.2103	0.0148		213.5804
Worker	0.9869	0.6660	7.3618	0.0215	2.2355	0.0170	2.2525	0.5929	0.0156	0.6085		2,140.7299	2,140.7299	0.0614		2,142.2648
Total	**1.1108**	**4.9041**	**8.3036**	**0.0329**	**2.5689**	**0.0322**	**2.6010**	**0.6830**	**0.0302**	**0.7132**		**3,368.8477**	**3,368.8477**	**0.1486**		**3,372.5626**

3.5 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6437	15.4214	11.7878	0.0193		0.8529	0.8529		0.7893	0.7893	0.0000	1,846.0070	1,846.0070	0.5731		1,860.3333
Total	**1.6437**	**15.4214**	**11.7878**	**0.0193**		**0.8529**	**0.8529**		**0.7893**	**0.7893**	**0.0000**	**1,846.0070**	**1,846.0070**	**0.5731**		**1,860.3333**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0964	3.3995	0.7189	9.3900e-003	0.2821	0.0110	0.2931	0.0754	0.0105	0.0859		1,014.9076	1,014.9076	0.0724		1,016.7175
Vendor	0.0275	0.8386	0.2229	2.0000e-003	0.0512	4.2200e-003	0.0554	0.0147	4.0400e-003	0.0188		213.2103	213.2103	0.0148		213.5804
Worker	0.9869	0.6660	7.3618	0.0215	2.2355	0.0170	2.2525	0.5929	0.0156	0.6085		2,140.7299	2,140.7299	0.0614		2,142.2648
Total	**1.1108**	**4.9041**	**8.3036**	**0.0329**	**2.5689**	**0.0322**	**2.6010**	**0.6830**	**0.0302**	**0.7132**		**3,368.8477**	**3,368.8477**	**0.1486**		**3,372.5626**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5965	15.2039	13.7390	0.0203		0.9179	0.9179		0.8479	0.8479		1,915.6818	1,915.6818	0.5863		1,930.3390
Paving	3.7400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6002**	**15.2039**	**13.7390**	**0.0203**		**0.9179**	**0.9179**		**0.8479**	**0.8479**		**1,915.6818**	**1,915.6818**	**0.5863**		**1,930.3390**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1228	4.3314	0.9160	0.0120	0.2746	0.0140	0.2886	0.0753	0.0134	0.0886		1,293.1255	1,293.1255	0.0922		1,295.4315
Vendor	0.0103	0.3145	0.0836	7.5000e-004	0.0192	1.5800e-003	0.0208	5.5300e-003	1.5100e-003	7.0400e-003		79.9538	79.9538	5.5500e-003		80.0926
Worker	0.0494	0.0333	0.3681	1.0700e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		107.0365	107.0365	3.0700e-003		107.1132
Total	**0.1825**	**4.6792**	**1.3677**	**0.0138**	**0.4056**	**0.0164**	**0.4220**	**0.1104**	**0.0157**	**0.1261**		**1,480.1158**	**1,480.1158**	**0.1009**		**1,482.6374**

3.6 Paving - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5965	15.2039	13.7390	0.0203		0.9179	0.9179		0.8479	0.8479	0.0000	1,915.6818	1,915.6818	0.5863		1,930.3390
Paving	3.7400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6002**	**15.2039**	**13.7390**	**0.0203**		**0.9179**	**0.9179**		**0.8479**	**0.8479**	**0.0000**	**1,915.6818**	**1,915.6818**	**0.5863**		**1,930.3390**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1228	4.3314	0.9160	0.0120	0.2746	0.0140	0.2886	0.0753	0.0134	0.0886		1,293.1255	1,293.1255	0.0922		1,295.4315
Vendor	0.0103	0.3145	0.0836	7.5000e-004	0.0192	1.5800e-003	0.0208	5.5300e-003	1.5100e-003	7.0400e-003		79.9538	79.9538	5.5500e-003		80.0926
Worker	0.0494	0.0333	0.3681	1.0700e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		107.0365	107.0365	3.0700e-003		107.1132
Total	**0.1825**	**4.6792**	**1.3677**	**0.0138**	**0.4056**	**0.0164**	**0.4220**	**0.1104**	**0.0157**	**0.1261**		**1,480.1158**	**1,480.1158**	**0.1009**		**1,482.6374**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.8914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1615	1.1226	1.2210	1.9800e-003		0.0740	0.0740		0.0740	0.0740		187.6320	187.6320	0.0145		187.9952
Total	**16.0529**	**1.1226**	**1.2210**	**1.9800e-003**		**0.0740**	**0.0740**		**0.0740**	**0.0740**		**187.6320**	**187.6320**	**0.0145**		**187.9952**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1472	4.3000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**0.0447**	**3.4000e-004**	**0.0451**	**0.0119**	**3.1000e-004**	**0.0122**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

3.7 Architectural Coating - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	15.8914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1615	1.1226	1.2210	1.9800e-003		0.0740	0.0740		0.0740	0.0740	0.0000	187.6320	187.6320	0.0145		187.9952
Total	**16.0529**	**1.1226**	**1.2210**	**1.9800e-003**		**0.0740**	**0.0740**		**0.0740**	**0.0740**	**0.0000**	**187.6320**	**187.6320**	**0.0145**		**187.9952**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0197	0.0133	0.1472	4.3000e-004	0.0447	3.4000e-004	0.0451	0.0119	3.1000e-004	0.0122		42.8146	42.8146	1.2300e-003		42.8453
Total	**0.0197**	**0.0133**	**0.1472**	**4.3000e-004**	**0.0447**	**3.4000e-004**	**0.0451**	**0.0119**	**3.1000e-004**	**0.0122**		**42.8146**	**42.8146**	**1.2300e-003**		**42.8453**

4.0 Operational Detail - Mobile

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0140	0.0790	0.2033	7.7000e-004	0.0656	6.3000e-004	0.0663	0.0176	5.9000e-004	0.0182		78.1523	78.1523	3.7800e-003		78.2468
Unmitigated	0.0140	0.0790	0.2033	7.7000e-004	0.0656	6.3000e-004	0.0663	0.0176	5.9000e-004	0.0182		78.1523	78.1523	3.7800e-003		78.2468

