Draft Environmental Impact Report

Scattergood Generating Station Units 1 and 2 Green Hydrogen-Ready Modernization Project

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FIGURES

TABLES

ACRONYMS AND ABBREVIATIONS

µg/m^3	micrograms per cubic meter
AB	Assembly Bill
ACC	air cooled condenser
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AHJ	authority having jurisdiction
AQMP	Air Quality Management Plan
ASME	American Society of Mechanical Engineers
BACT	Best Available Control Technology
BESS	battery energy storage system
BMP	Best Management Practice
BP	before present
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimators Model
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCGS	combined-cycle generation system
CEQA	California Environmental Quality Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CGA	Compressed Gas Association
CH_4	methane
City	City of Los Angeles
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
Community Plan	Westchester–Playa del Rey Community Plan
CRMP	Cultural Resources Monitoring Plan
dB	decibel
dBA	A-weighted decibel sound measurement scale
DPM	diesel particulate matter

EIR	Environmental Impact Report
ESB	El Segundo blue butterfly
FAA	Federal Aviation Administration
FCAA	Federal Clean Air Act
Gabrielino Tongva	Gabrielino Tongva Indians of California
GHG	greenhouse gas
GPD	gallons per day
GWP	global warming potential
H_2	hydrogen
H_2O	water
H_2S	hydrogen sulfide
HARP2	Hotspots Analysis and Reporting Program, version 2
HFC	hydrofluorocarbon
HIA	Acute Hazard Index
HIC	Chronic Hazard Index
HRA	health risk assessment
HRSG	heat recovery steam generator
IWMD	Industrial Waste Management Division
Kizh Nation	Gabrieleno Band of Mission Indians–Kizh Nation
kV	kilovolt
LA100	Los Angeles 100% Renewable Energy Study
LADOT Guidelines	LADOT Transportation Assessment Guidelines
LADOT	Los Angeles Department of Transportation
LADWP	Los Angeles Department of Water and Power
LAMC	Los Angeles Municipal Code
LARWQCB	Los Angeles Regional Water Quality Control Board
LAX	Los Angeles International Airport
lb	pound
L_{eq}	equivalent sound level
LST	Localized Significance Threshold
MATES V	Multiple Air Toxics Exposure Study V
MEIR	maximally exposed individual resident
MEIW	maximally exposed individual worker
MGD	million gallons per day
MLD	most likely descendant
MM	mitigation measure

MRZ	mineral resource zone
MT	metric tons
MW	megawatt
MWh	megawatt-hour
N_2	nitrogen
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NERC	North American Electric Reliability Corporation
NF_3	nitrogen trifluoride
NFPA	National Fire Protection Association
NH_4OH	ammonium hydroxide
NM	noise measurement
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
O_2	oxygen
O_3	ozone
OEHHA	Office of Environmental Health Hazard Assessment
OTC	once-through cooling
Pb	lead
PF-1	Public Facilities
PFC	perfluorocarbon
PM_{10}	particulate matter 10 micrometers or less in diameter
$PM_{2.5}$	particulate matter 2.5 micrometers or less in diameter
POTW	Publicly Owned Treatment Works
PPB	parts per billion
PPM	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
QSP	Quality System Program
RCPG	Regional Comprehensive Plan and Guide

RECLAIM	Regional Clean Air Incentives Market
RMP	Risk Management Policy
RMS	root mean square
ROG	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
Scattergood	Scattergood Generating Station
SCR	selective catalytic reduction
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SLC	State Lands Commission
SLTRP	2022 Power Strategic Long-Term Resource Plan
SO_2	sulfur dioxide
SO_4^{2-}	sulfates
SO_x	sulfur oxide
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compounds
WDR	Waste Discharge Requirements
WECC	Western Electricity Coordinating Council
WRP	Water Reclamation Plant

CHAPTER 1
EXECUTIVE SUMMARY

1.1 Introduction

This Draft Environmental Impact Report (EIR) has been prepared by the Los Angeles Department of Water and Power (LADWP) as lead agency pursuant to the California Environmental Quality Act of 1970 (CEQA) statutes (California Public Resources Code Section 21000 et seq., as amended) and its implementing guidelines (California Code of Regulations, Title 14, Division 6, Chapter 4, Section 15000 et. seq.). This EIR has been prepared to evaluate the environmental effects of the proposed Scattergood Generating Station Units 1 and 2 Green Hydrogen-Ready Modernization Project (proposed project). This EIR focuses on those potential effects of the proposed project on the environment that were identified as potentially significant in the CEQA Initial Study (see Section 1.6 below). In addition, feasible mitigation measures are recommended, when applicable, that could reduce significant environmental impacts or avoid significant environmental impacts.

This Executive Summary provides a brief overview of the proposed project's background; project description including objectives, location, characteristics, and construction; alternatives to the proposed project; and areas of known controversy. Table 1-1, Summary of Project Impacts and Mitigation Measures, at the end of this section includes a summary of the potential environmental impacts resulting from implementation of the proposed project, the feasible mitigation measures proposed to avoid or substantially reduce those impacts, and the impact level of significance following the implementation of mitigation measures, if applicable.

1.2 Project Background

LADWP has identified the proposed project as integral to the goal of implementing a carbon--free energy system providing reliable and sustainable electrical power for the City of Los Angeles (City). Based on findings in the Los Angeles 100% Renewable Energy Study prepared by National Renewable Energy Laboratory and LADWP as well as the 2022 Power Strategic Long-Term Resource Plan prepared by LADWP, the continued availability of local energy generation that can be dependably and rapidly dispatched to respond to demand for energy in the LADWP service area is necessary to maintain the resilience and reliability of the City's electrical power grid. LADWP's Scattergood Generating Station (Scattergood) has been identified as the most immediate and instrumental location in relation to the requirement for firm (i.e., dependable) in-basin generation capacity due to the projected demand for energy in areas of the City that Scattergood serves.

1.3 Project Description

1.3.1 Project Objectives

The objectives of the proposed project are to:

- Provide resilience to maintain the reliability of the LADWP electrical power system to help meet peaks in demand that exceed available renewable generation resources and energy storage capacity as well as demand during infrequent and relatively short-term, but major, interruptions in the primary carbon-free generation and/or transmission system caused by emergency circumstances.

- Establish a generation source that is always available, dispatchable, and local relative to the LADWP service area.
- Provide generation capacity to support grid stability and energy demand in the Scattergood service area, which includes Los Angeles International Airport, Hyperion Water Reclamation Plant, and the western districts of the City of Los Angeles.
- Reduce the emissions of greenhouse gases from power generation consistent with the LADWP transition to a carbon-free electrical power system.

The Scattergood Generating Station Units 1 and 2 Green Hydrogen-Ready Modernization Project would satisfy these objectives, which are also consistent with the broader aims of LADWP regarding future energy planning, development, and operations to maintain the reliability and resilience of the City's electrical power grid during and after the transition to a carbon-free system, as reflected in the 2022 Power Strategic Long-Term Resource Plan.

1.3.2 Project Location and Setting

Scattergood is located in the Playa del Rey community of the City of Los Angeles at the intersection of Vista Del Mar and Grand Avenue. Dockweiler State Beach is located to the west of Scattergood and Vista Del Mar. The approximately 120-acre Hyperion Water Reclamation Plant, located within the City of Los Angeles, is adjacent to Scattergood on the north. The City of El Segundo borders Scattergood on the northeast, east, and south. Residential neighborhoods within El Segundo are located to the northeast and east, and the approximately 1.5-square-mile Chevron El Segundo Refinery is adjacent to the south.

Scattergood currently includes six operating generation units. The units have a combined gross generation capacity of 830 megawatts and supply power to the LADWP in-basin electrical transmission grid. Grand Avenue, an east-west thoroughfare, divides the Scattergood property into northern and southern parcels.

All permanent operational facilities (i.e., generation units or ancillary functions) at Scattergood are located within the northern parcel, which is approximately 37.5 acres. The northern parcel rises in elevation from west to east and contains three terraces that are separated by landscaped embankments or retaining walls. It is a fully developed industrial site, with the landscape embankments being essentially the only areas not paved or occupied by facilities. The existing generation units are located on the lower and middle terraces. The middle terrace is otherwise occupied primarily by the switchyard that connects the generation units to the LADWP high--voltage transmission network. The upper terrace contains three large aboveground tanks that store water used in various processes at the station. An approximate 3-acre vacant area in the southwest corner of the northern parcel was the site of the former Scattergood Unit 3, which was demolished in 2017-2018. The floor of this area, which has been paved, lies approximately 30 feet below the surrounding grade.

The southern parcel of Scattergood is approximately 15 acres. It does not contain any operational facilities (i.e., generation units or ancillary functions). Oil-drilling facilities, operated by a third party under lease from LADWP, are located on an approximately 1.5-acre area in the central portion of the parcel. Excess soil from previous construction activities at Scattergood is stockpiled at the western end of the southern parcel. An approximately 7-acre area at the eastern end of the parcel is relatively flat and paved with gravel. Since 2013, this portion of the property has been used as a construction support area at Scattergood for generator construction and various underground transmission cable installation projects that commence at the Scattergood switchyard.

1.3.3 Project Characteristics

The proposed project would allow for the generation capacity of existing Scattergood Units 1 and 2, which are conventional natural-gas-fired steam boiler generators, to be replaced with a rapid-response combined-cycle generation system (CCGS) capable of operating on a fuel mixture of natural gas with a minimum of 30 percent hydrogen by volume. The proposed CCGS would consist of a combustion-turbine generator and a steam-turbine generator operating in tandem. Additional facilities or ancillary functions required to support the proposed CCGS include, but are not limited to, an air-cooled condenser, wet-surface air cooler, gas compressors, switchyard upgrades, and a dedicated pipeline for industrial wastewater discharge in Vista Del Mar.

With the implementation of expanded renewable generation resources, improvements to transmission systems, increased energy storage, and other elements of the LADWP carbon-free energy system outlined in the 2022 Power Strategic Long-Term Resource Plan, LADWP's in--basin generation units, including the proposed project, are anticipated to be utilized less frequently than under current conditions, primarily to meet peaks in the requirement for electrical power during high demand days that exceed renewable energy production and energy storage capacity. In addition, the in-basin units would be used during relatively short-term periods when renewable generation sources and/or transmission assets become unavailable due to emergency circumstances. Therefore, it is anticipated that the proposed project CCGS would be operated at a substantially lower capacity factor (i.e., the ratio of actual generation output to the potential capacity of the generation unit) compared to similar units in service today. However, the proposed project is nonetheless critical in maintaining the resilience and reliability of the LADWP power system under stressed conditions and thus, would be an integral part of the future carbon-free grid.

The green hydrogen system that would supply the proposed project is currently in the planning stages; therefore, the installation of the infrastructure for the production, delivery, and storage of hydrogen is not included in the scope of the proposed project. Hydrogen infrastructure will be analyzed in a separate environmental review and approval process when the necessary information to support an adequate analysis of potential impacts is available. LADWP would not implement or operate this hydrogen infrastructure but would be a purchaser of hydrogen to supply the proposed project. Nonetheless, because the combustion-turbine generator component of the proposed CCGS would be capable of operating on a mixture of natural gas and hydrogen fuel, the impacts related to the combustion of such a fuel mixture are analyzed in this EIR.

1.3.4 Construction Schedule

Construction of the proposed project is estimated to take approximately 3 years to complete, starting in 2026 and continuing to mid-2029. Construction would consist of three primary phases of work: site preparation, generation unit and ancillary facility construction, and generation unit commissioning. Site preparation would take approximately 9 months, backfilling the site would take approximately 6 months, and generation unit construction would take approximately 29 months, overlapping with the completion of the site preparation phase.

Upgrading the switchyard with modifications to breaker and disconnect equipment and installing the wastewater pipeline to Hyperion Water Reclamation Plant within Vista Del Mar would also be accomplished during the construction of the CCGS. Commissioning of the CCGS would occur concurrently with the final months of construction as individual elements are completed. This would be followed by an approximately 6-month period during which the operation of the CCGS and associated systems would be tested, verified for reliability, and adjusted as necessary. No energy from the CCGS would be transmitted to the grid during this testing period. After this

process, which would be completed by the end of 2029, Units 1 and 2 would be removed from service.

Other than the delivery of fill material and construction components to the site, the hauling of debris from the site, and the installation of a dedicated wastewater pipeline to Hyperion Water Reclamation Plant within Vista Del Mar, construction activities would be confined to the boundaries of Scattergood.

Construction activities would normally occur Monday through Friday during daytime hours, beginning no earlier than 7:00 a.m. and ending by 6:00 p.m. Personnel may arrive on site prior to 7:00 a.m. to conduct safety meetings and other pre-construction activities, but no noise--generating construction activities would occur before 7:00 a.m. Likewise, personnel may remain on site after 6:00 p.m., conducting closeout activities, but noise-generating construction activities would generally not occur after 6:00 p.m. Construction on Saturdays may also occasionally be necessary but is generally not anticipated. If Saturday work is required to ensure the project stays on schedule, noise-generating construction activities would not begin before 7:00 a.m. and would end by 6:00 p.m. Some construction activities must be conducted continuously until complete (e.g., welding activities that cannot be interrupted). Most construction activities that might be conducted after normal weekday working hours or on Saturdays would be the types that would not create substantial noise. No construction work would occur on Sundays or federal holidays, except under emergency conditions. These limits are consistent with the provisions in the City of El Segundo Municipal Code regarding construction noise. During construction, a public liaison for the project would be available to address public concerns about construction activities.

1.4 Project Alternatives

In accordance with the CEQA Guidelines, alternatives to the proposed project have been considered in this EIR to explore potential means to mitigate or avoid the significant environmental impacts associated with implementation of the proposed project while still achieving the primary objectives of the project. Pursuant to Section 15126.6(a) of the CEQA Guidelines, an EIR shall describe a range of reasonable alternatives to the project that would attain the project objectives and would avoid or substantially lessen any of the significant effects of the project. The CEQA Guidelines state that an EIR need not consider every conceivable alternative or consider alternatives that are infeasible. An EIR should present a reasonable range of feasible alternatives that will support informed decision making and public participation regarding the potential environmental consequences of a project and possible means to address those consequences. The alternatives analysis must also include a comparative evaluation of the No Project Alternative in accordance with Section 15126.6(e) of the CEQA Guidelines to determine the consequences of not implementing the project. Through the identification, evaluation, and comparison of alternatives, the relative advantages and disadvantages of each alternative compared with the proposed project can be determined.

Five alternatives were considered but eliminated from further consideration in this EIR, as discussed in Chapter 5, Alternatives. The following four alternatives are carried forward for further consideration in Chapter 5.

1.4.1 Alternative 1: No Project

Pursuant to CEQA Guidelines Section 15126.6(e), an evaluation of a No Project Alternative is required which proposes that no project be implemented. Under this alternative, the existing Scattergood Units 1 and 2 generating capacity would not be replaced with a rapid-response CCGS constructed within the Scattergood property boundaries. However, Scattergood Units 1 and 2 would still be removed from service at the end of 2029 to comply with the statewide Water Quality Control Policy on the use of Coastal and Estuarine Waters for Power Plant Cooling.

Although this alternative is technically feasible since it requires no action, the No Project Alternative would result in a loss of generation capacity at Scattergood. This would result in the elimination of short-term, construction-related impacts associated with air quality, paleontological resources, tribal cultural resources, and hazards as well as a reduction in air pollutant emissions from project operations. However, the No Project Alternative would not meet most of the project objectives for establishing a resilient, reliable, always available and dispatchable generation source for the LADWP electrical power system local to the Scattergood area.

1.4.2 Alternative 2: Energy Storage

Under Alternative 2, the proposed CCGS would not be constructed. Instead, LADWP would implement a grid-scale battery energy storage system (BESS) to store energy during periods of excess generation to be discharged later during periods of high demand. Though Alternative 2 would be technically feasible and reduce some environmental impacts, the BESS would not provide a comparable generation capacity as the proposed CCGS. In addition, substantially more real estate would be required to implement this alternative which may be cost-prohibitive, cause schedule delays, and may create increased impacts related to ground disturbance that are not reasonably ascertainable at this time, depending on site characteristics. The BESS would meet some of the project objectives; however, it would not provide requirements for a reliable, resilient, and readily dispatchable longer duration energy source during periods of critical demand when major interruptions to service occur.

1.4.3 Alternative 3: Green Hydrogen Powered Fuel Cells

Under Alternative 3, the proposed CCGS would not be constructed. Instead, a green hydrogen fuel cell system which uses hydrogen fuel to generate electricity through an electrochemical reaction instead of combustion would be implemented. Even though Alternative 3 would meet the project objectives and reduce environmental impacts associated with commissioning and operational air pollutant emissions, it is an unproven technology at the scale required to replace the proposed project generation capacity and may take up to a decade to implement. The fuel cell system would also have limited fuel flexibility, a shortened lifespan, and would require substantially more real estate to provide a comparable generation capacity resulting in higher costs and schedule delays and potentially increased impacts related to ground disturbance that are not reasonably ascertainable at this time, depending on site characteristics.

1.4.4 Alternative 4: Eliminate Vendor B

Under Alternative 4, the proposed CCGS would be constructed; however, either equipment proposed by Vendor A or Vendor C would be selected, as the equipment proposed by Vendor B would have significant and unavoidable peak daily air emissions for volatile organic compounds (VOCs) during operations related to the combustion generator startup and shutdown even during operations with a hydrogen fuel mix.

This alternative is technically feasible and meets all of the project objectives as it is essentially the proposed project with the limitation of which vendor can be selected for project implementation. This alternative would reduce operational air quality impacts associated with peak VOC emissions, while all other environmental impacts would be the same as the proposed project.

1.4.5 Environmentally Superior Alternative

In accordance with CEQA Guidelines Section 15126.6, an EIR shall identify an environmentally superior alternative among the feasible alternatives, including the proposed project and other than the "no project" alternative. In comparison to the feasible alternatives that would achieve most of the basic objectives of the proposed project, Alternative 4: Eliminate Vendor B has been determined to be the environmentally superior alternative because it would result in the least impact to the physical environment that can be reasonably ascertained.

1.5 Areas of Known Controversy

A public scoping period was held to solicit input on the scope of the analysis for the EIR between May 15, 2023 and July 14, 2023. Additionally, a scoping meeting was held by LADWP on June 6, 2023. The purpose of this meeting was to seek input from public agencies, organizations, and the general public regarding the potential environmental impacts of the proposed project. A total of eight written comments and two oral comments during the scoping meeting were received during the scoping period. Comment letters are included in Appendix A of this EIR. The public comments, questions, and concerns that were received at the scoping meeting, as well as in writing, generally pertained to the following topics:

- *Aesthetics*: potential impacts related to scenic views and glare;
- *Air Quality*: zero emission technologies, hydrogen usage, alternatives, construction impacts;
- *Biological Resources*: issue with nesting birds and mitigation;
- *Greenhouse Gas Emissions*: compliance with USEPA regulations;
- *Hazards and Hazardous Materials*: potential impacts related to hydrogen storage, proximity to a school, and mitigation;
- *Land Use*: recommendation of mitigation measures;
- *Transportation*: recommendations related to a traffic control plan and large size truck trips;
- *Tribal Cultural Resources*: recommendation of consultation; and
- Other comments generally related to the Project Description, such as hydrogen usage and permitting.

1.6 Summary of Environmental Impacts

As stated in Section 4.0.3, Effects Not Found To Be Significant, of this EIR, the CEQA Initial Study (Appendix A) concluded that the proposed project would not result in significant impacts to agriculture and forestry resources, cultural resources, energy, geology and soils, land use and planning, mineral resources, population and housing, public services, recreation, transportation, and wildfire. Additionally, through the analysis in the CEQA Initial Study, the proposed project would not result in significant impacts to certain thresholds for aesthetics, biological resources, hazards and hazardous materials, hydrology and water quality, noise, tribal cultural resources, and utilities and service systems. Therefore, these specific resource thresholds are not addressed in the EIR as separate environmental impact analysis and are not summarized in Table 1-1.