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	6.97	1.32	0.68	23,312	23,312
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	6.97	1.32	0.68	23,312	23,312

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925
Other Asphalt Surfaces	0.548858	0.043235	0.200706	0.120309	0.016131	0.005851	0.021034	0.033479	0.002070	0.001877	0.004817	0.000707	0.000925

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301
NaturalGas Unmitigated	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	743.836	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.0200e-003**	**0.0729**	**0.0613**	**4.4000e-004**		**5.5400e-003**	**5.5400e-003**		**5.5400e-003**	**5.5400e-003**		**87.5101**	**87.5101**	**1.6800e-003**	**1.6000e-003**	**88.0301**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.743836	8.0200e-003	0.0729	0.0613	4.4000e-004		5.5400e-003	5.5400e-003		5.5400e-003	5.5400e-003		87.5101	87.5101	1.6800e-003	1.6000e-003	88.0301
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**8.0200e-003**	**0.0729**	**0.0613**	**4.4000e-004**		**5.5400e-003**	**5.5400e-003**		**5.5400e-003**	**5.5400e-003**		**87.5101**	**87.5101**	**1.6800e-003**	**1.6000e-003**	**88.0301**

6.0 Area Detail

6.1 Mitigation Measures Area

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3717	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Unmitigated	0.3717	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3271					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**0.3717**	**0.0000**	**2.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

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	lb/day										lb/day					
Architectural Coating	0.0446					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.3271					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-005	0.0000	2.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		4.4000e-004	4.4000e-004	0.0000		4.7000e-004
Total	**0.3717**	**0.0000**	**2.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**4.4000e-004**	**4.4000e-004**	**0.0000**		**4.7000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

PAR 1135 - Boiler (3) to Turbine (3) Repower - South Coast AQMD Air District, Winter

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX C

CEQA Impact Evaluations – Assumptions and Calculations

APPENDIX C-1

CEQA Impact Evaluations – Assumptions and Calculations

Construction Summary

Appendix C
CEQA Construction Impact Evaluations - Assumptions and Calculations
(10/12/2018 rev)

Criteria Pollutant Emissions Summary

PAR 1135 Requirement	VOC (lbs/day)	NOx (lbs/day)	CO (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
Facility 1	0.4	5.0	3.1	0.0	0.3	0.2
Facility 2	5.6	50.4	49.7	0.1	3.6	3.8
Facility 3	16.1	51.1	22.5	0.1	6.3	3.3
Facility 4	0.4	5.0	3.1	0.0	0.3	0.2
Facility 5	0.4	5.0	3.1	0.0	0.3	0.2
Facility 6	0.4	5.0	3.1	0.0	0.3	0.2
Peak Day - Worst Case Construction Emissions from each Facility	16.1	51.1	49.7	0.1	6.3	3.8
SIGNIFICACNE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55

Notes:

1. The emissions are estimated using CalEEMod.
2. Construction activities at each Facility are expected to occur on different days in multiple stages.
3. This analysis is conservative as minimal overlap is expected to occur among the six affected facilities.

GHG Emissions Summary

PAR 1135 Requirement	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr	Amortized CO2e (MT/yr)	
Facility 1	5.46	0.00	0.0	5.50		
Facility 2	8.57	0.00	0.0	8.61		
Facility 3	761	0.12	0.0	764		
Facility 4	1.4	0.0	0.0	1.4		
Facility 5	6.8	0.0	0.0	6.9		
Facility 6	1.4	0.0	0.0	1.4		
Total Emissions During Construction	784	0	0	787	26.2	Total GHG Emissions Amortized over 30 Years

Notes:

1. The emissions are estimated using CalEEMod.

Gasoline Fuel Usage Estimations Summary

Category	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
Facility 1	17.9			
Facility 2	35			
Facility 3	597			
Facility 4	17.9			
Facility 5	17.9			
Facility 6	17.9			
Total	703	0.000703022	6,997	0.00001%

Diesel Fuel Usage Estimations Summary

Category	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
Facility 1	28.4			
Facility 2	647			
Facility 3	76,462			
Facility 4	28.4			
Facility 5	28.4			
Facility 6	28.4			
Total	77,223	0.077222804	749	0.0103%

APPENDIX C-2

CEQA Impact Evaluations – Assumptions and Calculations

Operations Summary

Appendix C
CEQA Operational Impact Evaluations - Assumptions and Calculations
(10/12/2018 rev)

Emissions Summary - Operations

PAR 1135 Requirement	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr	
Facility 1	0.34	0.52	0.03	0.02	0.08	0.00	0.54	0.00	0.00	0.54	
Facility 3	0.34	0.52	0.03	0.02	0.08	0.00	2.68	0.00	0.00	2.68	
Facility 4	0.34	0.52	0.03	0.02	0.08	0.00	0.13	0.00	0.00	0.13	
Facility 5	0.34	0.52	0.03	0.02	0.08	0.00	0.98	0.00	0.00	0.98	
Facility 6	0.34	0.52	0.03	0.02	0.08	0.00	0.13	0.00	0.00	0.13	
Daily Peak Construction Emissions	1.35	2.08	0.14	0.08	0.31	0.01	4.46	0.00	0.00	4.46	0.15 Amortized over 30 Years
SIGNIFICACNE THRESHOLD FOR OPERATION	550	55	150	55	55	150					

Note
1. Facility 2 is assumed to not create any new operational impacts.

Diesel Fuel Usage Estimations Summary

Category	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
Facility 1	205			
Facility 2	-			
Facility 3	1026			
Facility 4	68			
Facility 5	376			
Facility 6	68			
Total	1744	0.00174359	749	0.0002%

GHG Emissions Summary

PAR 1135 Requirement	CO2e, MT/yr	Amortized CO2e (MT/yr)	
Facility 1	0.1		
Facility 2	-		
Facility 3	0.1		
Facility 4	0.1		
Facility 5	0.1		
Facility 6	0.1		
Total Emissions During Operation	0.4	0.01	Total GHG Emissions Amortized over 30 Years

Notes:
1. The emissions are estimated using CalEEMod.

APPENDIX C-3

CEQA Impact Evaluations – Assumptions and Calculations

Construction (Facility 1)

Appendix C-3
CEQA Construction Impact Evaluations - Facility 1
(9/6/2018 rev)

Criteria Pollutant Emissions - Facility 1 SCR Catalyst Replacement

PAR 1135 Requirement	VOC (lbs/day)	NOx (lbs/day)	CO (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
1 SCR Catalyst Replacement	0.4	5.0	3.1	0.0	0.3	0.2
4 SCR Catalyst Replacement	1.7	20.2	12.2	0.0	1.1	0.9
Daily Peak Construction Emissions	0.4	5.0	3.1	0.0	0.3	0.2
SIGNIFICANCE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55

Notes:

1. The emissions are estimated using CalEEMod.

2. SCR replacement is expected to occur on different days in multiple stages.

GHG Emissions Summary - Facility 1 SCR Catalyst Replacement

PAR 1135 Requirement	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr	
1 SCR Catalyst Replacement	1.36	0.00	0.00	1.37	
4 SCR Catalyst Replacement	5.5	0.0	0.0	5.5	
Total Emissions During Construction	5.5	0.0	0.0	5.5	0.18 Amortized Over 30 Years

Notes:

1. The emissions are estimated using CalEEMod.

Gasoline Fuel Usage Estimations

	EPA/NHTSA Fuel Consumption							
Category	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
LDA/LDT1/LDT2				21.6	4.1			
MDT				6.6	13.8			
				TOTAL	17.9	1.78685E-05	6,997	0.0000026%
								Gasoline

Diesel Fuel Usage Estimations

	EPA/NHTSA Fuel Consumption							
Category	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
HDT				5.85	6.84			
				TOTAL	6.84	6.83819E-06	749	0.0000009%
								Diesel

Diesel Fuel Usage Estimations

Off-Road Equipment Type	Amount	Daily Usage Hours	HP	gal/hr	gals	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
Forklift	1	4	89	0.85	3.4			
Aerial Lift	1	4	97	1.23	4.9			
Cranes	1	4	231	3.30	13.2			
				TOTAL	21.6	2.15659E-05	749	0.0000029%
								Diesel

References:

National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php

EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report

California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html

U.S. Department of Energy, Average Fuel Economy of Major Vehicle Categories. https://www.afdc.energy.gov/data/10310

Fuel estimates (gal/hr) from EMFAC2017.

APPENDIX C-4

CEQA Impact Evaluations – Assumptions and Calculations

Operation (Facility 1)

Appendix C-4
CEQA Impact Evaluations - Assumptions and Calculations
(9/6/2018 rev)

Operational Emissions Summary - Facility 1

PAR 1135	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day
Increased Delivery Trucks	0.34	0.52	0.03	0.02	0.08	0.00
Total	0.34	0.52	0.03	0.02	0.08	0.00

By Vehicle Class	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr
Diesel Delivery Trucks (T6 Construction Truck)	0.34	0.52	0.03	0.02	0.08	0.00	0.54	0.00	0.00	0.54
Total	0.34	0.52	0.03	0.02	0.08	0.00	0.54	0.00	0.00	0.54

All sites	
Max. # used/day	Max. # day used/yr
1	6

Note:
1. Peak daily trips assume one new ammonia delivery occurs at Facility 1. Truck trip distances to deliver ammonia are assumed to be 100 miles round-trip
2. No additional employees are anticipated to be needed to operate the replaced SCR catalyst; the existing work force at Facility 1 is expected to be sufficient. As such, no workers' travel emissions are anticipated from the operation of the replaced SCR catalyst.
3. It is assumed medium-heavy duty diesel instate construction trucks would be used to deliver ammonia and catalyst.

Delivery Trucks (Ammonia and Catalyst) - T6 instate construction heavy (T6) - each

	CO	NOx	PM10	PM2.5	VOC	SOX	CO2	CH4	N2O	CO2e
lb/mile	0.0034	0.0052	0.0003	0.0002	0.0008	0.00002	1.97	0.00		1.97
lb/day, MT/day for GHG	0.34	0.52	0.03	0.02	0.08	0.002	0.09	0.00	0.00	0.09

VMT, mile/day
100.0

Emission Factors: from EMFAC2017, EPA AP-42 . 0.0030 Amortized over 30 Years

Diesel Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption							
	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
HDT				5.9	205			
				TOTAL	205	0.000205128	749	0.000274% Diesel

References:

National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php

EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report

California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html

U.S. Department of Energy, Average Fuel Economy of Major Vehicle Categories. https://www.afdc.energy.gov/data/10310

APPENDIX C-5

CEQA Impact Evaluations – Assumptions and Calculations

Construction (Facility 2)

Appendix C-5
CEQA Construction Impact Evaluations - Facility 2
(9/6/2018 rev)

Emissions Summary - Facility 2

PAR 1135 Requirement	VOC (lbs/day)	NOx (lbs/day)	CO (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
1 Engine Demolition and Installation	4.3	40	27	0.1	3.4	2.3
Daily Peak Construction Emissions	4.3	40	27	0.1	3.4	2.3
SIGNIFICACNE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55

Notes:

1. The emissions are estimated using CalEEMod.

2. Equipment demolition and installation is expected to occur on different days in multiple stages.

3. This analysis is conservative as minimal overlap is expected to occur among the installation of each internal combustion engine.

GHG Emissions Summary - Facility 2

PAR 1135 Requirement	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr		
1 Engine Installation	3.38	0.00	0.000	3.40		
Total Emissions During Construction	3.38	0.00	0.00	3.40	0.11329	Amortized over 30 Years

Notes:

1. The emissions are estimated using CalEEMod.

Gasoline Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption							
	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
LDA/LDT1/LDT2				21.6	24.5			
MDT				6.6	10.4			
				TOTAL	34.8	3.48456E-05	6,997	0.0000050% Gasoline

Diesel Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption							
	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
HDT				5.85	34.19			
				TOTAL	34.19	3.41909E-05	749	0.0000046% Diesel

Diesel Fuel Usage Estimations

Off-Road Equipment Type	Amount	Daily Usage Hours	HP	gal/hr	gal	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
Concrete/Industrial Saws	1	8	81	1.39	11.1			
Cranes	1	7	81	1.31	9.2			
Cranes	1	7	231	3.30	23.1			
Forklifts	6	7	97	0.85	35.9			
Generator Sets	2	7	84	1.40	19.6			
Rubber Tired Dozers	1	1	247	4.40	4.4			
Rubber Tired Loaders	2	7	247	3.88	54.3			
Tractors/Loaders/Backhoes	4	8	97	1.59	50.9			
Cement and Mortar Mixers	1	3	9	0.33	1.0			
Pavers	1	4	130	3.38	13.5			
Paving Equipment	1	4	132	2.67	10.7			
Rollers	1	2	80	1.69	3.4			
				TOTAL	237	0.000237127	749	0.000032% Diesel

References:

National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php

EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report

California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html

U.S. Department of Energy, Average Fuel Economy of Major Vehicle Categories. https://www.afdc.energy.gov/data/10310

Fuel estimates (gal/hr) from EMFAC2017.