Several environmental topics were found to be less than significant or less than significant with mitigation incorporated, as described in the EIR and summarized in Table 1-1, including the following: aesthetics, air quality, biological resources, greenhouse gas emissions, hazards and hazardous materials, noise, tribal cultural resources, and wastewater. Additionally, the proposed project was found to cause a temporary, but nonetheless significant and unavoidable impact to air quality during generator commissioning activity for the three vendors evaluated and during project operations for one of the vendors.

Table 1-1 provides a summary of the impact analysis related to the proposed project. The table provides a summary of the significant environmental impacts resulting from the project pursuant to the CEQA Guidelines Section 15123(b)(1). Refer to Chapter 4 of this EIR for a more detailed discussion of environmental impacts. Table 1-1 also lists the applicable mitigation measures related to identified significant impacts from the proposed project (including those identified in the CEQA Initial Study), as well as the level of significance after mitigation.

Table 1-1 Summary of Project Impacts and Mitigation Measures

Environmental Threshold	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Aesthetics			
AES-A: Would the project have a substantial adverse effect on a scenic vista?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Air Quality			
AQ-A: Would the project conflict with or obstruct implementation of the applicable air quality plan?	Potentially Significant (Construction)	**MM-AQ-1: Tier 4 Final Engines.** Offroad construction equipment greater than 80 horsepower shall be equipped with Tier 4 Final engines.	Less Than Significant
	Significant and Unavoidable (Commissioning)	No feasible mitigation measures.	Significant and Unavoidable
	Significant and Unavoidable (Operations for one of three vendors analyzed)	No feasible mitigation measures.	Significant and Unavoidable
AQ-B: Would the project result in a cumulatively considerable net increase in any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Potentially Significant (Construction)	**MM-AQ-1: Tier 4 Final Engines.** Offroad construction equipment greater than 80 horsepower shall be equipped with Tier 4 Final engines.	Less Than Significant
	Significant and Unavoidable (Commissioning)	No feasible mitigation measures.	Significant and Unavoidable
	Significant and Unavoidable (Operations for one of three vendors analyzed)	No feasible mitigation measures.	Significant and Unavoidable

Table 1-1 Summary of Project Impacts and Mitigation Measures

Environmental Threshold	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
AQ-C: Would the project expose sensitive receptors to substantial pollutant concentrations?	Less Than Significant	No mitigation measures are required.	Less Than Significant
AQ-D: Would the project result in other emissions (such as those leading to odors adversely affecting a substantial number of people)?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Biological Resources			
BIO-A: Would the project 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 Wildlife or U.S. Fish and Wildlife Service?	Potentially Significant (Construction)[1]	**MM-BIO-1: Nesting Bird Surveys.** 1. A pre-construction nesting bird survey shall be conducted by a qualified biologist within 72 hours prior to the start of project construction activities to determine whether active nests are present within or directly adjacent to construction zones. Following completion of the survey, a report shall be prepared to document the location of any nests found, their status (i.e., eggs or hatchlings present), the species of bird, and existing biological conditions of the project area. If an active nest is found, the following shall be implemented to minimize impacts to the nest. a. A qualified biologist shall determine if a nest avoidance buffer zone is necessary to restrict construction activities in proximity to the nest to protect the nest from failing. In determining the need for and establishing the size of any buffer zone, the qualified biologist shall take into account existing baseline conditions (e.g., topography, buffering buildings or other structures, etc.). In addition, observed avian response to disturbances related to existing station operations (e.g., noise and human activity) shall factor into the requirement for and size of a nest avoidance buffer. b. Any avoidance buffers required around active nests shall be delineated on site with bright flagging or other means, for easy identification by project	Less Than Significant

Table 1-1 Summary of Project Impacts and Mitigation Measures

Environmental Threshold	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
		personnel. The resident engineer and construction supervisor will be notified of the nest and the buffer limits to ensure it is maintained. c. The qualified biologist shall monitor all detected nests, including those with and without an established buffer, at least once per week to determine whether birds are being disturbed. If signs of disturbance or stress are observed, the qualified biologist shall implement adaptive measures to reduce disturbance. These measures could include placing visual screens or sound dampening structures between the nest and construction activity or establishing or increasing buffer distances. The qualified biologist shall monitor each active nest until they determine that nestlings have fledged and dispersed, or the nest is no longer active. Until such a determination is made, construction-related activities that, in the opinion of the qualified biologist, might disturb nesting activities shall be prohibited within nest buffer zones.	
Geology and Soils			
GEO-F: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?[1]	Potentially Significant[1]	**MM-GEO-1: Paleontological Monitoring.** Prior to grading or excavation, LADWP shall retain a Society for Vertebrate Paleontology (SVP)-qualified paleontologist to monitor or supervise monitoring of earth-moving activities in sedimentary rock material other than topsoil or fill material. A qualified paleontologist is a professional with a graduate degree in paleontology, geology, or related field, with demonstrated experience in the vertebrate, invertebrate, or botanical paleontology of California, as well as at least one year of full-time professional experience or equivalent specialized training in paleontological research (i.e., the identification of fossil deposits, application of paleontological	Less Than Significant

Table 1-1 Summary of Project Impacts and Mitigation Measures

Environmental Threshold	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
		field and laboratory procedures and techniques, and curation of fossil specimens), and at least four months of supervised field and analytic experience in general North American paleontology. Paleontological monitoring is required during ground disturbance in undisturbed geologic contexts (i.e., bedrock and outcrops below existing asphalt and base) which have the potential to contain significant paleontological resources. Ground disturbance refers to activities that impact subsurface geologic deposits, such as grading, excavation, boring, etc. The qualified paleontological monitor shall recommend when monitoring is required. Either geotechnical logs identifying subsurface conditions will be reviewed in order to identify at what depth undisturbed bedrock is to be encountered, or work shall be monitored on a part-time basis until undisturbed sediments are observed, after which the frequency of monitoring will be determined with the input of the qualified paleontological monitor based on the nature and depth of ground-disturbing activities taking place and the sediments encountered. Activities taking place in current topsoil or within previously disturbed fill sediments (e.g., clearing, grubbing, pavement removal or rehabilitation, and debris removal) do not require paleontological monitoring. Bedrock can occur at varying depths in different areas, and monitoring may be reduced or eliminated based on the recommendations of the qualified paleontologist. If no fossils have been recovered after 50 percent of excavation has been completed, monitoring may be modified to weekly spot-check monitoring at the discretion of the qualified paleontologist. The qualified paleontologist may recommend reduced monitoring based on observations of specific site conditions during initial monitoring (e.g., if the geologic setting precludes the occurrence of fossils). If any paleontological resources are discovered at the project site	

Table 1-1 Summary of Project Impacts and Mitigation Measures

Environmental Threshold	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
		during ground-disturbance activities, the paleontological monitor will notify the on-site construction supervisor and the LADWP Environmental Project Manager, who shall temporarily halt work all such activities within 50 feet of the discovery. LADWP shall consult with the qualified paleontologist to assess the significance of the find to determine the appropriate treatment. The assessment will follow the SVP's Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources in determining appropriate identification, evaluation, disclosure, avoidance, recovery, and/or curation. If any find is determined to be significant, appropriate avoidance measures recommended by the qualified paleontologist must be followed unless avoidance is determined to be infeasible in relation to the implementation of the proposed project. If avoidance is infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Appropriate treatment as determined by the qualified paleontologist shall be implemented with respect to the evaluation and recovery of fossils, after which the on-site construction supervisor shall be notified that work may continue in the location of the fossil discovery. Any fossils recovered during mitigation shall be cleaned, identified, cataloged, and curated with an accredited and permanent scientific institution with a research interest in the materials.	
Greenhouse Gas Emissions			
GHG-A: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table 1-1 Summary of Project Impacts and Mitigation Measures

Environmental Threshold	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
GHG-B: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Less Than Significant	No mitigation measures are required.	Less Than Significant
Hazards and Hazardous Materials			
HAZ-A: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Potentially Significant (Construction)[1]	**MM-HAZ-1: Soil/Sediment Management Plan.** A Soil/Sediment Management Plan shall be developed by the construction contractor and reviewed and approved by LADWP, and the plan shall be implemented prior to excavation activities. The Soil/Sediment Management Plan shall include a discussion of the anticipated/possible soil/sediment concentrations based on sediment sampling data from Scattergood. The Soil/Sediment Management Plan shall also require sampling to be conducted to characterize the excavated soil and sediment; the decision process to be used to characterize the waste based on the sampling conducted; the proposed management of the soil/sediment, including discussion of material segregation, temporary storage locations, containers, and labeling; and possible disposal facilities/locations. In addition, the Soil/Sediment Management Plan shall also include a discussion of adjacent areas that could potentially impact the project site. While no known releases from surrounding areas are known to have occurred, there is a potential that potential releases from these areas could have impacted the project site. The plan would include strategies for management of contaminated soils encountered during excavation, which would be implemented as required during construction. A project-specific Health and Safety Plan shall be prepared in accordance with the Occupational Safety and Health Administration standards and included as part of the Soil/Sediment Management Plan. Copies of the Soil/Sediment Management Plan and Health and Safety Plan	Less Than Significant

Table 1-1 Summary of Project Impacts and Mitigation Measures

Environmental Threshold	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
		shall be maintained on site during excavation and removal of hazardous materials from the project site. All workers on the project site shall be made familiar with these documents. **MM-HAZ-2: Waste Management Plan.** A Waste Management Plan shall be developed by the construction contractor and reviewed and approved by LADWP, and the plan shall be implemented during construction activities. The Waste Management Plan shall include a discussion of the anticipated non-soil/sediment wastes that may be encountered or generated during the proposed project, the locations of these potential wastes, details of special handling, proposed storage locations, containers and labeling, testing for waste characterization, and possible disposal/recycling facilities. Copies of the Waste Management Plan shall be maintained on site during construction and removal of materials from the project site. All workers on the project site shall be familiarized with the plan.	
	Less Than Significant (Operations)	No mitigation measures are required.	Less Than Significant
Noise			
NOI-A: Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance?	Less Than Significant	No mitigation measures are required.	Less Than Significant
NOI-B: Would the project generate excessive groundborne vibration or groundborne noise levels?	Less Than Significant	No mitigation measures are required.	Less Than Significant

Table 1-1 Summary of Project Impacts and Mitigation Measures

Environmental Threshold	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Tribal Cultural Resources			
TCR-A: Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	Potentially Significant	**MM-TCR-1: Cultural Resources Awareness Training.** All field supervisors and all construction workers shall participate in cultural resources awareness training prior to the initiation of project construction on project sites that involve ground-disturbing activities. The training shall be conducted by LADWP Environmental Affairs personnel and shall include a description of the types of cultural resources (including tribal cultural resources and human remains) that could inadvertently be encountered during ground-disturbing activities, the sensitivity of the resources, the legal basis for protection of the resources, and the penalties for unauthorized collection of or knowingly damaging the resources. The training shall address the proper procedures in the event of an inadvertent discovery of a cultural resource, including the immediate halting of work in the area of the discovery, notification of appropriate individuals of the discovery, the establishment of appropriate protective buffer zones around the discovery, and the continued avoidance of the protected area until the resource has been evaluated by qualified individuals and an appropriate treatment plan has been developed and implemented. These procedures shall be documented in a cultural resources monitoring plan (CRMP) that shall establish, in the event of an inadvertent discovery of cultural resources, monitoring procedures (including applicable archaeological and/or tribal monitors), notification procedures, key staff, and preliminary treatment measures for potential discoveries. The CRMP shall be written to ensure compliance with appropriate state and federal laws. The training presentation and CRMP shall be available to additional supervisory or construction personnel who may join after project construction has begun.	Less Than Significant

Table 1-1 Summary of Project Impacts and Mitigation Measures

Environmental Threshold	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
		MM-TCR-2: Inadvertent Discovery of a Tribal Cultural Resource. In the event that a Native American resource is inadvertently discovered during project construction, the Native American tribe(s) that consulted on the proposed project pursuant to California Assembly Bill 52 shall be notified and be provided information about the find to allow for early input from the tribal representatives with regards to the potential significance and treatment of the resource. If, as a result of the resource evaluation and tribal consultation process, the resource is considered to be a tribal cultural resource in accordance with California Public Resources Code Section 21074, determined to be eligible for inclusion in the California Register of Historic Resources or a local register of historical resources, or determined to be significant by LADWP (the CEQA lead agency), a tribal monitor from a consulting Native American tribe shall be procured to monitor all remaining ground-disturbing activities in the area of the resource as specified by the Environmental Project Manager. The input of all consulting tribes shall be considered in the preparation of any required treatment plan for the resources prepared by the qualified archaeologist. Work in the area of the discovery may not resume until evaluation and treatment of the resource is completed and/or the resource is recovered and removed from the site. Construction activities may continue on other parts of the construction site while evaluation and treatment of the resource takes place.	

Table 1-1 Summary of Project Impacts and Mitigation Measures

Environmental Threshold	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Wastewater			
WW-A: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Less Than Significant	No mitigation measures are required.	Less Than Significant
WW-B: Would the project substantially alter the existing drainage pattern of the site or area in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Less Than Significant	No mitigation measures are required.	Less Than Significant
WW-C: Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, the construction or relocation of which could cause significant environmental effects?	Less Than Significant	No mitigation measures are required.	Less Than Significant
WW-D: Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Less Than Significant	No mitigation measures are required.	Less Than Significant

[1] Refer to Chapter 4 for the discussion of this impact and mitigation measure.

CHAPTER 2
INTRODUCTION

2.1 Overview

This Draft Environmental Impact Report (EIR) has been prepared by the Los Angeles Department of Water and Power (LADWP) to evaluate potential environmental effects that would result from development of the proposed Scattergood Generating Station Units 1 and 2 Green Hydrogen-Ready Modernization Project (proposed project). This EIR has been prepared in conformance with the California Environmental Quality Act of 1970 (CEQA) statutes (California Public Resources Code Section 21000 et seq., as amended) and its implementing guidelines (California Code of Regulations, Title 14, Division 6, Chapter 4, Section 15000 et. seq.).

LADWP has identified the proposed project as integral to the goal of implementing a carbon-free energy system providing reliable and sustainable electrical power for the City of Los Angeles (City). Based on findings in the Los Angeles 100% Renewable Energy Study prepared by National Renewable Energy Laboratory and LADWP as well as the 2022 Power Strategic Long-Term Resource Plan prepared by LADWP, the continued availability of local energy generation that can be dependably and rapidly dispatched to respond to demand for energy in the LADWP service area is necessary to maintain the resilience and reliability of the City's electrical power grid. LADWP's Scattergood Generating Station (Scattergood) has been identified as the most immediate and instrumental location in relation to the requirement for firm (i.e., dependable) in-basin generation capacity due to the projected demand for energy in areas of the City that Scattergood serves.

The proposed project would allow for the generation capacity of existing Scattergood Units 1 and 2, which are conventional natural-gas-fired steam boiler generators, to be replaced with a rapid-response combined-cycle generation system (CCGS) capable of operating on a fuel mixture of natural gas with up to 30 percent hydrogen by volume. The proposed CCGS would consist of a combustion-turbine generator and a steam-turbine generator operating in tandem. Additional facilities or ancillary functions required to support the proposed CCGS include, but are not limited to, an air-cooled condenser, wet-surface air cooler, gas compressors and/or pressure reducers, switchyard upgrades, and a dedicated pipeline for industrial wastewater discharge.

With the implementation of expanded renewable generation resources, improvements to transmission systems, increased energy storage, and other elements of the LADWP carbon-free energy system outlined in the 2022 Power Strategic Long-Term Resource Plan, LADWP's in-basin generation units, including the proposed project, are anticipated to be utilized less frequently than under current conditions, primarily to meet peaks in the requirement for electrical power during high demand days that exceed renewable energy production and energy storage capacity. In addition, the in-basin units would be used during relatively short-term periods when renewable generation sources and/or transmission assets become unavailable due to emergency circumstances. Therefore, it is anticipated that the proposed project CCGS would be operated at a substantially lower capacity factor (i.e., the ratio of actual generation output to the potential capacity of the generation unit) compared to similar units in service today. However, the proposed project is nonetheless critical to maintaining the resilience and reliability of the LADWP power system under stressed conditions and would thus be integral part of the future carbon-free grid.

The green hydrogen system that would supply the proposed project is currently in the planning stages; therefore, the installation of the infrastructure for the production, delivery, and storage of hydrogen is not included in the scope of the proposed project. Hydrogen infrastructure will be

analyzed in a separate environmental review and approval process when the necessary information to support an adequate analysis of potential impacts is available. LADWP would not implement or operate this hydrogen infrastructure but would be a purchaser of hydrogen to supply the proposed project. Nonetheless, because the combustion-turbine generator component of the proposed CCGS would be capable of operating on a mixture of natural gas and hydrogen fuel, the impacts related to the combustion of such a fuel mixture are analyzed in this EIR.

Construction of the proposed project is anticipated to begin in 2026 and the CCGS would be fully operational by the end of 2029.

2.2 CEQA Environmental Process

The construction and operation of the proposed Scattergood hydrogen-ready CCGS constitutes a project as defined by CEQA (California Public Resources Code Section 21065). Section 15367 of the CEQA Guidelines (14 California Code of Regulations 15000–15387) states that a CEQA lead agency is "the public agency which has the principal responsibility for carrying out or approving a project." Therefore, as a municipal utility that would fund, implement, and have discretionary approval authority for the proposed project, LADWP is the lead agency responsible for compliance with CEQA.

CEQA requires preparation of an EIR when there is substantial evidence supporting a fair argument that a proposed project may have a significant effect on the environment. The purpose of an EIR is to provide decision makers, public agencies, and the general public with an objective and informational document that fully discloses the environmental effects of a proposed project. The EIR process is intended to facilitate the evaluation of potentially significant direct, indirect, and cumulative environmental impacts of a proposed project, and to identify feasible mitigation measures and/or alternatives that might reduce or avoid any significant effects. In addition, CEQA specifically requires that an EIR identify those adverse impacts determined to remain significant, even after the incorporation of feasible mitigation measures.

2.2.1 Notice of Preparation and Initial Study

LADWP prepared a CEQA Initial Study to determine if the proposed project could have the potential to cause significant adverse environmental impacts. Based on the conclusions of the Initial Study, a Notice of Preparation (NOP) was published to notify responsible agencies, organizations, and other interested parties that LADWP planned to prepare a Draft EIR and to request input regarding the scope and content of the environmental analysis and information to be included in the Draft EIR. The NOP and Initial Study were circulated for public comment to the State Clearinghouse of the Governor's Office of Planning and Research, responsible agencies, and other interested parties on May 15, 2023, for a 30-day review period, ending June 14, 2023. A request for an extension to submit comments was granted for an additional two weeks until June 30, 2023. A second request for an extension was received, and the review period was extended for an additional two weeks, until July 14, 2023, resulting in a 60-day public comment and review period. Refer to Appendix A of this EIR for the NOP/Initial Study.

In addition, a public scoping meeting for the project was held on June 6, 2023. Ten individuals attended the virtual meeting, and two oral comments were received during the public scoping meeting. A total of eight written comment letters were received during the NOP scoping period. The comment letters received during the NOP/Initial Study public review period are included in their entirety in Appendix A of this EIR.