Appendix C-**5**
CEQA Construction Impact Evaluations - Facility 2
(9/6/2018 rev)

Emissions Summary - Facility 2: Barge Emissions

by Engine Type	VOC (lbs/day)	NOx (lbs/day)	CO (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
Main Engine	1.2	9.5	14	0.08	0.17	1.46
Auxiliary Engines (2)	0.1	0.7	8.2	0.02	0.02	0.02
Daily Peak Construction Emissions	1.3	10	22	0.10	0.19	1.47
SIGNIFICACNE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55

Hours/Day
8

Notes:

1. The main and auxiliary engine emissions for VOC, NOx, and PM10 are estimated using The Carl Moyer Program Guidelines 2017 Revisions: Appendix C: Cost-Effectiveness Calculation Methodology: Formula C-6 Estimated Annual Emissions Based on Hours of Operation (tons/yr)

2. The main and auxiliary engine emissions for CO, SOx, and PM2.5 are estimated using the SMAQMD Harbor craft, Dredge and Barge Emission Factor Calculator

3. Peak daily trips assume one round trip between the Port of Los Angeles and Avalon, approximately a distance of 22 miles each way or four hours per trip.

4. Both engines use diesel fuel.

GHG Emissions Summary - Facility 2: Barge Emissions

PAR 1135 Requirement	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr
Main Engine	4.26	0.00	0.00	4.28
Auxiliary Engines (2)	0.93	0.00	0.00	0.93
Total Emissions During Construction	5.19	0.00	0.00	5.21

0.1736696 Amortized over 30 Years

Notes:

1. The main and auxiliary engine emissions for CO2, CH4, N2O, and CO2e are estimated using the SMAQMD Harbor craft, Dredge and Barge Emission Factor Calculator

Diesel Fuel Usage Estimations

Category					gallon fuel consumed per year due to PAR 1135
Main Engine					348
Auxiliary Engines (2)					28
				TOTAL	376

mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
0.000375961	749	0.000050%
		Diesel

Notes

1. The total barge diesel fuel consumption is estimated by using the engine fuel use equation from Appendix A: Emission Calculations - Final Negative Declartion for: Petro-Diamond Terminal Company Marine Terminal Permit Modification Project, July 2008

APPENDIX C-6

CEQA Impact Evaluations – Assumptions and Calculations

Construction (Facility 3)

Appendix C-**6**
CEQA Construction Impact Evaluations - Facility 3
(9/6/2018 rev)

Emissions Summary - Facility 3

PAR 1135 Requirement	VOC (lbs/day)	NOx (lbs/day)	CO (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
3 Boiler to 3 Turbine Repower	16	51	22	0.1	6.3	3.3
Daily Peak Construction Emissions	16	51	22	0.1	6.3	3.3
SIGNIFICACNE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55

Notes:

1. The emissions are estimated using CalEEMod.

2. Equipment demolition and installation is expected to occur on different days in multiple stages.

GHG Emissions Summary

PAR 1135 Requirement	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr		
3 Boiler to 3 Turbine Repower	761	0.1	0.0	764		
Total Emissions During Construction	761	0.1	0.0	764	25.4549267	Amortized over 30 Years

Notes:

1. The emissions are estimated using CalEEMod.

Gasoline Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption							
	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
LDA/LDT1/LDT2				21.64	404			
MDT				6.64	193			
					597	0.000596703	6,997	0.0000085%

Diesel Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption							
	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
HDT				5.85	76,041			
				TOTAL	76,041	0.076040654	749	0.01015% Diesel

References:

National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php

EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report

California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html

Diesel Fuel Usage Estimations

Off-Road Equipment Type	Amount	Daily Usage Hours	HP	gal/hr	gals	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
Concrete/Industrial Saws	1	8	81	1.4	11.1			
Cranes	1	3	231	3.3	9.9			
Excavators	2	3	247	4.3	25.9			
Forklifts	2	2	97	0.9	3.4			
Graders	1	1	187	4.6	4.6			
Other General Industrial Equipment	2	2	97	1.4	5.5			
Rollers	1	1	80	1.7	1.7			
Rubber Tired Dozers	2	3	247	4.4	26.4			
Tractors/Loaders/Backhoes	2	4	97	1.6	12.7			
Tractors/Loaders/Backhoes	2	3	200	3.9	23.7			
Concrete/Industrial Saws	1	8	81	1.4	11.1			
Excavators	2	3	81	4.3	25.9			
Graders	1	4	247	4.6	18.4			
Rollers	1	4	97	1.7	6.8			
Rubber Tired Dozers	1	4	247	4.4	17.6			
Tractors/Loaders/Backhoes	1	4	200	3.9	15.8			
Tractors/Loaders/Backhoes	2	3	97	1.6	9.5			
Cranes	2	3	97	1.3	7.8			
Cranes	2	1	250	3.3	6.6			
Cranes	2	1	500	5.5	11.0			
Excavators	2	1	99	4.3	8.6			
Forklifts	2	6	89	0.9	10.3			
Other Construction Equipment	2	1	350	8.2	16.4			
Rollers	1	1	80	1.7	1.7			
Rollers	1	1	65	1.4	1.4			
Rubber Tired Loaders	2	2	147	2.8	11.2			
Rubber Tired Loaders	1	2	140	2.8	5.6			
Tractors/Loaders/Backhoes	1	1	79	1.6	1.6			
Tractors/Loaders/Backhoes	2	1	97	1.6	3.2			
Welders	1	4	35	1.2	4.8			
Welders	1	4	38	1.2	4.8			
Aerial Lifts	1	1	9	0.8	0.8			
Cement and Mortar Mixers	4	6	9	0.3	7.9			
Cranes	1	4	130	2.2	8.7			
Forklifts	1	3	80	0.9	2.6			
Pavers	2	5	97	1.7	17.3			
Paving Equipment	2	5	132	2.7	26.7			
Rollers	2	5	80	1.7	16.9			
Tractors/Loaders/Backhoes	1	7	97	1.6	11.1			
Air Compressors	1	4	78	1.0	4.1			
				TOTAL	421	0.000421254	749	0.0000562%
								Diesel

References:

Fuel estimates (gal/hr) from EMFAC2017.

APPENDIX C-7

CEQA Impact Evaluations – Assumptions and Calculations

Operation (Facility 3)

Appendix C-**7**
CEQA Impact Evaluations - Assumptions and Calculations
(9/6/2018 rev)

Operational Emissions Summary - Facility 3

PAR 1135	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day
Increased Delivery Trucks	0.34	0.52	0.03	0.02	0.08	0.00
Total	0.34	0.52	0.03	0.02	0.08	0.00

By Vehicle Class	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr
Diesel Delivery Trucks (T6 Construction Truck)	0.34	0.52	0.03	0.02	0.08	0.00	2.68	0.00	0.00	2.68
Total	0.34	0.52	0.03	0.02	0.08	0.00	2.68	0.00	0.00	2.68

All sites	
Max. # used/day	Max. # day used/yr
1	30

Note:
1. Peak daily trips assume one new delivery (ammonia or catalyst) occurs at Facility 3. Truck trip distances for deliveries are assumed to be 100 miles round-tr
2. No additional employees are anticipated to be needed to operate the new turbines, SCRs, or new ammonia tank; the existing work force at Facility 3 is expected to be sufficient. As such, no workers' travel emissions are anticipated from the operation of the new turbines, SCRs, and ammonia t
3. It is assumed medium-heavy duty diesel instate construction trucks would be used to deliver ammonia and catalyst

Delivery Trucks (Ammonia and Catalyst) - T6 instate construction heavy (T6) - each

	CO	NOx	PM10	PM2.5	VOC	SOX	CO2	CH4	N2O	CO2e
lb/mile	0.0034	0.0052	0.0003	0.0002	0.0008	0.0000	1.97	0.00		1.97
lb/day, MT/day for GHG	0.3379	0.5189	0.0348	0.0201	0.0771	0.0019	0.09	0.00	0.00	0.09
Emission Factors: from EMFAC2017, EPA AP-42							.			0.0030

VMT, mile/day
100.0

Amortized over 30 Years

Diesel Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption						Baseline Year 2016 Estimated Basin Fuel Demand	
	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	mmgal/yr	Total % Above Baseline
HDT				5.9	1026			
				TOTAL	1026	0.00102564	749	0.00137%
								Diesel

References:
National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php
EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report
California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html
U.S. Department of Energy, Average Fuel Economy of Major Vehicle Categories. https://www.afdc.energy.gov/data/10310

APPENDIX C-8

CEQA Impact Evaluations – Assumptions and Calculations

Construction (Facility 4)

Appendix C
CEQA Construction Impact Evaluations - Facility 4
(10/12/2018 rev)

Criteria Pollutant Emissions - Facility 4 SCR Catalyst Replacement

PAR 1135 Requirement	VOC (lbs/day)	NOx (lbs/day)	CO (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
1 SCR Catalyst Replacement	0.4	5.0	3.1	0.0	0.3	0.2
Daily Peak Construction Emissions	0.4	5.0	3.1	0.0	0.3	0.2
SIGNIFICANCE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55

Notes:

1. The emissions are estimated using CalEEMod.

2. SCR replacement is expected to occur on different days in multiple stages.

GHG Emissions Summary - Facility 4 SCR Catalyst Replacement

PAR 1135 Requirement	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr	
1 SCR Catalyst Replacement	1.36	0.00	0.00	1.37	
Total Emissions During Construction	1.4	0.0	0.0	1.4	0.05 Amortized Over 30 Years

Notes:

1. The emissions are estimated using CalEEMod.

Gasoline Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption							
	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
LDA/LDT1/LDT2				21.6	4.1			
MDT				6.6	13.8			
				TOTAL	17.9	1.78685E-05	6,997	0.0000026%
								Gasoline

Diesel Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption							
	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
HDT				5.85	6.84			
				TOTAL	6.84	6.83819E-06	749	0.0000009%
								Diesel

Diesel Fuel Usage Estimations

Off-Road Equipment Type	Amount	Daily Usage Hours	HP	gal/hr	gals	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
Forklift	1	4	89	0.85	3.4			
Aerial Lift	1	4	97	1.23	4.9			
Cranes	1	4	231	3.30	13.2			
				TOTAL	21.6	2.15659E-05	749	0.0000029%
								Diesel

References:

National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php

EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report

California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html

U.S. Department of Energy, Average Fuel Economy of Major Vehicle Categories. https://www.afdc.energy.gov/data/10310

Fuel estimates (gal/hr) from EMFAC2017.

APPENDIX C-9

CEQA Impact Evaluations – Assumptions and Calculations

Operation (Facility 4)

Appendix C
CEQA Impact Evaluations - Assumptions and Calculations
(10/12/2018 rev)

Operational Emissions Summary - Facility 4

PAR 1135	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day
Increased Delivery Trucks	0.34	0.52	0.03	0.02	0.08	0.00
Total	0.34	0.52	0.03	0.02	0.08	0.00

By Vehicle Class	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr	All sites: Max. # used/day	All sites: Max. # day used/yr
Diesel Delivery Trucks (T6 Construction Truck)	0.34	0.52	0.03	0.02	0.08	0.00	0.13	0.00	0.00	0.13	1	2
Total	0.34	0.52	0.03	0.02	0.08	0.00	0.13	0.00	0.00	0.13		

Note:
1. Peak daily trips assume one new ammonia delivery occurs at Facility 4. Truck trip distances to deliver ammonia are assumed to be 100 miles round-trip.
2. No additional employees are anticipated to be needed to operate the replaced SCR catalyst; the existing work force at Facility 4 is expected to be sufficient. As such, no workers' travel emissions are anticipated from the operation of the replaced SCR catalyst.
3. It is assumed medium-heavy duty diesel instate construction trucks would be used to deliver ammonia and catalyst.