2.2.2 Focus of EIR Analysis

In accordance with the State CEQA Guidelines Section 15143, this EIR focuses on the environmental impacts identified as potentially significant during the Initial Study process. Based on the findings of the Initial Study, several environmental impacts were determined not to be significant. Environmental issues that were determined to have no impact or a less than significant impact during the project's scoping period do not require further analysis under CEQA (per CEQA Guidelines Section 15128) and have not been carried forward, in whole or in part, for further detailed evaluation in the EIR. It was determined that impacts related to agriculture and forestry resources, biological resources, cultural resources, energy, geology and soils, land use and planning, mineral resources, population and housing, public services, recreation, transportation, and wildfire did not require further evaluation as part of the EIR. These resource areas are summarized in Chapter 4, Environmental Impact Analysis, of this EIR.

In accordance with CEQA Guidelines Section 15063, the EIR analysis focuses on those environmental factors that may involve potentially significant impacts. The resource areas analyzed in detail in this EIR include the following:

- Aesthetics (analysis focused on scenic vistas)
- Air Quality
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials (analysis focused on the use of hydrogen fuel during operation)
- Noise (analysis focused on the substantial temporary or permanent increase in noise and ground-borne vibration in excess of local standards)
- Tribal Cultural Resources (analysis focused on potential resources not currently listed in a register of historical resources)
- Wastewater (issues relating to Hydrology & Water Quality and Utilities & Service Systems have been combined to focus analysis on wastewater discharge requirements, water quality standards, and treatment facility capacity)

This EIR also includes a discussion of other CEQA-mandated issues, including cumulative impacts, significant irreversible environmental changes, growth-inducing impacts, and alternatives to the proposed project.

2.2.3 Draft EIR Review

This Draft EIR has been distributed directly to agencies, organizations, and interested parties for comment during the public review period for a minimum of 45-days in accordance with Section 15087 of the CEQA Guidelines. This Draft EIR and the studies upon which it is based are available for review online at http://www.ladwp.com/envnotices. The Draft EIR is also available for review at the following locations:

LADWP Corporate
Environmental Affairs
111 North Hope Street
Room 1044
Los Angeles, CA 90012

El Segundo Public Library
111 West Mariposa Avenue
El Segundo, CA 90245

Los Angeles Central Library
630 West 5th Street
Los Angeles, CA 90071

Organizations and interested members of the public are invited to comment on the information presented in this Draft EIR during the public review period.

2.2.4 Preparation and Certification of Final EIR and Mitigation Monitoring and Reporting Program

Comments received on the Draft EIR and responses to those comments will be incorporated into the Final EIR. In addition, Section 15097 of the CEQA Guidelines requires that public agencies adopt a program for monitoring mitigation measures or conditions of project approval that reduce or eliminate significant impacts on the environment. Accordingly, LADWP will prepare a Mitigation Monitoring and Reporting Program for the proposed project as a separate document. The Mitigation Monitoring and Reporting Program will be submitted to the City of Los Angeles Board of Water and Power Commissioners along with the Final EIR prior to consideration of the proposed project for approval.

The Board of Water and Power Commissioners will consider the Final EIR before certifying the document and making a final decision whether or not to approve the project.

2.3 Organization of the Draft EIR

The Draft EIR is organized as follows:

Chapter 1 (Executive Summary) provides an overview of the information provided in subsequent sections. It consists of an introduction; a brief description of the proposed project and its alternatives; areas of known controversy; and a summary of the potential environmental impacts in each environmental resource category, the significance determination for those impacts, mitigation measures, and significance of impacts after mitigation.

Chapter 2 (Introduction) provides a brief overview of the proposed project and the CEQA environmental review process, including a section describing the organization of the EIR.

Chapter 3 (Project Description) provides a description of the proposed project. The project location and vicinity as well as existing conditions at Scattergood are described. Project objectives are identified, and information on the project characteristics, construction, and operation is provided. This chapter also includes a description of the intended uses of the EIR and public agency actions.

Chapter 4 (Environmental Impact Analysis) describes for each environmental resource area the relevant regulatory framework; environmental setting, including the baseline conditions; thresholds or criteria employed for judging whether an impact is significant; evaluation of potential impacts that would result from project implementation; applicable mitigation measures that would eliminate or reduce any identified significant impacts; impact level of significance after mitigation; and cumulative impacts, if any.

Chapter 5 (Alternatives) describes and evaluates the comparative merits of a reasonable range of alternatives to the proposed project that would feasibly attain the objectives of the project and avoid or substantially lessen potentially significant project-related impacts. This includes a required discussion of a No Project Alternative. An environmentally superior alternative, inclusive of the proposed project, is also identified.

Chapter 6 (Other CEQA Considerations) presents other mandatory CEQA sections, including the following:

Significant and Unavoidable Impacts: This subsection identifies and summarizes significant unavoidable impacts described in Chapter 4.

Significant Irreversible Environmental Changes: This subsection addresses the extent to which the proposed project would result in the commitment of nonrenewable resources.

Growth-Inducing Impacts: This subsection describes the potential of the proposed project to induce population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment.

Chapter 7 (List of Preparers and Persons Consulted) identifies the list of preparers of the EIR and persons consulted.

Chapter 8 (References) lists the sources of information and data used in the preparation of the EIR.

CHAPTER 3
PROJECT DESCRIPTION

3.1 Project Overview

The Los Angeles Department of Water and Power (LADWP) proposes to construct and operate a rapid-response combined-cycle generation system (CCGS) at Scattergood Generating Station (Scattergood). The CCGS would be capable of operating on a fuel mixture of natural gas and a minimum of 30 percent hydrogen by volume. This hydrogen-ready capability would allow LADWP to begin the conversion from natural gas to green hydrogen in its in-basin combustion-turbine generation system as the City of Los Angeles (City) transitions to a carbon-free electrical energy system. The Scattergood Generating Station Units 1 and 2 Green Hydrogen-Ready Modernization Project (referred to herein as the proposed project) would replace the generation capacity of existing Scattergood Units 1 and 2, which are conventional natural-gas-fired steam-boiler generators that will be removed from service. The proposed CCGS would consist of a combustion-turbine generator and a steam-turbine generator operating in tandem. When compared to the existing steam-boiler Units 1 and 2, the CCGS would substantially increase fuel efficiency, thereby also reducing the emission of air pollutants and greenhouse gases relative to the amount of energy produced. The CCGS would be fully operational by the end of 2029.

3.2 Project Background

The proposed project has been identified by LADWP based on the findings and recommendations contained in the Los Angeles 100% Renewable Energy (LA100) Study,[1] which analyzed multiple scenarios for the City to transform its electrical power supply to carbon-free resources. The LA100 Study, the final report for which was published in 2021, was a multi-year effort undertaken jointly by the National Renewable Energy Laboratory and LADWP with active participation by the LA100 Advisory Group consisting of representatives from neighborhood councils, environmental organizations, business and labor groups, academia, city government, and the renewable energy industry. Various scenarios reflecting a range of energy demand-related and supply-related factors were analyzed in the study, including electrification, energy efficiency and flexible load, customer rooftop solar, renewable energy, energy storage, and transmission and distribution system upgrades. Across all scenarios, the requirement for firm local generation assets (i.e., located within the Los Angeles Basin) that can be readily dispatched in a controlled manner in response to demand was recognized as essential under a range of foreseeable but unpredictable circumstances that could temporarily limit the supply of renewable energy resources coming into the City. Under such circumstances, firm (i.e., dependable) local generation would be critical to maintaining system resilience and reliability and reducing the risk of power grid collapse.

Based on the findings of the LA100 Study, the proposed project has been identified as an integral component of LADWP's 2022 Power Strategic Long-Term Resource Plan (SLTRP),[2] which through involvement with the SLTRP Advisory Group comprised of over 45 stakeholders representing neighborhood councils, academia, community organizations, existing customers, and city and local government, establishes a roadmap for reliable and sustainable electrical power

[1] Cochran, Jaquelin, and Paul Denholm, eds. 2021. The Los Angeles 100% Renewable Energy Study. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-79444. Available at: https://maps.nrel.gov/la100/la100-study/report.

[2] Los Angeles Department of Water and Power. 2022. 2022 Power Strategic Long-Term Resource Plan. Available at: https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=OPLADWPCCB794970&RevisionSelectionMethod=LatestReleased.

for the City, while also providing the strategy to achieve a carbon-free energy system, relying primarily on renewable solar, wind, and geothermal generation resources as well as large-capacity energy storage facilities. However, as discussed above, the continued availability of firm local generation that can be dependably and rapidly dispatched to respond to demand for energy in the LADWP service area has been identified in the SLTRP as necessary to maintain the resilience and reliability of the City's electrical power grid during and after the transition to a carbon-free system. This transition will occur as the demand for electricity in the City is anticipated to increase substantially with the electrification of various functions currently powered by the combustion of fossil fuels (e.g., cooking, space heating, water heating, and the transportation sector).

The Scattergood generation units would be retained through a conversion to renewable hydrogen fuel. However, unlike current operations, under which the generation units provide a substantial proportion of the service area's energy on a daily and annual basis, the proposed project CCGS would be operated less frequently, primarily to meet peaks in the requirement for electrical power during high demand days that exceed renewable energy production and energy storage capacity. In addition, the CCGS would be used during relatively short-term periods when the renewable generation resources and/or transmission assets become unavailable due to emergency circumstances (e.g., the temporary loss of critical renewable energy transmission lines caused by wildfire or earthquake). Therefore, although anticipated to be operated less frequently, this firm local generation capability is crucial to maintaining the resilience and reliability of the LADWP power system. Scattergood has been identified as the most immediate and instrumental location in relation to the requirement for firm generation capacity due to the electrification of Los Angeles International Airport (LAX), the implementation of increased wastewater treatment capabilities at the City's Hyperion Water Reclamation Plant (WRP), and anticipated growth in demand largely caused by electrification in the western areas of the City that Scattergood serves.

3.2.1 Scattergood Once-Through Cooling System

The existing ocean-water once-through cooling (OTC) system at Scattergood would no longer be used once Units 1 and 2 are removed from service concurrent with commissioning of the proposed project. By ceasing use of the remaining OTC system at Scattergood, LADWP will comply with the statewide Water Quality Control Policy on the use of Coastal and Estuarine Waters for Power Plant Cooling, also referred to as the OTC Policy. The OTC Policy was implemented by the State Water Resources Control Board (SWRCB) to establish standards to comply with federal Clean Water Act Section 316(b) to reduce potential effects on marine life associated with the operation of cooling water intake structures. The environmental impacts of discontinuing OTC at coastal generating stations throughout California, including Scattergood, have been previously addressed under the California Environmental Quality Act (CEQA) by the SWRCB.[3] Due to the critical role of Units 1 and 2 in maintaining grid reliability until the proposed project CCGS is operational at the end of 2029, SWRCB has established an OTC Policy compliance date for Scattergood of December 31, 2029.[4]

The portions of the OTC system located outside the boundaries of Scattergood are subject to lease agreements from the California State Lands Commission (SLC) for offshore portions and the California Department of Parks and Recreation for onshore portions. The SLC lease expires

[3] California State Water Resources Control Board. Ocean Standards – Clean Water Act §316(b) Regulation: Cooling Water Intake Structures Once-Through Cooling Water Policy – Official Policy Documentation. Available at: https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/policy.html.

[4] California State Water Resources Control Board. 2023. *Proposed Amendment to Revise the Compliance Schedules for Alamitos, Huntington Beach, Ormond Beach, and Scattergood Generating Stations and Diablo Canyon Nuclear Power Plant*. Available at: https://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/policy.html.

in 2029, approximately concurrent with the OTC Policy compliance date. Furthermore, both leases can be terminated by the lessor agencies upon discontinuance of use of the OTC facilities for the purpose stated in the leases. In compliance with the OTC Policy, the intake structure could no longer be operated after 2029. However, the decision regarding the final disposition of the OTC facilities after cessation of their use for OTC, including the potential continued use of the outfall structure for stormwater and/or wastewater discharge, would be subject to regulatory oversight and approval by State and federal agencies that would not have regulatory or approval authority over the proposed project, potentially including the SLC, California Department of Parks and Recreation, California Coastal Commission, U.S. Army Corps of Engineers, and National Marine Fisheries Service.

The implementation of the proposed project would have no bearing on the requirement to cease operation of the OTC system, which is separately required under the SWRCB's OTC Policy. Similarly, the decision regarding the final disposition of the OTC system facilities within the lease areas is unrelated to the implementation of the proposed project. Therefore, the analysis of potential impacts related to the final disposition of the OTC system facilities located outside of Scattergood, including their potential continued use for stormwater and/or wastewater discharge, will be addressed via a separate CEQA environmental review process conducted by LADWP. As such, this current Draft Environmental Impact Report (EIR) does not address this determination. However, it is anticipated that the CEQA environmental analysis necessary to support this determination will be completed prior to the decommissioning of the existing Units 1 and 2 OTC system, which, as discussed above, will occur by the end of 2029.

3.2.2 Green Hydrogen

Green hydrogen is a carbon-free fuel that is typically produced through a process called electrolysis, in which water is split into hydrogen and oxygen using renewable electricity. The necessary infrastructure for the production, delivery, and storage of green hydrogen needed to support the proposed project currently does not exist. However, in October 2023, California was chosen by the U.S. Department of Energy as one of seven participants in the $7-billion Regional Clean Hydrogen Hub program. The California Hydrogen Hub is being managed by the Alliance for Renewable Clean Hydrogen Energy Systems, a statewide public-private partnership focused on accelerating hydrogen's role in statewide decarbonization efforts. In July 2024, the Alliance for Renewable Clean Hydrogen Energy Systems and U.S. Department of Energy officially announced a Cooperative Agreement to build and expand clean energy infrastructure across California, including up to $1.2 billion from the U.S. Department of Energy and $11.4 billion in public and private matching funds. The Alliance for Renewable Clean Hydrogen Energy Systems selected LADWP as one of the federal funding sub-recipients.

While it is anticipated that a sufficient market supply of green hydrogen may be available to support the proposed project dual-fuel CCGS when it is fully commissioned by the end of 2029, the details of the green hydrogen system in terms of the production, delivery, and storage infrastructure are currently unknown. Therefore, this EIR does not address the supply of green hydrogen to Scattergood, which will be analyzed under a separate environmental review and approval process when the necessary information to support an adequate analysis of potential environmental impacts is available. LADWP would not implement or operate this hydrogen infrastructure but would be a purchaser of hydrogen to supply the proposed project.

Nonetheless, because the combustion-turbine generator component of the proposed CCGS would be capable of operating on a mixture of natural gas and hydrogen fuel, the impacts related to the combustion of such a fuel mixture are analyzed in this EIR. Because the exact CCGS that would be installed at Scattergood cannot be established until the award of contract for the proposed project (which could occur only after the completion of the CEQA process), LADWP is considering, under a competitive process, systems with similar parameters from three turbine

manufacturers. To meet the minimum requirements of the proposed project CCGS, these systems must be capable of combusting a mixture of natural gas and a minimum of 30 percent hydrogen by volume.

In addition, the impacts related to the combustion of 100 percent natural gas are also analyzed in the EIR based on a conservative assumption that this may be the circumstance during the initial phases of operation of the proposed CCGS, in case of limited availability of hydrogen fuel. In this manner, the analysis considers the range of fuel-mixture (i.e., from a fuel blend with 30 percent hydrogen to 100 percent natural gas), which would define the limits of the impacts related to combustion.

3.2.3 Stormwater Handling

Stormwater runoff from Scattergood is currently captured in catch basins located throughout the station and treated as necessary in separators or via settlement. The stormwater is then released at highly diluted concentrations through the Units 1 and 2 submerged discharge outfall pipe under a National Pollution Discharge Elimination System permit from the Los Angeles Regional Water Quality Control Board. As discussed above, the intake and discharge structures will no longer be used for OTC at Scattergood by the end of 2029 in compliance with the SWRCB's OTC policy. The post-OTC method for the handling and discharge of stormwater runoff at Scattergood, including any necessary facility modifications and operational procedures, is currently unknown, and the implementation of a project for this purpose, including the potential continued use of the existing outfall structure, has independent utility separate from the proposed project. That is, the future handing and discharge of stormwater at Scattergood must be addressed regardless of whether the proposed project is implemented. Therefore, the analysis of potential impacts related to a project to address stormwater handling will be addressed via a separate CEQA environmental review process conducted by LADWP, and it is not included as a component of the proposed project or analyzed in this current EIR. It is anticipated that the CEQA environmental analysis for stormwater handling will be completed on a schedule to support project implementation prior to the decommissioning of the existing Units 1 and 2, which, as discussed above, will occur by the end of 2029.

3.3 Existing Setting

3.3.1 Project Location and Surrounding Uses

Scattergood is located in the Playa del Rey community of the City of Los Angeles at the intersection of Vista Del Mar and Grand Avenue. Grand Avenue, an east-west thoroughfare, divides the Scattergood property into northern and southern parcels. The southern parcel is approximately 15 acres, and the northern parcel is approximately 37.5 acres. All permanent operational facilities at Scattergood are located within the northern parcel. All of Scattergood is zoned PF-1 (Public Facilities) under the City's zoning code and is designated as a Public Facilities land use under the City's General Plan.

Grand Avenue is classified as a local street in the City's Mobility Plan 2035[5], with two travel lanes in the westbound direction and one travel lane in the eastbound direction. No on-street parking lanes are provided. Concrete sidewalks and Tier 2 bicycle lanes (i.e., separate bicycle-only lanes demarcated by a solid stripe) are located along both sides of the street. The main gate for the northern parcel of Scattergood is located along Grand Avenue. An entry drive for the southern parcel is located opposite the northern parcel main gate. Center left-turn lanes are located on

[5] City of Los Angeles Department of City Planning. 2016. Mobility Plan 2035, Los Angeles Department of City Planning, 2016. Available at: mobility-plan-la-city-planning.pdf (lacity.org).

Grand Avenue for both the northern parcel main gate and the southern parcel entry drive. Vista Del Mar, located along the western edge of Scattergood, is a north-south thoroughfare classified as an Avenue II in the Mobility Plan, with two travel lanes in each direction. No formal sidewalks or demarcated bicycle lanes are provided on Vista Del Mar fronting Scattergood. Center left-turn lanes are located southbound on Vista Del Mar at the Vista Del Mar/Grand Avenue intersection and northbound on Vista Del Mar into a beach parking lot entrance opposite Grand Avenue. There is also a northbound right-turn lane and a southbound left-turn lane on Vista Del Mar for the secondary gate at Scattergood at the northwest corner of the station.

Dockweiler State Beach is located to the west of Scattergood and Vista Del Mar. The approximately 120-acre Hyperion WRP, located within the City of Los Angeles, is adjacent to Scattergood on the north. The City of El Segundo borders Scattergood on the northeast, east, and south. Residential neighborhoods within El Segundo are located to the northeast and east, and the approximately 1.5-square-mile Chevron El Segundo Refinery is adjacent to the south.

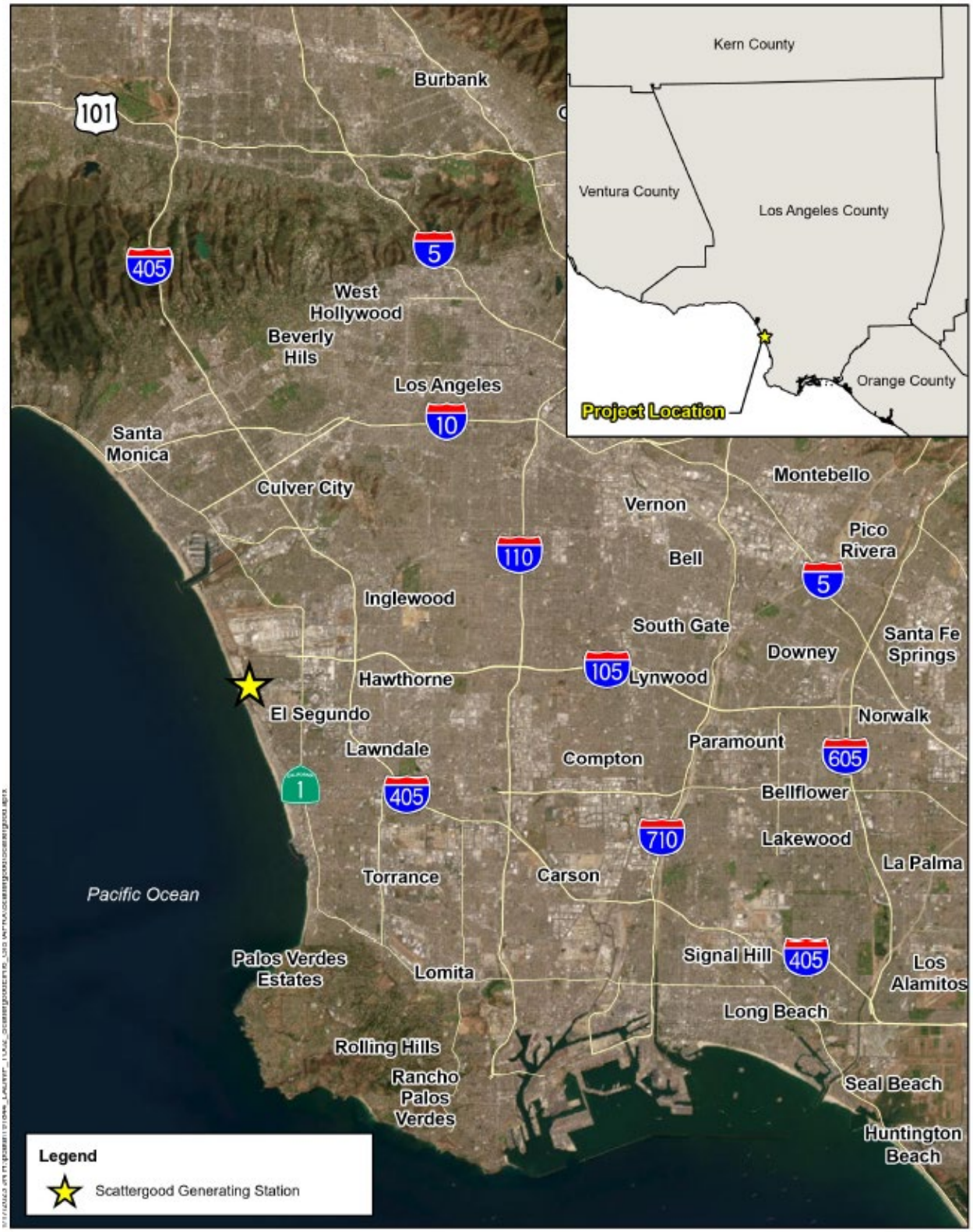
In addition to the areas that are immediately adjacent to Scattergood, uses within 0.5 miles of the station include additional residential neighborhoods; commercial establishments; elementary, middle, and high schools; public parks; and government buildings. All of these uses are located within the City of El Segundo. The El Segundo Energy Center, a 560-megawatt (MW) natural-gas-fired generating station, is located approximately 0.4 miles south of Scattergood along the west side of Vista Del Mar. LAX, located within the City of Los Angeles, is approximately 0.75 miles north of Scattergood. Figure 3-1 shows the regional location of Scattergood, and Figure 3-2 shows Scattergood and the surrounding area.

3.3.2 Existing Site Conditions and Operations at Scattergood

The southern parcel of Scattergood (south of Grand Avenue) does not contain any operational facilities (i.e., generation units or ancillary functions). Oil-drilling facilities, operated by a third party under lease from LADWP, are located on an approximately 1.5-acre area in the central portion of the parcel. Excess soil from previous construction activities at Scattergood is stockpiled at the western end of the southern parcel. An approximately 7-acre area at the eastern end of the parcel is relatively flat and paved with gravel. Since 2013, this portion of the property has been used as a construction support area at Scattergood for generator construction and various underground transmission cable installation projects that commence at the Scattergood switchyard.

Several temporary administrative and warehouse buildings are currently located in this area. This area also includes a single large aboveground tank that previously stored fuel oil for the operation of the Scattergood generation units prior to the conversion to the use of natural gas fuel. The tank has been emptied and cleaned, and it is wrapped in a mural that depicts various aspects of the history of El Segundo and the Southern California surf culture.

As mentioned above, all existing permanent operational facilities at Scattergood are located in the northern parcel (north of Grand Avenue). The northern parcel rises in elevation from west to east and contains three terraces that are separated by landscaped embankments or retaining walls. It is a fully developed industrial site, with the landscape embankments being essentially the only areas not paved or occupied by facilities. The existing generation units are located on the lower and middle terraces. The middle terrace is otherwise occupied primarily by the switchyard that connects the generation units to the LADWP high-voltage transmission network. The upper terrace contains three large aboveground tanks that store water used in various processes at the station.



SCATTERGOOD GENERATING STATION UNITS 1 AND 2
GREEN HYDROGEN-READY MODERNIZATION PROJECT

Regional Location Map

Figure 3-1

LA DWP

NOT TO SCALE

Source: Google Earth Pro, October 2024

SCATTERGOOD GENERATING STATIONS UNITS 1 AND 2
GREEN HYDROGEN-READY MODERNIZATION PROJECT

Project Site

Figure 3-2

An approximate 3-acre vacant area in the southwest corner of the northern parcel was the site of the former Scattergood Unit 3, which was demolished in 2017-2018. The floor of this area, which has been paved, lies approximately 30 feet below the surrounding grade, creating a basin.

Scattergood currently includes six operating generation units. The units have a combined gross generation capacity of 830 MW and supply power to the LADWP in-basin electrical transmission grid.

Units 1 and 2 were placed into operation in 1958 and 1959, respectively. These units each employ a natural-gas-fired boiler to produce steam that drives a turbine, which in turn drives a generator to produce electricity. Units 1 and 2 together provide 296.8 MW of gross generation capacity (111.8 MW for Unit 1 and 185 MW for Unit 2). Units 1 and 2 use OTC to condense exhaust steam from the steam turbine, and the condensate (i.e., water) is returned to the boilers in a continuous loop. Ocean water is drawn into the inlet structure through a 12-foot diameter submerged intake pipe that originates approximately 1,600 feet offshore. The cooling water is discharged through a submerged 12-foot diameter outfall pipe terminating approximately 1,200 feet offshore. Both of these lines extend beneath the beach to the pump and screen chamber, which is located west of Vista Del Mar. Units 1 and 2 are located on the lower terrace of Scattergood and share a common approximately 300-foot tall exhaust stack.

Units 4 and 5 were placed into operation in 2015. Unit 4 is a natural-gas-fired combustion-turbine generator, and Unit 5 is a steam-turbine generator. However, the units operate in tandem as a CCGS. The heated exhaust from the Unit 4 combustion turbine passes through a heat recovery steam generator (HRSG), where it is used to produce steam, and then released through an approximately 215-foot tall exhaust stack. The steam produced in the HRSG is used to drive the Unit 5 steam-turbine generator. The exhaust steam from Unit 5 is condensed in an air-cooled condenser (ACC), which is located north of the generation units, and the condensate is returned to the HRSG in a continuous loop. The CCGS has a total gross generation capacity of 321.6 MW (214.4 MW for the Unit 4 combustion-turbine generator and 107.2 MW for the Unit 5 steam-turbine generator). The CCGS is located on the lower terrace, to the north of Units 1 and 2.

Units 6 and 7 were also placed into service in 2015. They are simple-cycle generation systems consisting of combustion-turbine generators with individual approximately 100-foot tall exhaust stacks. Each unit operates independently and has a gross generation capacity of 105.8 MW (211.6 MW total). Units 6 and 7 provide rapid response capability in terms of starting, ramping up and down, and shutting down to closely follow changes in demand for electrical energy, which increases overall system efficiency. Units 6 and 7 are located on the middle terrace, to the east of the other generation units and to the west of the switchyard.

Together, Units 4, 5, 6, and 7 have a combined gross generation capacity of 533.2 MW. They replaced the generation capacity of the since demolished Unit 3, which had a gross generation capacity of 460 MW. To enable the increase of 73.2 MW (i.e., from 460 MW to 533.2 MW), the generation capacity of Unit 1 was physically and permanently reduced by an equivalent amount, resulting in its existing gross generation capacity of 111.8 MW.

Unit 4 utilizes dry burner control systems that reduce the production of oxides of nitrogen (NO_X) during the combustion process, and all combustion units at Scattergood use selective catalytic reduction (SCR) systems, a post-combustion control technology for reducing NO_X air pollutant emissions. The SCR systems reduce NO_X emissions by injecting aqueous ammonia (a solution of ammonia and water) and oxygen into the flue gas in the presence of a catalyst, creating a chemical reaction that produces nitrogen and water vapor. Aqueous ammonia used in this process is stored in aboveground tanks at Scattergood.

The natural gas used at Scattergood is supplied by continuous feed from a dedicated pipeline that enters the Scattergood property from Grand Avenue. Gas compressors ensuring optimum pressure of the gas prior to use in the combustion turbines are located on the middle terrace. Water used during the power generation processes (other than the ocean water associated with the use of OTC) is stored in the three aboveground tanks on the upper terrace at the eastern end of the property. Potable water is stored in two of the tanks, and water that has undergone treatment (reverse osmosis) prior to actual use in the generator systems is stored in the other tank. Industrial wastewater created by various processes related to power generation is detained in three aboveground tanks located in the southwest corner of Scattergood prior to being discharged at highly diluted concentrations through the Units 1 and 2 outfall pipe.

The electrical energy generated at Scattergood is sent to a switchyard located on the middle terrace in the central portion of the property. Electrical energy is transmitted to the west side of the City, including LAX, from the switchyard through the 138-kilovolt (kV) Scattergood-Airport Transmission Line or the 230-kV Scattergood-Olympic Transmission Line, which are connected to several electrical receiving stations.

Numerous maintenance buildings, storage buildings, and outdoor storage areas are located in the northern parcel of Scattergood. Most administrative functions are housed in a building adjacent to Units 1 and 2, near the western end of the property. The control room for Units 1 and 2 is located in the turbine hall adjacent to this building. The control room for Units 4, 5, 6, and 7 is located in a building on the middle terrace. Station employee vehicle parking is accommodated primarily in a paved lot along the western edge of the parcel. The perimeters of both the southern and northern parcels are completely fenced. Figure 3-3 shows the existing facilities at Scattergood.

3.4 Project Objectives

The objectives of the proposed project are to:

- Provide resilience to maintain the reliability of the LADWP electrical power system to help meet peaks in demand that exceed available renewable generation resources and energy storage capacity as well as demand during infrequent and relatively short-term, but major, interruptions in the primary carbon-free generation and/or transmission system caused by emergency circumstances.
- Establish a generation source that is always available, dispatchable, and local relative to the LADWP service area.
- Provide generation capacity to support grid stability and energy demand in the Scattergood service area, which includes Los Angeles International Airport, Hyperion Water Reclamation Plant, and the western districts of the City of Los Angeles.
- Reduce the emissions of greenhouse gases from power generation consistent with the LADWP transition to a carbon-free electrical power system.

The Scattergood Generating Station Units 1 and 2 Green Hydrogen-Ready Modernization Project would satisfy these objectives, which are also consistent with the broader aims of LADWP regarding future energy planning, development, and operations to maintain the reliability and resilience of the City's electrical power grid during and after the transition to a carbon-free system, as reflected in the SLTRP.

3.4.1 Provide Resilience to Maintain Reliability

LADWP is obligated under the Los Angeles City Charter to provide reliable generation and delivery of electrical power for the benefit of the City. LADWP is also required to maintain the reliability and resilience of its power system in accordance with the standards established by the Western Electricity Coordinating Council (WECC) and the North American Electric Reliability Corporation (NERC). LADWP draws from diverse electrical generation resources, which include solar, wind, geothermal, energy storage, hydro power, natural gas, coal, and nuclear that span multiple states. LADWP also owns and operates its transmission system, which transmits electricity from these generation resources to the City's receiving and distributing stations and ultimately feeds electricity to its customers. LADWP has multiple in-basin generating stations, which include Scattergood, Harbor Generating Station, Haynes Generating Station, and Valley Generating Station. These stations ensure the system remains reliable and resilient while also helping integrate renewable energy resources, which are intermittent and variable in nature.[6]

Historically, these in-basin generation units, including Scattergood, have provided a substantial proportion of the City's energy on a daily and annual basis. However, based on the projected expansion of renewable resources in the LADWP system, the proposed project CCGS would be operated less frequently, primarily to meet peaks in the requirement for electrical power during high demand days that exceed renewable energy production and energy storage capacity. In addition, the dispatchable power generation provided by the proposed CCGS would be critical during stressed grid conditions that may be caused by low-probability, but high impact events when the renewable generation resources and/or transmission assets become unavailable due to emergency circumstances (e.g., the temporary loss of critical renewable energy transmission lines caused by wildfire or earthquake). Stressed grid conditions may also result from sustained periods of low renewable generation or transmission line maintenance and upgrades which can be exacerbated if they coincide with periods of high electricity demand.[7]

3.4.2 Establish a Dispatchable, Always Available, Local Generation Source

Scattergood Units 1 and 2 are conventional natural-gas-fired steam boiler generators which provide a stable and dependable source of power within LADWP's in-basin system. However, Units 1 and 2 are over 65 years old and will be removed from service by 2030 to comply with the statewide OTC Policy. Therefore, LADWP needs to maintain firm local generation that can be dependably and rapidly dispatched to respond to demand for energy in the LADWP service area in order to ensure the resilience and reliability of the City's electrical power grid during and after the transition to a carbon-free system. Locating the proposed project in-basin at Scattergood would place the electrical generation near the center of demand, reducing the potential for power grid collapse in the event that the supply of renewable energy resources coming from outside the City cannot meet short-term peaks in demand or is unavailable due to emergency circumstances.

3.4.3 Provide Generation Capacity to Support Grid Stability and Energy Demand in the Scattergood Service Area

LADWP's electricity imports predominantly enter the Los Angeles basin from the north. Three of its four in-basin generating stations are located on the coast in the southern and western boundaries of the service territory, transmission was built out from these generating stations, forming transmission "cul-de-sacs" that provide dispatchable electricity from the south.[8] Because of potential disruptions to out-of-basin renewable energy sources, Scattergood has been identified

6 Los Angeles Department of Water and Power. 2022. 2022 Power Strategic Long-Term Resource Plan.
7 Ibid.
8 Ibid.

as the most immediate and instrumental location in relation to the requirement for firm generation capacity due to the electrification of LAX, the implementation of increased wastewater treatment capabilities at Hyperion WRP, and anticipated growth in demand in the western areas of the City that Scattergood serves largely caused by electrification (i.e., the conversion of various functions currently powered by the combustion of fossil fuels, including cooking, space heating, water heating, and the transportation sector, to electricity).

3.4.4 Reduce Greenhouse Gas Emissions and Transition to Carbon-Free Electrical Power System

LADWP has committed to achieving a carbon-free energy system for the City. The 2022 SLTRP determined that obtaining a carbon-free energy system requires considerable investments in renewable generation, energy storage, and transmission infrastructure as well as initiatives to conserve energy. As of 2023, an estimated 39.5 percent of electricity procured to serve LADWP's retail customers was sourced from eligible renewable energy resources, a figure that excludes certain existing carbon-free energy resources, such as large hydro power and nuclear generation. LADWP has reduced GHG emissions (preliminarily 66 percent below the 1990 emissions baseline as of 2023) through a combination of replacing coal-fired generation, adding more efficient combustion generation, expanding energy efficiency, and increasing renewable energy.[9] Scattergood Units 1 and 2 are conventional natural-gas-fired steam boiler generators with aging technology that are less fuel efficient and, therefore, emit more air pollutants and GHGs than modern generation units. Construction of a rapid-response CCGS with the ability to operate on a fuel mixture of natural gas and hydrogen would increase generation efficiency and reduce the combustion of fossil fuels and thereby reduce GHGs.

3.5 Proposed Project

The proposed project would construct and operate a rapid-response combined cycle combustion-turbine and steam-turbine generation system at Scattergood capable of operating on a fuel mixture of natural gas and a minimum of 30 percent hydrogen by volume to allow LADWP to begin the conversion from natural gas to green hydrogen in its in-basin generation system as the City transitions to a carbon-free electrical energy supply. The proposed project would replace the generation capacity of the existing conventional natural-gas-fired steam-boiler generators of Scattergood Units 1 and 2, which will be removed from service concurrent with the commissioning of the proposed project. Figure 3-4 shows the proposed project components discussed below.

3.5.1 Project Facilities

3.5.1.1 Dual-Fuel Combined-Cycle Generation System

The CCGS would be located in the southwest corner of Scattergood on the approximately 3-acre site previously occupied by Unit 3. It would be physically similar to the existing CCGS located in the northwest corner of the station (Units 4 and 5) except it would be capable of operating on a mixture of natural gas and hydrogen. The proposed project CCGS would include a combustion-turbine generator (designated as Unit 8), the exhaust heat from which would be passed through an approximately 95-foot tall HRSG, where it would be used to produce steam to drive a steam-turbine generator (designated as Unit 9). The exhaust from the combustion-turbine generator would exit the HRSG and would be discharged to the atmosphere via an exhaust stack. The proposed CCGS would have a gross generation capacity of up to 346 MW.

[9] Ibid.

SCATTERGOOD GENERATING STATION UNITS 1 AND 2
GREEN HYDROGEN-READY MODERNIZATION PROJECT

Existing Site

Figure 3-3

SCATTERGOOD GENERATING STATION UNITS 1 AND 2
GREEN HYDROGEN-READY MODERNIZATION PROJECT

Proposed Project Components

Figure 3-4

The exhaust steam from the steam-turbine generator would be routed to an ACC, where it would be condensed by fans that would force air over tubes containing the steam, dissipating the heat to the surrounding atmosphere. The ACC would be a structure similar in size to the existing Unit 4 ACC located on the north side of Scattergood. The condensate (i.e., water) from the ACC would be pumped back to the HRSG to be converted into steam in a closed-loop system.

The proposed CCGS would use a combination of processes to control air pollutant emissions. The combustors in the combustion turbines would use dry burner technologies to reduce the production of NO_X, and an SCR system would provide additional post-combustion reduction of NO_X emissions. A carbon monoxide catalyst would also be installed to comply with the South Coast Air Quality Management District's New Source Review and Best Available Control Technology requirements.

3.5.1.2 Wet Surface Air Cooler

Auxiliary cooling for the CCGS would be provided by a wet-surface air cooler, which would be located on the middle terrace of Scattergood. The wet surface air cooler would use recirculating spray water and an induced flow of air to cool process water contained in a series of tubes via evaporative cooling, releasing water vapor to the atmosphere. The cooled water would be routed back in a closed loop system to the CCGS and auxiliary functions.

3.5.1.3 Gas Compressors/Pressure Reducers

New gas compressors and/or pressure reducers would be installed to maintain to the required pressure for natural gas and hydrogen prior to combustion in the proposed CCGS combustion turbine (Unit 8). This new equipment would be similar in scale and located adjacent to the existing compressors on the middle terrace of Scattergood and would be located within a walled enclosure to attenuate noise. New underground gas pipelines would be installed from the compressors/pressure reducers to Unit 8.