Delivery Trucks (Ammonia and Catalyst) - T6 instate construction heavy (T6) - each

	CO	NOx	PM10	PM2.5	VOC	SOX	CO2	CH4	N2O	CO2e	VMT, mile/day
lb/mile	0.0034	0.0052	0.0003	0.0002	0.0008	0.00002	1.97	0.00		1.97	100.0
lb/day, MT/day for GHG	0.34	0.52	0.03	0.02	0.08	0.002	0.09	0.00	0.00	0.09	
Emission Factors: from EMFAC2017, EPA AP-42							.			0.0030	Amortized over 30 Years

Diesel Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption: gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
HDT				5.9	68			
				TOTAL	68	6.8376E-05	749	0.000091% Diesel

References:
National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php
EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report
California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html
U.S. Department of Energy, Average Fuel Economy of Major Vehicle Categories. https://www.afdc.energy.gov/data/10310

APPENDIX C-10

CEQA Impact Evaluations – Assumptions and Calculations

Construction (Facility 5)

Appendix C
CEQA Construction Impact Evaluations - Facility 5
(10/12/2018 rev)

Criteria Pollutant Emissions - Facility 1 SCR Catalyst Replacement

PAR 1135 Requirement	VOC (lbs/day)	NOx (lbs/day)	CO (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
1 SCR Catalyst Replacement	0.4	5.0	3.1	0.0	0.3	0.2
7 SCR Catalyst Replacement	3.0	35.3	21.4	0.0	1.9	1.6
Daily Peak Construction Emissions	0.4	5.0	3.1	0.0	0.3	0.2
SIGNIFICANCE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55

Notes:

1. The emissions are estimated using CalEEMod.

2. SCR replacement is expected to occur on different days in multiple stages.

GHG Emissions Summary - Facility 1 SCR Catalyst Replacement

PAR 1135 Requirement	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr		
1 SCR Catalyst Replacement	1.36	0.00	0.00	1.37		
7 SCR Catalyst Replacement	6.8	0.0	0.0	6.9		
Total Emissions During Construction	6.8	0.0	0.0	6.9	0.23	Amortized Over 30 Years

Notes:

1. The emissions are estimated using CalEEMod.

Gasoline Fuel Usage Estimations

	EPA/NHTSA Fuel Consumption							
Category	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
LDA/LDT1/LDT2				21.6	4.1			
MDT				6.6	13.8			
				TOTAL	17.9	1.78685E-05	6,997	0.0000026%
								Gasoline

Diesel Fuel Usage Estimations

	EPA/NHTSA Fuel Consumption							
Category	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
HDT				5.85	6.84			
				TOTAL	6.84	6.83819E-06	749	0.0000009%
								Diesel

Diesel Fuel Usage Estimations

Off-Road Equipment Type	Amount	Daily Usage Hours	HP	gal/hr	gals	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
Forklift	1	4	89	0.85	3.4			
Aerial Lift	1	4	97	1.23	4.9			
Cranes	1	4	231	3.30	13.2			
				TOTAL	21.6	2.15659E-05	749	0.0000029%
								Diesel

References:

National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php

EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report

California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html

U.S. Department of Energy, Average Fuel Economy of Major Vehicle Categories. https://www.afdc.energy.gov/data/10310

Fuel estimates (gal/hr) from EMFAC2017.

APPENDIX C-11

CEQA Impact Evaluations – Assumptions and Calculations

Operation (Facility 5)

Appendix C
CEQA Impact Evaluations - Assumptions and Calculations
(10/12/2018 rev)

Operational Emissions Summary - Facility 5

PAR 1135	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day
Increased Delivery Trucks	0.34	0.52	0.03	0.02	0.08	0.00
Total	0.34	0.52	0.03	0.02	0.08	0.00

By Vehicle Class	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr	All sites: Max. # used/day	All sites: Max. # day used/yr
Diesel Delivery Trucks (T6 Construction Truck)	0.34	0.52	0.03	0.02	0.08	0.00	0.98	0.00	0.00	0.98	1	11
Total	0.34	0.52	0.03	0.02	0.08	0.00	0.98	0.00	0.00	0.98		

Note:
1. Peak daily trips assume one new ammonia delivery occurs at Facility 5. Truck trip distances to deliver ammonia are assumed to be 100 miles round-trip.
2. No additional employees are anticipated to be needed to operate the replaced SCR catalyst; the existing work force at Facility 1 is expected to be sufficient. As such, no workers' travel emissions are anticipated from the operation of the replaced SCR catalyst.
3. It is assumed medium-heavy duty diesel instate construction trucks would be used to deliver ammonia and catalyst.

Delivery Trucks (Ammonia and Catalyst) - T6 instate construction heavy (T6) - each

	CO	NOx	PM10	PM2.5	VOC	SOX	CO2	CH4	N2O	CO2e	VMT, mile/day
lb/mile	0.0034	0.0052	0.0003	0.0002	0.0008	0.00002	1.97	0.00		1.97	100.0
lb/day, MT/day for GHG	0.34	0.52	0.03	0.02	0.08	0.002	0.09	0.00	0.00	0.09	
Emission Factors: from EMFAC2017, EPA AP-42							.			0.0030	Amortized over 30 Years

Diesel Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption: gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
HDT				5.9	376			
				TOTAL	376	0.00037607	749	0.000502% Diesel

References:
National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php
EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report
California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html
U.S. Department of Energy, Average Fuel Economy of Major Vehicle Categories. https://www.afdc.energy.gov/data/10310

APPENDIX C-12

CEQA Impact Evaluations – Assumptions and Calculations

Construction (Facility6)

Appendix C
CEQA Construction Impact Evaluations - Facility 6
(10/12/2018 rev)