3.5.1.4 Aqueous Ammonia Supply

As with current operations at Scattergood, aqueous ammonia (29 percent concentration in water) would be used in the SCR systems of the proposed CCGS. Ammonia for the new equipment would be obtained from the existing ammonia storage tanks and would be routed from the storage tanks to the CCGS via new piping. No new ammonia storage facilities and no increase in the number or rate of deliveries of ammonia would be required since ammonia used for the proposed project combustion turbine would be offset by the reduction in ammonia use associated with removal from service of existing Units 1 and 2.

3.5.1.5 Industrial Wastewater Recycling and Discharge

Potable water, supplied via the LADWP water system, is currently used at Scattergood and would continue to be used for various purposes related to the operation of the generation units after implementation of the proposed project. This water must generally be treated to remove undesirable constituents, such as dissolved minerals and suspended impurities, that are detrimental to the operation of the cooling equipment, pollution control elements, and other components of the generation systems. This water purification process, involving reverse osmosis and other demineralization processes, generates wastewater byproduct that is not reusable in the generation systems at Scattergood. In addition to the reverse osmosis and demineralization

processes, industrial wastewater is also generated through blowdown (the periodic removal of process water from the operating systems to maintain water quality) and other processes.

Currently, all wastewater is temporarily stored in holding tanks at Scattergood and then released at highly diluted concentrations into the discharge flow of the Units 1 and 2 outfall. After implementation of the proposed project, a portion of the industrial wastewater generated at Scattergood, primarily blowdown water, would be recycled for reuse in the generation units. This would involve the use of existing wastewater holding tanks and water storage tanks but would require the reconfiguration of the existing wastewater collection pipelines within Scattergood. This recycling of wastewater would reduce the volume of wastewater that would need to be discharged from Scattergood.

After project implementation, it is estimated that approximately 555,000 gallons per day (GPD) of industrial wastewater would be generated at Scattergood based on a conservative assumption of maximum operations of all generation units with ambient temperatures in excess of 75° F. Approximately 282,000 GPD of this total would be recycled within Scattergood for reuse in the generation systems, leaving a balance of approximately 273,000 GPD that would be unsuitable for reuse. Under the proposed project, a new dedicated wastewater pipeline would be installed within Vista Del Mar to transmit the remaining 273,000 GPD of wastewater to Hyperion WRP for treatment.

3.5.1.6 Switchyard

The proposed CCGS would be connected to the existing switchyard. Energy provided by the proposed generation units would be produced at approximately 13.8 kV and stepped up to 138 kV and/or 230 kV using transformers. It would then be transmitted through the existing transmission system connected to Scattergood. New circuit-breakers, disconnect switches, and H-frame structures for stringing conductors would be required. These improvements would be located within the confines of the existing switchyard.

3.5.2 Project Construction

Construction of the proposed project is estimated to take approximately 3 years to complete, starting in 2026 and continuing to mid-2029. Construction would consist of three primary phases of work: site preparation, generation unit and ancillary facility construction, and generation unit commissioning. The work would require truck deliveries and/or haul trips and the operation of heavy equipment, including cranes, excavators, loaders, graders, dozers, backhoes, and various types of trucks.

Site preparation would take approximately 9 months and would include grading for and construction of the retaining walls, backfilling the site of the proposed CCGS, and modifying the in-station wastewater collection and discharge systems. Backfilling the site would take approximately 6 months and would require approximately 120,000 cubic yards of material. An estimated 30,000 cubic yards of this material would come from the stockpile located on the southern parcel of Scattergood, south of Grand Avenue, while the remainder would be imported from off site. Site preparation would require aerial lifts, air compressors, bore/drill rigs, cranes, concrete pumps, loaders, graders, rollers, dozers, excavators, and trenchers operating at a maximum of 6 hours per day.

Generation unit construction would take approximately 29 months, overlapping with the completion of the site preparation phase. It would include civil earthwork, foundations, structural steel construction, and mechanical and electrical systems installation. Approximately 8,000 cubic

yards of concrete would be required for construction. Construction of the generation unit would require excavators, air compressors, forklifts, rollers, dozers, scrapers, loaders, aerial lifts, cranes, generator sets, tractors, backhoes, and trenchers operating at a maximum of 6 hours per day.

Upgrading the switchyard with modifications to breaker and disconnect equipment and installing the wastewater pipeline to Hyperion WRP within Vista Del Mar would also be accomplished during the construction of the CCGS.

Commissioning of the CCGS would occur concurrently with the final months of construction as individual elements are completed. This would be followed by an approximately 6-month period during which the operation of the CCGS and associated systems would be tested, verified for reliability, and adjusted as necessary. No energy from the CCGS would be transmitted to the grid during this testing period. After this process, which would be completed by the end of 2029, Units 1 and 2 would be removed from service.

Other than the delivery of fill material and construction components to the site, the hauling of debris from the site, and the installation of a dedicated wastewater pipeline to Hyperion WRP within Vista Del Mar, construction activities would be largely confined to the boundaries of Scattergood. The generation unit components would be delivered to the site on trucks, and some oversize loads are anticipated. The eastern portion of the southern parcel (south of Grand Avenue) would serve as a materials laydown, temporary office trailers, and employee parking area for the proposed project construction. Contractors and LADWP personnel would require temporary buildings for construction management activities and warehousing, which would also be accommodated in this area. Additional materials storage areas may also be required on leased property outside the boundaries of Scattergood. The soil stockpile located at the western end of the southern parcel would be used to the extent feasible as fill material required for the project.

During the peak of construction activity, it is anticipated that the number of on-site daily workers would generally range between 200 and 300. During the peak of activity, the number of on-site daily construction equipment would generally range between 40 and 60 and up to 70 for short durations. The peak number of daily off-site truck trips would be approximately 40 for several months during the backfilling of the proposed CCGS site.

Construction activities would normally occur Monday through Friday during daytime hours, beginning no earlier than 7:00 a.m. and ending by 6:00 p.m. Personnel may arrive on site prior to 7:00 a.m. to conduct safety meetings and other pre-construction activities, but no noise-generating construction activities would occur before 7:00 a.m. Likewise, personnel may remain on site after 6:00 p.m., conducting closeout activities, but noise-generating construction activities would generally not occur after 6:00 p.m. Construction on Saturdays may also occasionally be necessary but is generally not anticipated. If Saturday work is required to ensure the project stays on schedule, noise-generating construction activities would not begin before 7:00 a.m. and would end by 6:00 p.m. Some construction activities must be conducted continuously until complete (e.g., welding activities that cannot be interrupted). Most construction activities that might be conducted after normal weekday working hours or on Saturdays would be the types that would not create substantial noise. No construction work would occur on Sundays or federal holidays, except under emergency conditions. These limits are consistent with the provisions in the City of El Segundo Municipal Code regarding construction noise. During construction, a public liaison for the project would be available to address public concerns about construction activities.

3.5.3 Project Operations

Within 6 months of completion of the commissioning of the proposed project CCGS, LADWP would remove existing Units 1 and 2 from service and surrender the operating permits pursuant to South Coast Air Quality Management District Rule 2012.

As discussed above, LADWP's in-basin generation units currently provide a substantial proportion of the City's energy on a daily and annual basis. However, as the City transitions towards a carbon-free energy system, the proposed project CCGS is anticipated to be operated less frequently, primarily to meet peaks in the requirement for electrical power during high demand days that exceed renewable energy production and energy storage capacity. In addition, the CCGS would be used during relatively short-term periods when renewable generation sources and/or transmission assets become unavailable due to emergency circumstances. In this manner, the CCGS would provide local generation capability that is crucial to maintaining the resilience and reliability of the LADWP power system and prevent the potential disruptions of the grid.

With the implementation of expanded renewable generation resources, improvements to transmission systems, increased energy storage, and other elements of the LADWP carbon-free energy system outlined in the SLTRP, it is anticipated that the proposed project CCGS would be operated at a substantially lower annual capacity factor (i.e., the ratio of actual generation output to the potential capacity of the generation unit) compared to similar units in service today. This reduced capacity factor is based on a conservative assumption that LADWP's renewable energy resources will provide 60 percent of its electrical generation capacity by 2030, as mandated under California Senate Bill 100 (2018). The SLTRP preferred case establishes a goal of 80 percent renewable resources, and as of 2023, an estimated 39.5 percent of LADWP's power resources were eligible renewable energy resources, a figure that excludes certain existing carbon-free energy resources, such as large hydro power and nuclear generation. Based on the planning assumptions in the SLTRP, it is anticipated that the annual capacity factor for the proposed CCGS would reduce further as additional renewable energy resources come online to serve load within the LADWP system. This proposed capacity factor would be substantially lower than the approximately 25 percent average annual capacity factor for the past 8 operating years (2016-2023) since Scattergood Units 4, 5, 6, and 7 were placed into operation.

As discussed above, potable water is currently used at Scattergood primarily for makeup water to compensate for losses associated with reverse osmosis/demineralization, blowdown, evaporation, and other processes. Although the Units 1 and 2 steam boilers, which use large volumes of makeup water, would be removed from service concurrent with the implementation of the proposed project, the proposed CCGS, including the HRSG/ACC steam loop, would also require large volumes of makeup water. However, while the majority of the process water at Scattergood under current operations is potable water, under the proposed project, the use of recycled water would be substantially increased from internal sources through the reuse of industrial process water. Therefore, after the proposed project implementation, consumption of potable water for all functions at Scattergood would not increase compared to current operations.

In addition, because the proposed project CCGS as well as all generation units at Scattergood are anticipated to be operated less frequently compared to existing operations, the consumption of water and the use of products such as aqueous ammonia would be reduced proportionally on an annual basis. Similarly, the generation of industrial wastewater associated with the operation of the proposed project would also be reduced on an annual basis.

The proposed project would not require additional personnel beyond those currently employed at Scattergood to support operations.

3.6 Required Permits and Approvals

Numerous approvals and/or permits would be required to implement the proposed project. The environmental documentation for the proposed project would be used to facilitate compliance with federal, state, and local laws and ordinances, as well as granting permits by various federal, state, and local agencies having jurisdiction over one or more aspects of the project. These approvals and permits may include, but may not be limited to, the following:

City of Los Angeles, Department of Water and Power

- Certification by the Board of Water and Power Commissioners that the EIR was prepared in accordance with CEQA and other applicable codes and guidelines
- Approval by the Board of Water and Power Commissioners of the proposed project
- Approval by the Board of Water and Power Commissioners of a Memorandum of Agreement between LADWP and Los Angeles Sanitation and Environment for the discharge of wastewater to Hyperion WRP

City of Los Angeles, Department of City Planning

- Design review and approval of buildings and structures

City of Los Angeles, Department of Building and Safety

- Permits for building, mechanical, electrical, geotechnical, excavation, and grading

City of Los Angeles, Department of Public Works

- Approval by the Board of Public Works of a Memorandum of Agreement between LADWP and Los Angeles Sanitation and Environment for the discharge of wastewater to Hyperion WRP
- Permits for excavation
- Approval of Standard Urban Stormwater Mitigation Plan and/or a Site Specific Mitigation Plan
- Industrial Wastewater Permit

City of Los Angeles, Department of Transportation

- Encroachment permits for pipeline construction in City streets
- Approval of a traffic management plan
- Approval of temporary lane closures
- Construction haul route permits

South Coast Air Quality Management District

- Permit to Construct
- Permit to Operate

Los Angeles Regional Water Quality Control Board

- National Pollution Discharge Elimination System permit for construction dewatering activities
- National Pollution Discharge Elimination System Industrial General permit

California State Water Resources Control Board

- California Statewide Stormwater permit for Construction Activities

California Department of Transportation

- Permits for oversize loads on state highways

Federal Aviation Administration

- Review and approval of the Notice of Proposed Construction or Alteration (Federal Aviation Administration Form 7460-1)

CHAPTER 4
ENVIRONMENTAL IMPACT ANALYSIS

4.0.1 Introduction

This chapter of the Draft Environmental Impact Report (EIR) analyzes the potentially significant environmental impacts of the proposed project. Based on the California Environmental Quality Act (CEQA) Initial Study prepared for the proposed project and comments received during the Notice of Preparation (NOP) review period, Sections 4.1 through 4.7 of the EIR analyze the following environmental resource areas:

- Section 4.1: Aesthetics
- Section 4.2: Air Quality
- Section 4.3: Greenhouse Gas Emissions
- Section 4.4: Hazards and Hazardous Materials
- Section 4.5: Noise
- Section 4.6: Tribal Cultural Resources
- Section 4.7: Wastewater

4.0.2 Structure of Environmental Analysis

The analysis for each environmental resource area mentioned above is structured as follows:

4.0.2.1 Environmental Setting

The Environmental Setting subsection describes the existing environmental conditions or "baseline conditions" in the area affected by construction and operation of the proposed project. The baseline conditions reflect the conditions at the time of the issuance of the NOP (2023) and are used for comparison to establish the type and extent of the potential environmental impacts. The environmental setting is described within the defined project area and, where applicable, a regional vicinity context, depending on the particular environmental impacts being discussed.

4.0.2.2 Regulatory Framework

The Regulatory Framework subsection presents applicable federal, state, and/or local regulations, plans, goals, policies, and standards associated with the proposed project.

4.0.2.3 Thresholds to Determine Level of Impact Significance

This subsection identifies the thresholds of significance, or standards, used to determine whether impacts from construction and operation of the proposed project should be considered significant. Significance thresholds are based on Appendix G of the CEQA Guidelines and on other federal, state, or local standards that have been established relative to particular environmental resource areas.

4.0.2.4 Project Impacts Analysis

The Project Impacts Analysis subsection evaluates how construction and operation of the proposed project would affect the existing conditions, potentially resulting in significant impacts on the environment, including direct or reasonably foreseeable indirect effects. The following categories for impact significance are used in this analysis:

- **No Impact:** The project would not have a measurable impact on the environment.
- **Less Than Significant Impact:** The project would not result in a substantial adverse change in the environment.
- **Less Than Significant Impact with Mitigation:** The project would have the potential to generate significant impacts, but mitigation measures would be implemented to reduce these impacts to levels that are less than significant.
- **Significant and Unavoidable Impact:** The project would cause a substantial adverse impact on the environment that cannot be feasibly avoided or mitigated to a less than significant level.

4.0.2.5 Mitigation Measures

The Mitigation Measures subsection identifies measures to reduce or eliminate significant impacts from construction and operation of the proposed project, as needed.

4.0.2.6 Significance of Impact After Mitigation

This subsection indicates whether impacts would be reduced to a less than significant level after the application of proposed mitigation measures or remain significant even after application of the mitigation measures.

In the case where a mitigation measure(s) would avoid or reduce a significant impact to a level that is less than significant, a determination would be made that the residual impact would be less than significant. In the case where a mitigation measure(s) cannot eliminate or reduce an impact to a level that is less than significant, then a determination would be made that the residual impact would remain significant and unavoidable, as required by CEQA Guidelines Section 15126.2(b).

4.0.2.7 Cumulative Impacts Analysis

The Cumulative Impacts Analysis subsection discusses cumulative impacts in accordance with CEQA Guidelines Section 15130, where an EIR shall discuss cumulative impacts of a project when the project's individually limited incremental effect, when measured along with other approved, proposed, or reasonably foreseeable future projects, may contribute to a significant combined impact. The following cumulative projects were identified in the vicinity of the project site. Refer to Figure 4-1 for the locations of the cumulative projects.

- **Hyperion 2035**—Pure Water Los Angeles (previously known as Operation Next) is a program proposed by LADWP in partnership with City of Los Angeles, Department of Public Works, Los Angeles Sanitation and Environment's Hyperion 2035 Program to utilize purified recycled water to replenish the City's groundwater basins to help increase local supplies of potable water, thus reducing reliance on imported water supplies and increase the resilience and reliability of the City's potable water system. A primary source of the purified recycled water for Pure Water Los Angeles would come from Hyperion Water

Reclamation Plant (WRP) through the implementation of Hyperion 2035. The goal of Hyperion 2035 is to recycle 100 percent of the treated wastewater entering the plant for beneficial reuse. To achieve this goal, Los Angeles Sanitation and Environment proposes to develop water treatment facilities and infrastructure, including membrane bioreactors and an advanced water purification system at Hyperion, which is located adjacent to Scattergood to the north. Hyperion 2035 is currently in planning stages, and the exact scope, extent, and location of the proposed facilities is currently unknown. However, based on preliminary conceptual plans, the closest facilities would be located approximately 1,000 feet north of the northern boundary of Scattergood, and most Hyperion facilities would be located within enclosed buildings. It is not anticipated that construction at Hyperion WRP would begin before the end of active construction of the proposed project at Scattergood.

- **201-209 Richmond Street, El Segundo**—This project, which is located approximately 1,500 feet east of the eastern boundary of the Scattergood southern parcel, proposes 14,000 square feet of retail and office space and four residential units on a site currently occupied by surface parking. The City of El Segundo has approved the entitlements. Construction is anticipated to start at the end of 2024 and be completed by the end of 2026.

- **141 Eucalyptus Drive, El Segundo**—This project, which is located approximately 2,500 feet east of the eastern boundary of the Scattergood southern parcel, proposes an 8,882-square-foot mixed--use building consisting of office and restaurant uses on a site currently occupied by 1,557 square feet of office and storage space. The City of El Segundo has approved the entitlements. Construction is anticipated to be completed by the end of 2025.

- **El Segundo Downtown Specific Plan Update**—The El Segundo Downtown Specific Plan is a document designed to implement the goals and policies of the El Segundo General Plan to implement the City's long-term vision for the downtown area. It covers an approximately 44-acre area of downtown located approximately 1,200 feet east of the eastern boundary of Scattergood. On May 21, 2024, the El Segundo City Council adopted the new Downtown Specific Plan and the accompanying zone changes and zoning code amendments. Effective as of June 20, 2024, the Downtown Specific Plan contains regulations for the future physical development of the downtown area through build-out by 2040.

Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency does not have to consider that effect significant, but can describe how the incremental effect is not cumulatively considerable. Cumulative study areas are also defined based on an analysis of the geographical and temporal scope relevant to each particular environmental issue. Mitigation measures are then identified, as needed, to reduce or eliminate the project's contribution to any potential significant cumulative impact.

Source: City of El Segundo Cumulative Projects List, August 2024

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SCATTERGOOD GENERATING STATION UNITS 1 AND 2
GREEN HYDROGEN-READY MODERNIZATION PROJECT

Cumulative Projects

Figure 4-1

4.0.3 Effects Not Found To Be Significant

Based on the CEQA Initial Study analysis prepared for the proposed project, the project was determined to have no impact or a less than significant impact, in whole or in part, for the following environmental resource topics. Therefore, no further analysis was required for these topics per CEQA (Section 15128 of the CEQA Guidelines). In accordance with CEQA Guidelines Section 15128, this section contains summaries indicating reasons for these determinations. (A more detailed discussion is provided in the Initial Study, Appendix A of this EIR.) As noted in the summaries below, in some instances, impacts for selected individual elements within certain resource topics were determined in the Initial Study to be potentially significant, and, therefore, those elements have been further analyzed in this EIR. Resource topics within which only selected elements received further analysis include Aesthetics, Hazards & Hazardous Material, Noise, Tribal Cultural Resources, and Wastewater (which encompasses issues contained in both the Hydrology & Water Quality and the Utilities & Service Systems sections of the CEQA Initial Study Checklist).

Aesthetics

The proposed project facilities would be located in a fully urbanized area of the City of Los Angeles and entirely within the existing boundaries of Scattergood. They would be visually similar in character and scale to existing facilities and be located largely within the visual profile of the existing facilities. Consistent with its long-standing use as an electrical generating station, Scattergood has a General Plan land use designation of Public Facilities and is zoned PF-1 (Public Facilities). Although Scattergood is adjacent to Dockweiler State Beach, the station is excluded from the Coastal Zone per Section 30166(c) of Chapter 2.5 of the California Coastal Act (Division 20, California Public Resources Code). Therefore, the proposed project would not conflict with applicable zoning or other regulations governing scenic quality, and no impact would occur.

Additionally, there are no state-designated scenic highways in the vicinity of the project site.[1] Vista Del Mar between Culver Boulevard and Imperial Highway is a City-designated scenic highway in the project vicinity that features sand dunes and ocean views.[2] However, Scattergood is located approximately 1 mile south of this segment of Vista Del Mar. The proposed project would not require removal of, or impact views of, any scenic resources such as trees, rock outcroppings, or historic buildings within a state scenic highway or a locally designated scenic highway, and no impact would occur.

The proposed project facilities would include lighting similar to existing lighting at Scattergood, which is required for operations, security, and the safety of facility personnel. However, based on the existing level of lighting at the station and the scale of the proposed project facilities compared with existing facilities, lighting associated with the project would not create a new source of substantial light or glare that would adversely affect nighttime views in the area. In addition, because the proposed structures would be similar in scale and materials to existing structures at Scattergood, the proposed project would not introduce substantial new sources of glare. Therefore, impacts related to substantial light or glare would be less than significant.

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1 California Department of Transportation. 2023. State Scenic Highway Program – Scenic Highway System Lists. Available at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed October 2023.

2 City of Los Angeles, Department of City Planning. 2016. Mobility Plan 2035, An Element of the General Plan. Available at: https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf.

Given the nature and context of the proposed project facilities, they would not substantially degrade the existing visual character or quality of the site or its surroundings, other than the potential to affect scenic vistas from Dockweiler State Beach and El Segundo Beach and the bluff to the northwest of Scattergood. This issue regarding scenic vistas is further addressed in Section 4.1 of this EIR.

Agriculture and Forestry Resources

According to the California Important Farmland Finder maintained by the California Department of Conservation, the project site and vicinity are designated as Urban and Built-Up Land.[3] Urban and Built-Up Land indicates that the land is used for residential, industrial, commercial, and other developed purposes. The proposed project would not be located on or near Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and no forest lands exist within the vicinity of the project site. Therefore, the project would not convert Farmland to a non-agricultural use, and would not change the existing environment in a way that would result in the conversion of Farmland to non-agricultural use or forest land to non-forest use. No impact would occur.

The Williamson Act enables local governments to enter contracts with private landowners to restrict specific parcels of land to agricultural or related open space use in exchange for reduced property tax assessments for the landowners. There are no existing Williamson Act contracts within Los Angeles County.[4] The proposed project would be located on land with a general plan and zoning designation of Public Facilities. Therefore, the Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

The proposed project would be located within a fully urbanized area of the City of Los Angeles, and the project site is zoned PF-1 (Public Facilities) under the City's zoning code.[5] Therefore, the project site is not developed as or zoned for forest land or timberland and would not conflict with existing zoning for or cause a rezoning of forest or timberland. The proposed project site is located within a fully developed industrial facility devoted to the generation of electrical power. Therefore, the proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. No impact would occur.

Biological Resources

The Scattergood site consists of urban/developed and disturbed land cover on US Geological Survey maps. This includes the generation facilities, parking lots, roads, and other buildings and structures. These areas have been constructed upon or physically altered to a degree that natural soil substrates and native vegetation communities are no longer supported. There are limited areas of ornamental vegetation within the Scattergood property, and there are no natural vegetation communities or potential jurisdictional drainages or wetland features. Therefore, implementation of the proposed project would not impact any riparian habitat, state or federally protected wetlands, or other sensitive natural community, and no impact would occur.

Based on the results of field surveys, which extended beyond the property boundaries and included residential neighborhoods adjacent to Scattergood, as well as a review of specific habitat preferences, occurrence records, known distributions, and elevation ranges, it was determined

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[3] California Department of Conservation, Division of Land Resource Protection. 2018. Farmland Mapping & Monitoring Program, California Important Farmland Finder. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed October 2023.

[4] California Department of Conservation. 2022. The Williamson Act Status Report 2020-21. Available at: https://www.conservation.ca.gov/dlrp/wa/Documents/stats_reports/2022%20WA%20Status%20Report.pdf.

[5] City of Los Angeles. Zoning Information and Map Access System (ZIMAS). Available at: http://zimas.lacity.org/. Accessed October 2023.

that with the exception of the El Segundo blue butterfly (*Euphilotes battoides allyni*; ESB), none of the special-status plant and wildlife species identified by the California Natural Diversity Database,[6] California Native Plant Society Inventory of Rare and Endangered Plants of California,[7] or Information for Planning and Consultation project planning tool[8] are expected to occur within the survey area. As a result, there would be no impacts to special-status plants or special-status wildlife species or to the movement of any wildlife species or wildlife corridors during project construction or operation.

The ESB is a federally listed endangered butterfly that spends virtually its entire life cycle in intimate associations with the flower heads of the seacliff or coast buckwheat (*Eriogonum parviflorum*), which is found within and along the coastal dunes. Scattergood is bordered to the south by the Chevron El Segundo Refinery, where approximately 2 acres, located adjacent to the southeast corner of the southern parcel of Scattergood, is designated as an ESB habitat preserve. An ESB habitat assessment was performed for the proposed project, and no coast buckwheat (i.e., ESB habitat) was observed within the Scattergood property, and thus, no suitable ESB habitat would be impacted by the proposed project. No active construction activity associated with the project would occur adjacent to the Chevron ESB habitat preserve. Therefore, impacts to ESB would be less than significant.

Although suitable nesting habitat for various year-round and seasonal bird species occur within the survey area, no active nests or birds displaying overt nesting behavior were observed during the field survey of Scattergood. No trees are located within the footprint of the proposed project facilities; therefore, no trees would be removed for the project, and no direct impacts would occur. Indirect impacts to nesting birds within the survey area could occur as a result of noise, increased human presence, and vibrations resulting from construction activities. Disturbances related to construction could result in increased nestling mortality due to nest abandonment or decreased feeding frequency. Trees suitable for nesting are not generally located adjacent to areas of Scattergood that would be subject to construction activity. Nonetheless, because indirect impacts to nesting birds could occur, Mitigation Measure (MM) MM-BIO-1, as follows, shall be implemented during project construction. Implementation of MM-BIO-1 would ensure indirect impacts to nesting birds would be less than significant.

MM-BIO-1: Nesting Bird Surveys.

1. A pre-construction nesting bird survey shall be conducted by a qualified biologist within 72 hours prior to the start of project construction activities to determine whether active nests are present within or directly adjacent to construction zones. Following completion of the survey, a report shall be prepared to document the location of any nests found, their status (i.e., eggs or hatchlings present), the species of bird, and existing biological conditions of the project area. If an active nest is found, the following shall be implemented to minimize impacts to the nest.

    a. A qualified biologist shall determine if a nest avoidance buffer zone is necessary to restrict construction activities in proximity to the nest to protect the nest from failing. In determining the need for and establishing the size of any buffer zone, the qualified biologist shall take into account existing baseline conditions (e.g., topography,

[6] California Department of Fish and Wildlife. 2023. RareFind 5, California Natural Diversity Database, California. Database report on threatened, endangered, rare or otherwise sensitive species and communities for the USGS Venice, Inglewood, Torrance, and Redondo Beach, California 7.5-minute quadrangles.

[7] California Native Plant Society. 2023. Inventory of Rare and Endangered Plants of California (online edition, v9.5). Available at: http://www.rareplants.cnps.org/. Accessed January 2023.

[8] U.S. Fish and Wildlife Service. 2023. IPaC Information for Planning and Consultation. Available at: https://ecos.fws.gov/ipac/. Accessed January 2023.

buffering buildings or other structures, etc.). In addition, observed avian response to disturbances related to existing station operations (e.g., noise and human activity) shall factor into the requirement for and size of a nest avoidance buffer.

b. Any avoidance buffers required around active nests shall be delineated on site with bright flagging or other means, for easy identification by project personnel. The resident engineer and construction supervisor will be notified of the nest and the buffer limits to ensure it is maintained.

c. The qualified biologist shall monitor all detected nests, including those with and without an established buffer, at least once per week to determine whether birds are being disturbed. If signs of disturbance or stress are observed, the qualified biologist shall implement adaptive measures to reduce disturbance. These measures could include placing visual screens or sound dampening structures between the nest and construction activity or establishing or increasing buffer distances. The qualified biologist shall monitor each active nest until they determine that nestlings have fledged and dispersed, or the nest is no longer active. Until such a determination is made, construction-related activities that, in the opinion of the qualified biologist, might disturb nesting activities shall be prohibited within nest buffer zones.

Cultural Resources

Cultural resources identification for the proposed project included a review of South Central Coastal Information Center records search, archival research, literature review, historical map and aerial photograph review, and archaeological site sensitivity analysis. The records search included a project study area identified as the southern portion of Los Angeles County Assessor Parcel Number 4131-028-900 and all of Assessor Parcel Numbers 4131-027-901 and 4131-027-900, (which encompasses the Scattergood property) and a 0.5-mile radius around Scattergood. As part of the records search, the following federal and California inventories were reviewed: National Register of Historic Places, Archaeological Resources Directory for Los Angeles County, Built Environment Resource Directory for Los Angeles County, and California Register of Historical Resources. An additional study on file with the LADWP that includes archaeological and built environment surveys of the study area was also reviewed. Based on the records search, 14 studies have taken place within the 0.5-mile study area. Of the 14 previous studies, three were completed within Scattergood. Scattergood itself and one resource within the 0.5-mile study area but outside the area of impact of the proposed project, the El Segundo Power Generating Station, have been documented. Scattergood was recommended ineligible for inclusion in the California Register of Historical Resources in 2011 and is not a historical resource as defined by CEQA Section 15064.5(a). Additionally, the El Segundo Power Generating Station was found ineligible through survey evaluation. Therefore, no impacts related to historical resources would occur.

Based on the South Central Coastal Information Center records search and review of literature and maps, no archaeological resources, as defined by CEQA Section 15064.5, were identified within Scattergood. The site of Scattergood was previously occupied by aeolian sand dunes, with the closest source of freshwater approximately 3.25 miles to the north. The natural soils in this area would have been impacted by continual erosion and deposition mixing events typical of aeolian sand dunes; thus, the preservation of archaeological sites would be highly unlikely. Additionally, ethnographic research does not indicate any villages or named places within or near the project site. The project site is now located on an artificially flat area composed of fill soils, which typically have little to no sensitivity for significant or potentially significant archaeological resources. Due to past disturbance from the development of facilities at Scattergood, the project site has very low to no sensitivity for significant prehistoric or historic period archaeological resources. Therefore, impacts related to archaeological resources would be less than significant.

No cemeteries or known burial grounds are located within Scattergood. Past construction activities have disturbed the entire property, and the likelihood of encountering undisturbed soils that may contain human remains is considered highly unlikely. A vertical depth of disturbance of approximately 10 feet below the ground surface was generally assumed for excavation related to foundation construction; however, deeper excavation may occur related to drilling for piles for the combined-cycle generation system (CCGS). Therefore, while not expected to occur, in the event that human remains are discovered, the remains would be treated in accordance with all applicable regulations. In accordance with the provisions of the California Health and Safety Code Section 7050.5, in the event that human remains are discovered during project construction, no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains would occur, and the Los Angeles County Coroner would be notified. The coroner would provide recommendations concerning the treatment and disposition of the human remains within two working days. If the remains and any related resources are determined to be of Native American origin, the coroner would contact the California Native American Heritage Commission within 24 hours. In accordance with California Public Resources Code Section 5097.98, the California Native American Heritage Commission would notify the person it believes to be most likely descended from the deceased Native American. The most likely descendent would be given access to the site where the remains were discovered and may make recommendations for the treatment and disposition of the remains and any related resources, as well as provide input regarding the potential for other remains to be present. Work at the discovery site may commence only after consultation with the most likely descendent and treatment of the remains and any associated resources have been concluded. Work may continue on other parts of the project site while consultation and treatment are conducted. With adherence to existing regulations, impacts related to human remains would be less than significant.

Energy

Energy resources required for construction of the proposed project would include electricity for construction trailers and electrically powered tools and equipment. Electricity would be provided through a connection to the LADWP grid. The electricity consumed for construction activities would be temporary and relatively minimal, and, therefore, would not be considered wasteful, inefficient, or unnecessary. The use of petroleum resources during construction would include gasoline for on-road vehicles and diesel fuel for heavy duty on-road trucks and off-road equipment. The primary petroleum resource consumed during construction would be diesel fuel. The proposed project would be subject to the California Air Resources Board In-Use Off-Road Diesel Vehicle Regulation, which applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation imposes limits on idling and requires a written idling policy; requires all vehicles to be reported to the California Air Resources Board and labeled; restricts the adding of older vehicles into fleets starting on January 1, 2014; and requires reductions in fleet emissions by retiring, replacing, or repowering older engines, or installing verified diesel emission control strategies (i.e., exhaust retrofits). It must be demonstrated that the fleet average index is less than or equal to the calculated fleet average target rate, or that the fleet has met the best available control technology requirements. Because the proposed project construction would be temporary and would comply with these energy efficiency standards and would not be unusual compared to overall local and regional demand for energy resources, construction would not result in wasteful, inefficient, or unnecessary consumption of petroleum.

The proposed project is an integral component of LADWP's 2022 Power Strategic Long-Term Resource Plan, which establishes the roadmap to achieve a carbon-free energy system for the City, relying primarily on renewable solar, wind, and geothermal generation resources as well as large-capacity energy storage facilities. In this regard, the CCGS is anticipated to be operated less frequently than existing in-basin generation units, primarily to meet peaks in the requirement for electrical power during high demand days that exceed renewable energy production and

energy storage capacity. In addition, the CCGS would be used during relatively short-term periods when renewable generation sources and/or transmission assets become unavailable due to emergency circumstances (e.g., the temporary loss of critical renewable energy transmission lines caused by wildfire or earthquake). It is anticipated that the CCGS would be operated at a lower capacity factor when compared to similar units in service today. Based on the 2022 Power Strategic Long-Term Resource Plan planning assumptions, it is anticipated that the annual capacity factor for the proposed CCGS would further reduce as additional renewable resources come online to serve the LADWP system. This proposed capacity factor, necessary to maintain the resilience and reliability of the City's electrical power grid, would be substantially lower than the approximately 25 percent average annual capacity factor for the past 8 operating years (2016-2023) since Scattergood Units 4, 5, 6, and 7 were placed into operation. In addition, with a combustion-turbine generator and a steam-turbine generator operating in tandem, the proposed CCGS would substantially increase the fuel efficiency of electrical power production compared to the existing steam-boiler Units 1 and 2. As such, the proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during operation.

Based on the above, project impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources would be less than significant during construction and operation. In addition, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no impact would occur.

Geology and Soils

The project site is located within a seismically active region, and, as with all locations in Southern California, is potentially subject to strong seismic ground shaking. Two major active earthquake fault zones and several smaller earthquake faults are located within the general region of Scattergood. The Palos Verdes Fault Zone is located offshore approximately 3.5 miles southwest of the station at its nearest point. The Newport-Inglewood Fault Zone is located approximately 5.5 miles northeast of the station at its nearest point. However, the project site is not located within an Alquist-Priolo Earthquake Fault Zone or other known fault zone.[9,10] The proposed project facilities would be designed and constructed in compliance with the latest version of the City of Los Angeles Building Code and other applicable local, state, and federal codes to minimize impacts related to fault rupture and seismic ground shaking. Furthermore, a site-specific geotechnical analysis for the project site would be prepared prior to construction to provide design recommendations related to seismic criteria. Therefore, impacts related to potential adverse effects from the rupture of a known earthquake fault and impacts related to strong seismic ground shaking would be less than significant.

Liquefaction occurs when loosely packed, water saturated sediments at or near the ground surface lose their strength in response to strong or extended periods of seismic shaking. Liquefied sediments lose strength, in turn causing the failure of adjacent structures. The project site is not located within a City-designated liquefaction area, and no impact would occur.[11]

Portions of the project site are identified on maps as a potential landslide hazard area.[12] However, as part of the Scattergood Unit 3 Repowering Project, geotechnical investigations were u

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9 California Department of Conservation. 2022. CGS Seismic Hazards Program: Alquist-Priolo Fault Hazard Zones. Available at: https://gis.data.ca.gov/maps/ee92a5f9f4ee4ec5aa731d3245ed9f53/about. Accessed October 2023.

10 U.S. Geologic Survey. 2022. Quaternary Fault and Fold Database of the United States. Interactive Map. Available at: https://doi.org/10.5066/F7S75FJM. Accessed October 2023.

11 City of Los Angeles. Zoning Information and Map Access System (ZIMAS). Available at: http://zimas.lacity.org/. Accessed October 2023.

12 City of Los Angeles GeoHub. 2022. Landslides. Available at: https://geohub.lacity.org/datasets/lacounty::landslide-zones/explore?location=33.913899%2C-118.417458%2C16.00. Accessed October 2023.

ndertaken, and portions of the slopes within the landslide hazard area were modified with the construction of retaining walls, which eliminated the potential for seismically induced slope failure. Similarly, the proposed project would utilize retaining walls to reduce any impacts related to landslides. As described above, a site-specific geotechnical analysis would also be prepared prior to construction to provide project design recommendations in accordance with all applicable local, state, and federal codes related to seismic criteria. Therefore, impacts related to landslides would be less than significant.

Construction activities would result in ground surface disturbance during excavation and grading that could create the potential for erosion to occur. However, transport of sediments by stormwater runoff and wind would be prevented through BMPs, such as implementation of South Coast Air Quality Management District Rule 403 dust control measures and a Stormwater Pollution Prevention Plan (SWPPP) for construction activities in compliance with the latest Los Angeles Regional Water Quality Control Board National Pollutant Discharge Elimination System (NPDES) permit requirements for stormwater discharges. Therefore, the proposed project would not result in substantial soil erosion or the loss of topsoil, and impacts would be less than significant.

Subsidence is the lowering of surface elevation due to the extraction of subsurface fluids, such as groundwater. No groundwater extraction would occur as part of the proposed project, and impacts related to subsidence would not occur.

Lateral spreading is a type of liquefaction-induced ground failure on mildly sloping ground; however, the project site is not located within a City-designated liquefaction area. Nonetheless, a site-specific geotechnical analysis would evaluate soil conditions and ensure that the project would be designed and constructed in accordance with all applicable local, state, and federal codes related to seismic criteria. Therefore, impacts related to unstable soils would be less than significant.

Expansive soils are clay-based soils that tend to expand as they absorb water and shrink as water is drawn away and can cause foundation movement and damage. According to the U.S. Department of Agriculture's Web Soil Survey, the geologic materials underlying the project site are described as mostly industrial with a small percentage of loamy soil, which are not highly susceptible to expansion.[13,14] Because the proposed project would be designed and constructed in accordance with the recommendations of the site specific geotechnical analysis and applicable local, state, and federal codes, no impact would occur.

Sanitary wastewater at Scattergood is handled through a connection to the existing sanitary sewer system. No septic tanks or alternative wastewater disposal systems are proposed as part of the project, so there are no concerns with adequacy of soils to support these systems, and no impact would occur.

The soil at the project site has been mapped as urban land, which indicates an area predominantly covered by urban development features, such as streets, parking lots, buildings, and other structures.[15] A previous study of the project site indicated that Holocene deposits near the surface have been stripped away by past construction activities.[16] Additional field research and archival re

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13 California Department of Conservation. 2022. Compilation of Quaternary Surficial Deposits Map. Available at: https://maps.conservation.ca.gov/cgs/QSD/. Accessed October 2023.