Criteria Pollutant Emissions - Facility 6 SCR Catalyst Replacement

PAR 1135 Requirement	VOC (lbs/day)	NOx (lbs/day)	CO (lbs/day)	SOx (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
1 SCR Catalyst Replacement	0.4	5.0	3.1	0.0	0.3	0.2
Daily Peak Construction Emissions	0.4	5.0	3.1	0.0	0.3	0.2
SIGNIFICANCE THRESHOLD FOR CONSTRUCTION	75	100	550	150	150	55

Notes:

1. The emissions are estimated using CalEEMod.

2. SCR replacement is expected to occur on different days in multiple stages.

GHG Emissions Summary - Facility 6 SCR Catalyst Replacement

PAR 1135 Requirement	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr
1 SCR Catalyst Replacement	1.36	0.00	0.00	1.37
Total Emissions During Construction	1.4	0.0	0.0	1.4

0.05 Amortized Over 30 Years

Notes:

1. The emissions are estimated using CalEEMod.

Gasoline Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption							
	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
LDA/LDT1/LDT2				21.6	4.1			
MDT				6.6	13.8			
				TOTAL	17.9	1.78685E-05	6,997	0.0000026% Gasoline

Diesel Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption							
	gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
HDT				5.85	6.84			
				TOTAL	6.84	6.83819E-06	749	0.0000009% Diesel

Diesel Fuel Usage Estimations

Off-Road Equipment Type	Amount	Daily Usage Hours	HP	gal/hr	gals	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
Forklift	1	4	89	0.85	3.4			
Aerial Lift	1	4	97	1.23	4.9			
Cranes	1	4	231	3.30	13.2			
				TOTAL	21.6	2.15659E-05	749	0.0000029% Diesel

References:

National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php

EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report

California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html

U.S. Department of Energy, Average Fuel Economy of Major Vehicle Categories. https://www.afdc.energy.gov/data/10310

Fuel estimates (gal/hr) from EMFAC2017.

APPENDIX C-13

CEQA Impact Evaluations – Assumptions and Calculations

Operation (Facility 6)

Appendix C
CEQA Impact Evaluations - Assumptions and Calculations
(10/12/2018 rev)

Operational Emissions Summary - Facility 6

PAR 1135	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day
Increased Delivery Trucks	0.34	0.52	0.03	0.02	0.08	0.00
Total	0.34	0.52	0.03	0.02	0.08	0.00

By Vehicle Class	CO, lb/day	NOx, lb/day	PM10, lb/day	PM2.5, lb/day	VOC, lb/day	SOX, lb/day	CO2, MT/yr	CH4, MT/yr	N2O, MT/yr	CO2e, MT/yr	All sites: Max. # used/day	All sites: Max. # day used/yr
Diesel Delivery Trucks (T6 Construction Truck)	0.34	0.52	0.03	0.02	0.08	0.00	0.13	0.00	0.00	0.13	1	2
Total	0.34	0.52	0.03	0.02	0.08	0.00	0.13	0.00	0.00	0.13		

Note:
1. Peak daily trips assume one new ammonia delivery occurs at Facility 4. Truck trip distances to deliver ammonia are assumed to be 100 miles round-trip.
2. No additional employees are anticipated to be needed to operate the replaced SCR catalyst; the existing work force at Facility 4 is expected to be sufficient. As such, no workers' travel emissions are anticipated from the operation of the replaced SCR catalyst.
3. It is assumed medium-heavy duty diesel instate construction trucks would be used to deliver ammonia and catalyst.

Delivery Trucks (Ammonia and Catalyst) - T6 instate construction heavy (T6) - each

	CO	NOx	PM10	PM2.5	VOC	SOX	CO2	CH4	N2O	CO2e	VMT, mile/day
lb/mile	0.0034	0.0052	0.0003	0.0002	0.0008	0.00002	1.97	0.00		1.97	100.0
lb/day, MT/day for GHG	0.34	0.52	0.03	0.02	0.08	0.002	0.09	0.00	0.00	0.09	
Emission Factors: from EMFAC2017, EPA AP-42							.			0.0030	Amortized over 30 Years

Diesel Fuel Usage Estimations

Category	EPA/NHTSA Fuel Consumption: gal/1,000 ton-mile	ton	1ton-m/g	mpg	gallon fuel consumed per year due to PAR 1135	mmgal	Baseline Year 2016 Estimated Basin Fuel Demand mmgal/yr	Total % Above Baseline
HDT				5.9	68			
				TOTAL	68	6.8376E-05	749	0.000091% Diesel

References:
National Highway Traffic Safety Administration (NHTSA) vocational vehicle standards, https://www.dieselnet.com/standards/us/fe_hd.php
EPA Fuel Economy report: https://www.epa.gov/fueleconomy/trends-report
California Annual Retail Fuel Outlet Report Results (CEC-A15) Spreadsheets http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html
U.S. Department of Energy, Average Fuel Economy of Major Vehicle Categories. https://www.afdc.energy.gov/data/10310