14 U.S. Department of Agriculture. Natural Resources Conservation Service. 2022. Web Soil Survey. Available at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed October 2023.

15 Ibid.

16 Austerman, Gini, and Jim Rudolph. 2011. Scattergood Generating Station Unit 3 Repowering Project Cultural Resources Survey Report, City of Los Angeles, Los Angeles County, California. Report prepared by POWER Engineers for Los Angeles Department of Water and Power.

search using the Natural History Museum of Los Angeles County, University of California Museum of Paleontology Locality Search, San Diego Natural History Museum Collection Database, the Paleobiology Database, and FAUNMAP identified no fossil localities within the project site. Seven localities from similar sedimentary deposits as the project site, either at the surface or at depth, were identified between 0.6 and 3.75 miles from the project site. While the disturbed industrial urban soils at the project site have a low sensitivity, Pleistocene-age alluvial sediments are anticipated to underlie recent fill and could result in higher sensitivity for paleontological resources. Excavation activities during construction of the proposed project may disturb such sediments and have the potential to directly or indirectly destroy a paleontological resource. However, with implementation of MM-GEO-1, requiring paleontological monitoring during ground-disturbance in undisturbed geologic contexts, project impacts related to unique paleontological resources, paleontological sites, or geologic features would be less than significant.

MM-GEO-1: Paleontological Monitoring.

Prior to grading or excavation, LADWP shall retain a Society for Vertebrate Paleontology (SVP)-qualified paleontologist to monitor or supervise monitoring of earth-moving activities in sedimentary rock material other than topsoil or fill material. A qualified paleontologist is a professional with a graduate degree in paleontology, geology, or related field, with demonstrated experience in the vertebrate, invertebrate, or botanical paleontology of California, as well as at least one year of full-time professional experience or equivalent specialized training in paleontological research (i.e., the identification of fossil deposits, application of paleontological field and laboratory procedures and techniques, and curation of fossil specimens), and at least four months of supervised field and analytic experience in general North American paleontology.

Paleontological monitoring is required during ground disturbance in undisturbed geologic contexts (i.e., bedrock and outcrops below existing asphalt and base) which have the potential to contain significant paleontological resources. Ground disturbance refers to activities that impact subsurface geologic deposits, such as grading, excavation, boring, etc. The qualified paleontological monitor shall recommend when monitoring is required. Either geotechnical logs identifying subsurface conditions will be reviewed in order to identify at what depth undisturbed bedrock is to be encountered, or work shall be monitored on a part-time basis until undisturbed sediments are observed, after which the frequency of monitoring will be determined with the input of the qualified paleontological monitor based on the nature and depth of ground-disturbing activities taking place and the sediments encountered. Activities taking place in current topsoil or within previously disturbed fill sediments (e.g., clearing, grubbing, pavement removal or rehabilitation, and debris removal) do not require paleontological monitoring. Bedrock can occur at varying depths in different areas, and monitoring may be reduced or eliminated based on the recommendations of the qualified paleontologist.

If no fossils have been recovered after 50 percent of excavation has been completed, monitoring may be modified to weekly spot-check monitoring at the discretion of the qualified paleontologist. The qualified paleontologist may recommend reduced monitoring based on observations of specific site conditions during initial monitoring (e.g., if the geologic setting precludes the occurrence of fossils). If any paleontological resources are discovered at the project site during ground-disturbance activities, the paleontological monitor will notify the on-site construction supervisor and the LADWP Environmental Project Manager, who shall temporarily halt work all such activities within 50 feet of the discovery.

LADWP shall consult with the qualified paleontologist to assess the significance of the find to determine the appropriate treatment. The assessment will follow the SVP's *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* in determining appropriate identification, evaluation, disclosure, avoidance, recovery, and/or curation. If any find is determined to be significant, appropriate avoidance measures recommended by the qualified paleontologist must be followed unless avoidance is determined to be infeasible in relation to the implementation of the proposed project. If avoidance is infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Appropriate treatment as determined by the qualified paleontologist shall be implemented with respect to the evaluation and recovery of fossils, after which the on-site construction supervisor shall be notified that work may continue in the location of the fossil discovery. Any fossils recovered during mitigation shall be cleaned, identified, cataloged, and curated with an accredited and permanent scientific institution with a research interest in the materials.

Hazards and Hazardous Materials

Construction activities would involve the temporary transport, storage, and use of hazardous materials, such as fuels and lubricating fluids for construction equipment. Construction would also involve the use of paints, solvents, and other potentially hazardous materials. Although these types of materials are not considered acutely hazardous, their storage, handling, and disposal are regulated by the California Department of Toxic Substances Control, U.S. Environmental Protection Agency, the Occupational Safety & Health Administration, and the Los Angeles Fire Department. The handling of construction-related hazardous materials would occur in conformance with applicable local, state, and federal regulations, including the implementation of a SWPPP.

Soil sampling would occur in areas of disturbance to analyze for potential contamination, including but not limited to, the presence of petroleum fuels, solvents, lubricants, oils, paints, corrosion inhibitors, asbestos, volatile organic compounds, and other hazardous materials under California Code of Regulations Title 22, Division 4.5, Environmental Health Standards for the Management of Hazardous Waste. If any hazardous substances are detected at the project site, the management and disposition, including transportation, treatment, disposal, or recycling of identified substances would be conducted in accordance with all applicable local, state, and federal environmental, health and safety laws, ordinances, and regulations. In the event of conflicts between applicable codes, standards, and regulations, the most stringent would apply. In addition, all hazardous waste would be sent to State-licensed treatment, storage, and disposal facilities that have been approved to accept such wastes. The disposal and recycling of wastes would strictly comply with all applicable laws, rules, and regulations. Based on the above, project impacts related to a significant hazard through the routine transport, use, and disposal of these materials during construction would be less than significant.

The project site is mapped by the City of Los Angeles as a methane zone. Therefore, site testing for methane within subsurface geological formations would be conducted as part of the project's site-specific geotechnical analysis. The project would comply with Los Angeles Municipal Code, Division 71, Methane Seepage Regulations (pursuant to City Ordinance 175790) and requirements for detection and control of methane intrusion as necessary.

As mentioned above, construction activities would involve the transport, storage, and use of hazardous materials, such as fuels and lubricating fluids for construction equipment. However, these construction-related materials are not considered acutely hazardous. Accident prevention and containment involving these materials would be the responsibility of the construction contractors, and provisions to properly manage hazardous substances and wastes would be

included in contract specifications. Additionally, risk of upset would be minimized through the handling, documentation, and disposal of hazardous materials and wastes in accordance with federal, state, and local laws and regulations. In addition, given the functions of Scattergood and surrounding uses (i.e., the Chevron El Segundo Refinery and Hyperion WRP), the potential to encounter hazardous wastes and contaminated soils during excavation and other construction activities exists. Therefore, MM-HAZ-1 and MM-HAZ-2 would be implemented to identify and properly manage hazardous materials such that accidental releases to the environment are minimized, reducing potential impacts to less than significant.

MM-HAZ-1: Soil/Sediment Management Plan.

A Soil/Sediment Management Plan shall be developed by the construction contractor and reviewed and approved by LADWP, and the plan shall be implemented prior to excavation activities. The Soil/Sediment Management Plan shall include a discussion of the anticipated/possible soil/sediment concentrations based on sediment sampling data from Scattergood. The Soil/Sediment Management Plan shall also require sampling to be conducted to characterize the excavated soil and sediment; the decision process to be used to characterize the waste based on the sampling conducted; the proposed management of the soil/sediment, including discussion of material segregation, temporary storage locations, containers, and labeling; and possible disposal facilities/locations.

In addition, the Soil/Sediment Management Plan shall also include a discussion of adjacent areas that could potentially impact the project site. While no known releases from surrounding areas are known to have occurred, there is a potential that potential releases from these areas could have impacted the project site. The plan would include strategies for management of contaminated soils encountered during excavation, which would be implemented as required during construction.

A project-specific Health and Safety Plan shall be prepared in accordance with the Occupational Safety and Health Administration standards and included as part of the Soil/Sediment Management Plan. Copies of the Soil/Sediment Management Plan and Health and Safety Plan shall be maintained on site during excavation and removal of hazardous materials from the project site. All workers on the project site shall be made familiar with these documents.

MM-HAZ-2: Waste Management Plan.

A Waste Management Plan shall be developed by the construction contractor and reviewed and approved by LADWP, and the plan shall be implemented during construction activities. The Waste Management Plan shall include a discussion of the anticipated non-soil/sediment wastes that may be encountered or generated during the proposed project, the locations of these potential wastes, details of special handling, proposed storage locations, containers and labeling, testing for waste characterization, and possible disposal/recycling facilities. Copies of the Waste Management Plan shall be maintained on site during construction and removal of materials from the project site. All workers on the project site shall be familiarized with the plan.

During operation, the proposed project would involve the use of potentially hazardous materials, such as natural gas and aqueous ammonia. Various chemicals may also be required to provide pretreatment for both potable and recycled water used in functions related to operation of the proposed project. The storage, use, and transport of these materials would be similar to current operations at Scattergood, and their use for the proposed project would be generally offset by a similar reduction in use associated with the removal from service of existing Generation Units 1 and 2. In accordance with the existing Risk Management Plan for Scattergood, all project

components would be designed to ensure these hazardous materials would be contained and that such substances would not spill or leak, and handling would occur in conformance with applicable local, state, and federal regulations. Project impacts related to a significant hazard through the routine transport, use, and disposal of these materials, or through reasonably foreseeable upset and accident conditions during operation would be less than significant. However, it should be noted that effects related to the use of hydrogen fuel in the proposed CCGS would represent a potentially hazardous material that is currently used in only relatively small quantities in the generation unit cooling process at Scattergood. Therefore, hydrogen-related hazards during project operation are addressed in Section 4.4 of this EIR.

El Segundo Preschool, located at 301 W. Grand Avenue in the City of El Segundo, is approximately 0.23 miles east of the eastern border of Scattergood. However, no construction or operational activity for the proposed project would occur within 0.25 miles of the school. The closest project facilities would be located approximately 0.3 miles from the school. No other school is located within 0.25 miles of Scattergood. Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of a school, and no impact would occur.

Scattergood is a regulated facility and subject to inspection and reporting by the U.S. Environmental Protection Agency and California Department of Toxic Substances Control. Therefore, it is included on the Department of Toxic Substances Control's EnviroStor database, which includes CORTESE sites, and the U.S. Environmental Protection Agency's database of regulated facilities or other lists compiled pursuant to Section 65962.5 of the Government Code.[17,18] However, there are no previous or current remedial actions associated with the project site.[19] Nonetheless, soil underlying the site may be contaminated. Accordingly, the site would be properly investigated and remediated prior to project construction, and impacts would be less than significant.

The project site is located approximately 0.75 miles south of Los Angeles International Airport (LAX) but is not located within the LAX's Airport Influence Area.[20] Nonetheless, the proposed project would be subject to regulations pertaining to the height of structures on the site as established by the Los Angeles Department of City Planning and the Federal Aviation Administration (FAA). The Los Angeles Department of City Planning establishes a height limit for all structures of 150 feet above a baseline elevation of 126 feet above mean sea level. This means that no structure associated with the proposed project could exceed an elevation of 276 feet above mean sea level without requiring special permit conditions from the Los Angeles Department of City Planning. The estimated maximum 215-foot exhaust stack for the CCGS would fall below the elevation requirement for special permit conditions.

Pursuant to Title 14 Code of Federal Regulations Part 77, the FAA requires notification for construction or alteration of a structure that may affect the National Airspace System. If the stack would exceed a height of 200 feet and because it would be located less than 20,000 feet from a runway, a Notice of Proposed Construction or Alteration form (FAA Form 7460-1) would be required for the project. The FAA would then conduct a review of the proposed structure to determine whether there is a hazard to air navigation and would formally notify LADWP of its

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17 California Department of Toxic Substances Control. EnviroStor Database, Search by Map Location. Available at: http://www.envirostor.dtsc.ca.gov/public/. Accessed October 2023.

18 U.S. Environmental Protection Agency. Envirofacts Database. Available at: https://enviro.epa.gov/. Accessed October 2023.

19 California State Water Resources Control Board. GeoTracker Database, Search by Map Location. Available at: http://geotracker.waterboards.ca.gov/map/. Accessed October 2023.

20 Los Angeles County 2003. Airport Land Use Commission. Airport Influence Area. Available at: https://case.planning.lacounty.gov/assets/upl/project/aluc_airport-lax.pdf.

findings. The FAA may require markings and/or lighting to ensure the air safety. The FAA notification process is a matter of law and is binding on the applicant. Compliance with the FAA notification process and any requirements that the FAA issues in response would ensure the project would not create a safety hazard.

Scattergood is located outside of the 65 decibel Community Noise Equivalent Level noise contour for LAX, and the project site would continue to be used for industrial uses, similar to existing conditions. Therefore, the proposed project would not expose people working or residing in the area to excessive noise related to aviation activity, and impacts would be less than significant.

The City of Los Angeles Emergency Management Department coordinates evacuations in the case of emergency with the Los Angeles Police Department and Los Angeles Fire Department, as outlined in the City's Emergency Operations Plan.[21] Within the project area, County of Los Angeles designated disaster routes include State Route 1 and Manchester Avenue, which are approximately 1.5 miles west and 3.0 miles north, respectively, of Scattergood. Traffic lane closures would be required during installation of the dedicated wastewater pipeline in Vista Del Mar, and a traffic control plan, as required by the Los Angeles Department of Transportation (LADOT), would be implemented to minimize disruptions to traffic and ensure adequate emergency access during construction. The lane closures would be temporary, and the roadway would be restored after the pipeline installation is completed. All other construction activity would occur within the existing boundaries of Scattergood. Construction and operation would not alter the adjacent street system such that an adopted emergency response plan or emergency evacuation plan would be impacted, and no impact would occur.

The proposed project site is located in an urbanized area surrounded primarily by existing industrial and residential development and is not located within a designated Very High Fire Hazard Severity Zone.[22] No construction or operational activity related to the proposed project would create a significant wildfire risk, and no impact would occur.

Hydrology and Water Quality

Construction of the proposed project would result in ground disturbance during excavation and grading that could impact surface or groundwater quality. However, construction activities would comply with NPDES permit requirements, including a project specific SWPPP and associated BMPs. Therefore, the project would not violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater during construction, and construction-related impacts would be less than significant.

Operation of the proposed project would change the process for handling industrial wastewater at Scattergood. Under existing conditions, industrial wastewater is temporarily stored in holding tanks and then released at highly diluted concentrations into the discharge flow of the Units 1 and 2 OTC system. After project implementation, a portion of the industrial wastewater would be recycled for reuse in the Scattergood generation units to the extent possible and the balance would be transmitted to Hyperion WRP via a new dedicated wastewater pipeline that would be installed within Vista Del Mar as part of the proposed project. As such, operational effects related to industrial wastewater handling and discharge are further addressed in Section 4.7, Wastewater, of this EIR.

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21 City of Los Angeles. 2018. Emergency Management Department. City of Los Angeles Emergency Operations Plan. Available at: https://emergency.lacity.org/emergency-plans-and-annexes.

22 Los Angeles Fire Department. Fire Zone Map. Available at: https://www.lafd.org/fire-prevention/brush/fire-zone/fire-zone-map. Accessed October 2023.

Project construction would require water for dust control during excavation, grading, and other activities. Water for these activities is anticipated to be supplied from existing water connections and is not anticipated to be substantial in quantity. Potable water is currently used at Scattergood and would continue to be used after implementation of the proposed project; however, the use of potable water would be offset by a reduction in use associated with removal of existing Generation Units 1 and 2. Further, as currently planned, the use of recycled water by the proposed project would be expanded through the reuse of industrial process water. In addition, because the proposed project CCGS and all generation units at Scattergood are anticipated to operate less frequently compared to existing operations, the consumption of water would be reduced proportionally on an annual basis. Therefore, the project would not substantially deplete groundwater supplies nor would it interfere with groundwater recharge such that it may impede sustainable groundwater management plan, and impacts would be less than significant.

There are no drainage courses, streams, or rivers that cross the project site, which is fully developed with industrial uses. However, during construction, site grading and excavation activities could expose soils and leave them susceptible to erosion. As such, the project would implement BMPs such as implementation of Rule 403 dust control measures required by the South Coast Air Quality Management District and a SWPPP, including an erosion control plan, in compliance with the NPDES permit requirements for stormwater discharges. With adherence to existing regulations and implementation of BMPs, construction impacts associated with erosion and siltation, as well as potential flooding from surface runoff, would be less than significant. Following construction, the area of impervious surfaces at the project site would be similar to existing conditions. Therefore, there would be no substantial soil erosion, siltation, or flooding from surface runoff that would occur during project operations, and impacts would be less than significant.

The project site is classified as Zone X, an area of minimal flood hazard located outside the 500--year flood level.[23] Therefore, the potential for project facilities to impede or redirect flood flows is considered low, and impacts would be less than significant. Although located adjacent to the Pacific Ocean, the project site is not located within a designated Tsunami Hazard Area.[24] Seiches are oscillations generated in enclosed bodies of water usually as a result of earthquake related ground shaking. The project site is not located within the inundation zone of any enclosed water bodies or reservoirs. Therefore, the risk of release of pollutants due to project inundation is considered low, and impacts would be less than significant.

As previously discussed, an erosion control plan and SWPPP would be developed and implemented pursuant to the NPDES permit requirements to control runoff, erosion, and sedimentation during project construction. Operation of the proposed project is not anticipated to create runoff in excess of or in varying quality to existing conditions. Implementation of the proposed project would not include the extraction of groundwater. Therefore, the project would not obstruct implementation of a water quality control plan or sustainable groundwater management plan, and no impact would occur.

Land Use and Planning

Construction and operation of the proposed project would be located within the existing boundaries of Scattergood in the City of Los Angeles. Scattergood is owned by LADWP and occupied by facilities devoted to the generation and transmission of electricity. No streets or

[23] Federal Emergency Management Agency. 2021. Flood Map Service Center. Available at: https://msc.fema.gov/portal/search. Accessed October 2023.

[24] California Department of Conservation. 2022. Los Angeles County Tsunami Hazard Areas. Available at: https://www.conservation.ca.gov/cgs/tsunami/maps/los-angeles. Accessed October 2023.

sidewalks would be permanently closed as a result of the proposed project, and no separation of uses or disruption of access between land use types would occur. As such, the proposed project would not physically divide an established community, and no impact would occur.

Scattergood is zoned PF-1 (Public Facilities) under the City's zoning code and is designated as Public Facilities land use under the City's General Plan. The existing uses at Scattergood are consistent with the zoning and general plan designations, and the project would not result in land use or zoning changes. Though Scattergood is adjacent to the Pacific Ocean, Scattergood itself is excluded from the Coastal Zone boundary through specific language in the California Coastal Act (Section 30166(c), Chapter 2.5, Division 20, and California Public Resources Code). Thus, the proposed project would not conflict with any existing land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, and no impact would occur.

Mineral Resources

California's Surface Mining and Reclamation Act of 1975 requires the State Geologist to classify land based on the known or inferred mineral resource potential of that land. Aggregate (sand, gravel, and crushed stone) is the number one non-fuel mineral commodity produced in California by value and is important for use in construction materials. Although all mineral commodities mined in California are studied, special emphasis has been given to construction aggregate because it is the state's most important mineral commodity in terms of tonnage, value, and societal infrastructure.[25] The California Geological Survey has divided portions of the state into production–consumption regions to assign levels of Mineral Resource Zone (MRZ) classifications. The proposed project is located within the San Fernando Valley Production–Consumption Region in Los Angeles County, where aggregate used in Portland cement concrete may be found. The project site is located in a large area of the South Bay that is assigned as MRZ–3, which refers to an area containing known or inferred aggregate used in Portland cement concrete of undetermined mineral resource significance.[26] Scattergood is fully developed with electrical generation facilities. No mineral extraction occurs within or near the station. Thus, the proposed project would not 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, and no impact would occur.