APPENDIX D

PAR 1135 List of Affected Facilities and NAICS Code

Appendix D: PAR 1135 List of Affected Facilities

Facility ID	Facility Name	Address	On List per Government Code 65962.5 (Envirostor)?	Distance from School (meters)	Distance from Sensitive Receptor (meters)	Located Within Two Miles of an Airport?
4477	So Cal Edison Co	1 Pebbly Beach Rd. Avalon CA 90704	No	1720	150	No
14502	City of Vernon, Vernon Gas & Electric	4990 Seville Ave. Vernon CA 90058	No	830	340	No
17104	SCE, Norwalk	10601 E Firestone Blvd Norwalk CA 90650	No	280	<1	No
25638	Burbank City, Burbank Water & Power	164 W Magnolia Blvd Burbank CA 91502	Yes	500	180	No
51003	SCE, Ontario	13568B Hamner Ave. Ontario CA 91761	No	1000	630	No
51475	SCE, Stanton	10670 Dale Ave. Stanton CA 90680	No	50	20	No
56940	City Of Anaheim/Comb Turbine Gen Station	1144 N. Kraemer Blvd Anaheim CA 92806	No	1300	880	No
115314	Long Beach Generation, LLC	2665 Pier S Ln Long Beach CA 90802	Yes	1930	1930	No
115315	NRG California South LP, Etiwanda Gen St	8996 Etiwanda Ave Rancho Cucamonga CA 91739	Yes	2920	770	No
115389	AES Huntington Beach, LLC	21730 Newland St Huntington Beach CA 92646	Yes	570	570	No
115394	AES Alamitos, LLC	690 N Studebaker Rd Long Beach CA 90803	No	140	140	No
115536	AES Redondo Beach, LLC	1100 N Harbor Dr Redondo Beach CA 90277	Yes	760	40	No
115663	El Segundo Power, LLC	301 Vista Del Mar El Segundo CA 90245	Yes	1600	700	Yes
127299	Wildflower Energy LP/Indigo Gen., LLC	63500 19th Ave North Palm Springs CA 92258	No	5300	1280	No
128243	Burbank City, Burbank Water & Power, SCPPA	164 W Magnolia Blvd Burbank CA 91502-1720	Yes	500	180	No
129810	City of Riverside Public Utilities Dept	2221 Eastridge Ave. Riverside CA 92507	No	920	520	No
129816	Inland Empire Energy Center, LLC	26226 Antelope Road Menifee CA 92585	No	120	240	No
139796	City of Riverside Public Utilities Dept	5901 Payton Riverside CA 92504	No	890	690	No
146536	Walnut Creek Energy, LLC	911 Bixby Dr City Of Industry CA 91745	Yes	770	320	No
149620	SCE, Rancho Cucamonga	12408 6th Street Rancho Cucamonga CA 91739	Yes	2570	1240	No
152707	Sentinel Energy Center LLC	15775 Melissa Lane Road North Palm Springs CA 92258	No	5480	720	No
153992	City of Anaheim / Canyon Power Plant	3071 E Miraloma Ave. Anaheim CA 92806	No	580	580	No
155474	Bicent (California) Malburg LLC	4963 S Soto St Vernon CA 90058-2911	No	810	750	No
160437	Southern California Edison	2492 W San Bernardino Ave Redlands CA 92374	Yes	780	20	No
172077	City of Colton	2040 Agua Mansa Rd Colton CA 92324	No	2810	1160	No
800074	LA City, DWP Haynes Generating Station	6801 2nd Street Long Beach CA 90803	No	690	50	No
800075	LA City, DWP Scattergood Generating Stn	12700 Vista Del Mar Playa Del Rey CA 90293	No	500	<1	Yes
800168	Pasadena City, DWP	72 E Glenarm St Pasadena CA 91105-3418	Yes	30	30	No
800170	LA City, DWP Harbor Generating Station	161 N Island Ave Wilmington CA 90744	No	30	30	No
800193	LA City, DWP Valley Generating Station	11801 Sheldon Street Sun Valley CA 91352	Yes	500	80	Yes
800327	Glendale City, Glendale Water And Power	800 Air Way Glendale CA 91201	No	820	60	No

Note: Distances between facilities and sensitive receptors were estimated using Google Maps from parcel line to parcel line and were rounded to the nearest tenth.

Appendix D: NAICS Codes for PAR 1135 Affected Industry

Description of Industry	NAICS Codes	Number of Units
Electric power generation, fossil fuel (e.g., coal, oil, gas)	221112	31

APPENDIX E

Hazards Analysis

RMP*Comp

RMP*Comp

Estimated Distance Calculation

Estimated distance to toxic endpoint: 0.1 miles (0.2 kilometers)

This is the downwind distance to the toxic endpoint specified for this regulated substance under the RMP Rule. Report all distances shorter than 0.1 mile as 0.1 mile, and all distances longer than 25 miles as 25 miles.

Scenario Summary

Chemical:	Ammonia (water solution)
Initial concentration:	20 %
CAS number:	7664-41-7
Threat type:	Toxic Liquid
Scenario type:	Worst-case
Liquid temperature:	77 F
Quantity released:	12000 gallons
Mitigation measures:	
Diked area:	519.75 square feet
Dike height:	4.5 feet
Release rate to outside air:	10.9 pounds per minute
Surrounding terrain type:	Urban surroundings (many obstacles in the immediate area)
Toxic endpoint:	0.14 mg/L; basis: ERPG-2

Assumptions about this scenario

Wind speed:	1.5 meters/second (3.4 miles/hour)
Stability class:	F
Air temperature:	77 degrees F (25 degrees C)

https://cdxnodengn.epa.gov/cdx-rmp-maintain/action/rmp-comp/toxicLiquid

APPENDIX F

Comment Letter Received on the Draft Mitigated SEA and Response to Comment

Comment Letter #1: Victoria Martin/Augustine Band of Cahuilla Indians

Comment Letter #1

AUGUSTINE BAND OF CAHUILLA INDIANS

PO Box 846 84-481 Avenue 54 Coachella CA 92236
Telephone: (760) 398-4722
Fax (760) 369-7161
Tribal Chairperson: Amanda Vance
Tribal Vice-Chairperson: William Vance
Tribal Secretary: Victoria Martin

September 24, 2018

Ryan Banuelos
South Coast AQMD
21865 Copley Drive
Diamond Bar, CA 91765

Re: **Notice of Completion of a draft mitigated subsequent environmental assessment and Opportunity for public comment**
PROJECT TITLE: Proposed Amended Rule 1135- Emissions of Oxides of Nitrogen From Electricity Generating Facilities

Dear Mr. Banuelos–

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project, and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources has resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time we are unaware of specific cultural resources that may be affected by the proposed project. We encourage you to contact other Native American Tribes and individuals within the immediate vicinity of the project site that may have specific information concerning cultural resources that may be located in the area. We also encourage you to contract with a monitor who is qualified in Native American cultural resources identification and who is able to be present on-site full-time during the pre-construction and construction phase of the project. Please notify us immediately should you discover any cultural resources during the development of this project. 1-1

Very truly yours,

Victoria Martin
Tribal Secretary

Response to Comment Letter #1

Response 1-1

As part of releasing the Draft Mitigated SEA for public review and comment, the SCAQMD also provided a formal notice of the proposed project to all California Native American Tribes (Tribes) that requested to be on the Native American Heritage Commission's (NAHC) notification list. This notice provided an opportunity for Tribes to request a consultation with the SCAQMD in accordance with the requirements in Public Resources Code Section 21080.3.1. The SCAQMD did not receive any consultation requests from Tribes relative to PAR 1135.