The project site is not delineated as a locally important mineral resource recovery site in the City of Los Angeles General Plan or other land use plan.[27] Therefore, implementation of the proposed project would not result in the loss of availability of a locally-important mineral resource recovery site, and no impact would occur.

Noise

The nearest airport to the project site is LAX, located approximately 0.75 miles north of Scattergood. However, the project site is not located within LAX's Airport Influence Area and is outside of the 65 decibel Community Noise Equivalent Level noise contour for the airport. The project site would continue to be used for industrial uses, similar to existing conditions. Therefore,

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[25] California Department of Conservation. 2022. SMARA Mineral Land Classification. Available at: https://www.conservation.ca.gov/cgs/minerals/mineral-land-classification-smara.

[26] California Department of Conservation. CGS Information Warehouse: Mineral Land Classification, Special Report 254; Open File Report 94-14, Special Report 143: Part II. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/index.html?map=mlc. Accessed October 2023.

[27] City of Los Angeles, Department of City Planning. 2001. City of Los Angeles General Plan – Conservation Element. Available at: https://planning.lacity.org/odocument/28af7e21-ffdd-4f26-84e6-dfa967b2a1ee/Conservation_Element.pdf.

the proposed project would not expose people residing or working in the project area to excessive noise levels related to aviation activity, and no impact would occur.

Noise and vibration would be generated during project construction, primarily from the operation of heavy equipment, and during project operations from the proposed CCGS. Therefore, noise and ground-borne vibration related effects from temporary construction activity and long-term project operations are addressed in Section 4.5 of this EIR.

Population and Housing

The project would not directly or indirectly induce substantial unplanned population growth. No substantial population growth in the area would occur as a result of the construction phase of the proposed project due to the temporary nature of construction jobs and to the relatively low number of personnel required for project construction in the context of the Los Angeles urban area. Additionally, operation of the proposed project would not increase the number of personnel on site.

Although the project would provide critical generation capacity that can be dependably and rapidly dispatched to maintain the resilience and reliability of the City's electrical power grid, the proposed CCGS is anticipated to be operated less frequently than existing in-basin generation units, primarily to meet the requirement for electrical power during high demand days that exceed renewable production and energy storage capacity. In addition, the CCGS would be used during relatively short-term periods when renewable generation sources and/or transmission assets become unavailable due to emergency circumstances. The project is required to maintain reliability to meet existing and projected demand for electricity, which is anticipated to increase substantially with the electrification of various functions currently powered by the combustion of fossil fuels (e.g., cooking, space heating, water heating, and the transportation sector). The proposed project would not indirectly induce population growth through the supply of electrical energy.

The proposed project is located within an industrial site and would not displace existing people, housing, or businesses nor construct new housing or businesses. As such, no impacts related to population and housing would occur.

Public Services

An increased demand for fire and police protection, schools, parks and other public facilities is generally associated with new development. The proposed project would replace the existing Scattergood Units 1 and 2 with a CCGS. The proposed project would serve a similar function as the existing facilities it would replace and, therefore, would not represent new development. Additionally, as discussed above, the project would not directly or indirectly induce population growth, and thus, would not result in a demand for additional public services.

The Los Angeles Fire and Police Departments would continue to serve the fire and police protection needs at Scattergood. No new construction or expansion of schools, parks, or other public facilities such as libraries would be required, and no impact to public services would occur.

Recreation

Construction and operation of the proposed project would not increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The proposed project does not include recreational facilities or require construction or expansion of recreational facilities that might have an adverse physical effect on the environment. No impacts related to recreation would occur.

Transportation

With the exception of the installation of a new wastewater pipeline from Scattergood to Hyperion WRP within Vista Del Mar, all construction activities for the proposed project would occur within the boundaries of Scattergood. The pipeline installation would require traffic lane closures on Vista Del Mar during construction. A traffic control plan, as required by the LADOT, would be implemented and would include such measures as signage, flag persons, and lane detours as necessary to minimize disruptions to traffic. These disruptions would be temporary, and the roadway would be restored to pre-construction conditions after the pipeline installation is completed. Therefore, the proposed project would not conflict with a program, plan, ordinance, or policy addressing the circulation system; substantially increase hazards; or result in inadequate emergency access, and no impact would occur.

Based on the LADOT Transportation Assessment Guidelines (LADOT Guidelines), the amount of automobile travel attributable to the proposed project (i.e., vehicle miles traveled or VMT) is used to determine the significance of transportation impacts under CEQA. According to the LADOT Guidelines, automobile trips associated with the temporary construction phase of a project are not considered to contribute to a VMT impact. In general, public services, including public utility functions such as Scattergood, are assumed to not generate substantial VMT and, therefore, are presumed to have a less than significant impact on VMT. Furthermore, according to the LADOT Guidelines, if any land use project would generate a net increase of less than 250 daily vehicle trips, a no impact determination can be made relative to transportation. As discussed in Section 3.5.3, Project Operations, no additional personnel beyond those currently employed at Scattergood would be required to support operations of the proposed project, and, therefore, there would be no net increase in VMT, and no impact would occur.

Tribal Cultural Resources

Scattergood has been utilized as an electrical generating station since the late 1950s when Units 1 and 2 were constructed. Since then, the entire Scattergood property has been highly disturbed. As discussed under Cultural Resources, no resources listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, were identified within the project site, and ethnographic research does not indicate any villages or named places within or near the project site. Therefore, the proposed project would not result in a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in a state or local register of historical resources, and no impact would occur.

Although there are no known archaeological resources, including tribal cultural resources, at Scattergood, pursuant to Assembly Bill 52, LADWP is consulting with California Native American tribes known to be ancestrally affiliated with the project area regarding specific knowledge of potential tribal cultural resources on or near the project site. A summary of the consultation and analysis of potential impacts to currently unknown and unrecorded tribal cultural resources at the site are included in Section 4.6 of this EIR.

Utilities and Service Systems

Although the proposed project entails the construction and operation of an electrical generating unit, it would be a net producer, not consumer, of electric power. The project would substantially increase the efficiency of electrical power production in relation to fuel consumption compared to the existing steam-boiler Units 1 and 2, and it would not require an expansion of natural gas facilities. The project would not require the expansion of existing telecommunications facilities.

Under current operations at Scattergood, water supplied by the LADWP system is utilized for several functions in the power generation process, including makeup water for the steam-boiler

Units 1 and 2. The proposed project CCGS would also require water for uses such as the air inlet evaporative cooling, makeup for the heat recovery steam generator/air-cooled condenser steam cycle, and the wet-surface air cooler. The use of potable water for the proposed project would be offset by a similar reduction in use associated with removal from service of existing Units 1 and 2 and by the recycling of industrial wastewater. In addition, because the proposed project CCGS and all generation units at Scattergood are anticipated to be operated less frequently compared to existing operations, the consumption of water on an annual basis would be reduced proportionally, and no expanded water facilities would be required. Therefore, there would be sufficient water supplies available to serve the project. Impacts would be less than significant.

Solid waste in the form of construction debris and excavated soils would be disposed of in accordance with federal, state, and local statutes and regulations, including the City's Construction and Demolition Ordinance and the Countywide Integrated Waste Management Plan, which would reduce the amount of construction-generated solid waste that would require disposal in the landfill. During project operations, small amounts of hazardous waste (i.e., spent catalyst material used in the selective catalytic reduction system) would be generated similar to existing conditions for Units 1 and 2, which would be removed from service concurrent with the commissioning of the proposed project. The spent catalyst would be recycled, or it would be transported to a permitted hazardous waste treatment, storage, or disposal facility. As such, construction and operation of the proposed project would not generate substantial quantities of material such that the capacity of area landfills would be exceeded or that the attainment of waste reduction goals would be impaired. Impacts would be less than significant.

Operation of the proposed project would change the process for handling industrial wastewater at Scattergood. Under existing conditions, industrial wastewater is temporarily stored in holding tanks and then released at highly diluted concentrations into the discharge flow of the Units 1 and 2 OTC system. After project implementation, industrial wastewater would be collected and recycled for industrial processes at Scattergood to the extent possible, and a dedicated wastewater pipeline within Vista Del Mar from Scattergood to Hyperion WRP would be installed to transmit the balance of the wastewater to Hyperion WRP. Effects related to wastewater handing and discharge are addressed further in Section 4.7, Wastewater, of this EIR.

Wildfire

Scattergood is located within a fully developed area of the City of Los Angeles and abuts developed areas of the City of El Segundo. It is not located in or near a state responsibility area or near land classified as a Very High Fire Hazard Safety Zone by the City.[28] Therefore, no impacts related to wildfire would occur.

[28] Los Angeles Fire Department. Fire Zone Map. Available at: https://www.lafd.org/fire-prevention/brush/fire-zone/fire-zone-map. Accessed October 2023.

SECTION 4.1
AESTHETICS

As discussed in the Initial Study (Appendix A of this EIR) and summarized in Section 4.0.3, Effects Not Found To Be Significant, of this EIR, there would be no impact or a less than significant impact to most factors related to aesthetic resources. The project would not impact scenic resources within a state or locally designated scenic highway, nor would it conflict with zoning or regulations governing scenic quality. Additionally, impacts related to substantial light or glare would be less than significant as the project would not introduce new sources of light or glare that would adversely affect day or nighttime views in the area. However, the impact of the proposed project on scenic vistas was identified in the Initial Study as potentially significant and is discussed below.

4.1.1 Environmental Setting

As discussed in Chapter 3, Project Description, of this EIR, the majority of the proposed project facilities would be located entirely within the boundaries of Scattergood, a developed industrial site. The only exception would be the proposed wastewater pipeline, which would be installed underground in Vista Del Mar and would have no effect on aesthetic resources.

Scattergood is located in the Playa del Rey community of the City of Los Angeles at the intersection of Vista Del Mar and Grand Avenue. Surrounding land uses include Dockweiler State Beach located to the west and the 144-acre Hyperion Water Reclamation Plant (WRP) located to the north in the City of Los Angeles. The City of El Segundo borders Scattergood on the northeast, east, and south. Residential neighborhoods within El Segundo are located to the northeast and east, and the approximately 1.5-square-mile Chevron El Segundo Refinery is adjacent to the south. Grand Avenue, an east-west thoroughfare, divides the Scattergood property into northern and southern parcels. The southern parcel is approximately 15 acres, and the northern parcel is approximately 37.5 acres. All permanent operational facilities at Scattergood are located within the northern parcel. The perimeters of both parcels are completely fenced.

The northern parcel of the Scattergood property is entirely industrial in character, with its large electrical generation units, exhaust stacks, an electrical switchyard and transmission towers, aboveground storage tanks, and other ancillary facilities that support the power generation functions at the station. The northern parcel rises in elevation from west to east and contains three terraces that are separated by retaining walls or landscaped embankments. The existing generation units are located on the lower and middle terraces. The middle terrace is otherwise occupied primarily by the switchyard that connects the generation units to the LADWP high-voltage transmission network. The upper terrace contains three large aboveground tanks that store water used in various processes at the station. Numerous maintenance buildings, storage buildings, and outdoor storage areas are also located in the northern parcel of Scattergood.

The southern parcel of Scattergood (south of Grand Avenue) does not contain any operational facilities (i.e., generation units or ancillary functions). Oil-drilling facilities, operated by a third party under lease from LADWP, are located on an approximately 1.5-acre area in the central portion of the parcel. Excess soil from previous construction activities at Scattergood is stockpiled at the western end of the southern parcel. An approximately 7-acre area at the eastern end of the parcel is relatively flat and paved with gravel. Since 2013, this portion of the property has been used as a construction support area at Scattergood for generator construction and various underground transmission cable installation projects that commence at the Scattergood switchyard. Several temporary administrative and warehouse buildings are currently located in this area. This area

also includes a large aboveground tank that previously stored fuel oil for the operation of the generators prior to the conversion to natural gas for generation operations at Scattergood. The tank has been emptied and cleaned, and it is wrapped in a mural that depicts various aspects of the history of El Segundo and the Southern California surf culture.

The proposed combined-cycle generation system (CCGS) would be located in the southwest corner of the northern parcel of Scattergood, on an approximately 3-acre site on the lower terrace previously occupied by Scattergood Generation Unit 3, which was demolished in 2017-2018. The heat recovery steam generator of the CCGS would be approximately 95 feet tall with an exhaust stack a maximum of approximately 215 feet tall, depending on the final design. The air-cooled condenser would be a structure similar in size to the air-cooled condenser for the existing Scattergood CCGS, which is approximately 120 feet wide, 210 feet long, and 100 feet tall. The CCGS would be sited adjacent to existing generating facilities, be visually similar in character and scale, and be located largely within the visual profile of these facilities. As discussed above, Scattergood rises in elevation from west to east, which tends to obscure facilities located on the lower (westernmost) terrace from viewpoints east of the station.

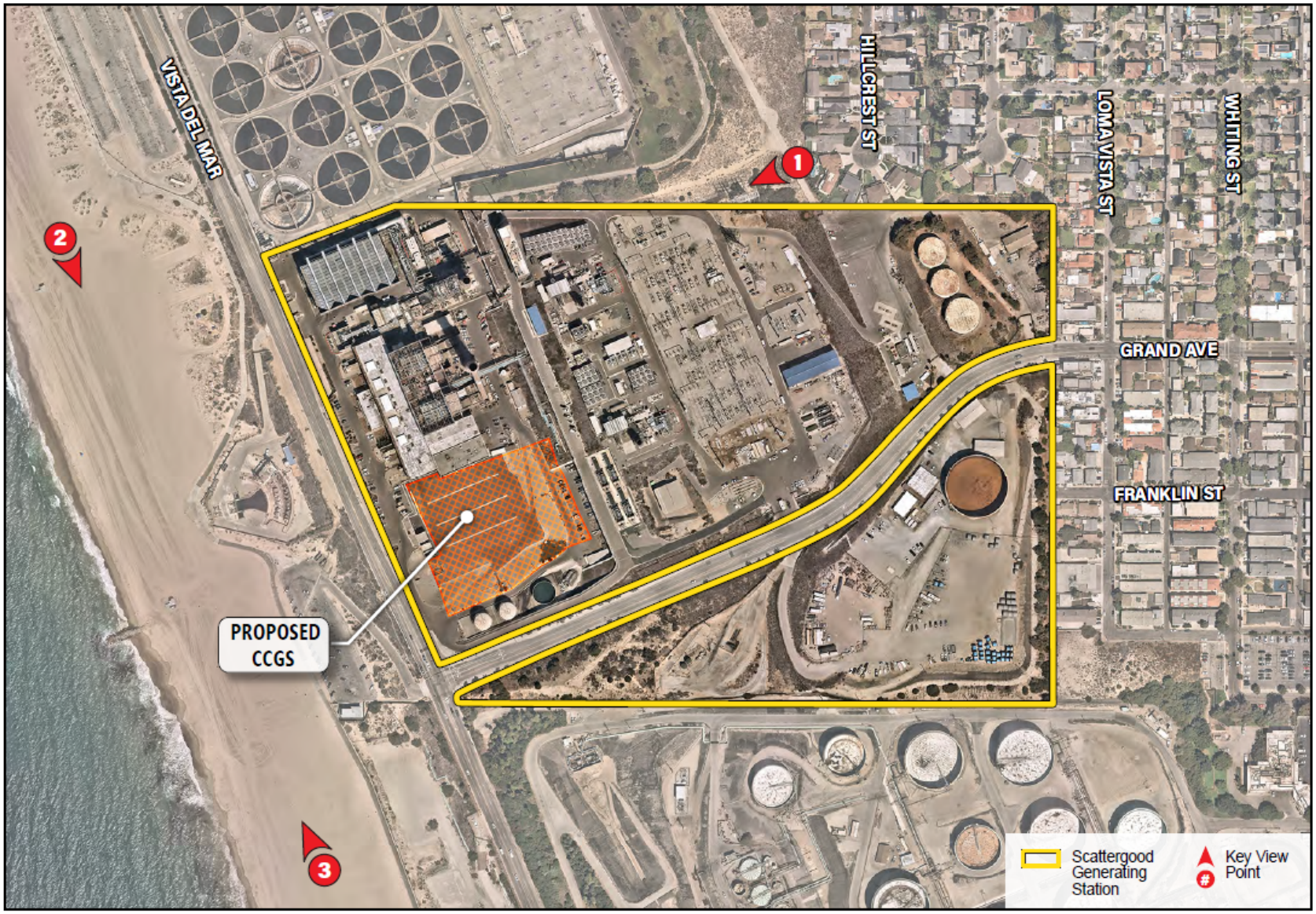
Key View Points

Scenic vistas are generally defined as panoramic public views to various natural features, including large water bodies or striking or unusual natural terrain. Key view points surrounding Scattergood that include scenic vistas of the beach, Santa Monica Bay, and/or the coastline have been established to analyze potential impacts from the proposed project. Three key view points were identified in locations surrounding Scattergood as shown in Figure 4.1-1.

The project site is not visible from most residential properties located to the east of Scattergood because it is obscured by terrain or existing facilities. Some residential properties located south of Grand Avenue, along the eastern perimeter of Scattergood, have partial views of the ocean beyond, but they possess no view of the beach itself. However, the ocean view is obscured or interrupted by terrain, power distribution poles, and various facilities within Scattergood. This includes the decommissioned fuel storage tank and surrounding dike located in the southern parcel as well as the generation units, switchyard, and transmissions lines located in the northern parcel. In addition, given the location of the proposed CCGS on the lower terrace of Scattergood, where it would be largely obscured from view, these properties do not represent a key view point relative to potential impacts to scenic vistas.

Residential properties located northeast of Scattergood, on the bluff above Hyperion WRP, possess a view that includes Scattergood in the foreground to the southwest and Hyperion WRP in the foreground to the west. These properties also have partial views of Dockweiler State Beach in the middleground to the west and vistas of Santa Monica Bay and the surrounding coastline in the background to the west and northwest. The existing Scattergood facilities tend to obscure the scenic vista from this view point to the southwest. Nonetheless, due to the nature of the existing views, these residential properties represent key view point 1 relative to potential impacts to scenic vistas from the proposed project.

From Dockweiler State Beach (located west of Scattergood) and El Segundo Beach (located southwest of Scattergood), there are open vistas that include the beach itself in the foreground, Santa Monica Bay in the middleground and background, and the coastline in the background, (Palos Verdes to the south and Malibu to the north). Depending on the location of the view point on the beach, Scattergood can be seen in the periphery of these scenic vistas. Even though Scattergood does not obstruct the vista up or down the coastline, the beach represents a key view point due to the scenic vistas. Therefore, the view from the beach looking southward from Dockweiler State Beach represents key view point 2, and view looking northward from El Segundo Beach represents key view point 3.



SCATTERGOOD GENERATING STATION UNITS 1 AND 2
GREEN HYDROGEN-READY MODERNIZATION PROJECT

Key View Point Locations

Figure 4.1-1

4.1.2 Regulatory Framework

There are no applicable federal or state regulations related to scenic vistas that apply to the Scattergood site or surrounding area.

Local

Westchester–Playa del Rey Community Plan

The Westchester–Playa del Rey Community Plan (Community Plan) area is situated in the western portion of the Los Angeles Basin, adjacent to the Los Angeles International Airport and includes the project site. The Community Plan intends to promote an arrangement of land uses, streets and services within the area that will encourage and contribute to the economic, social and physical health, safety, welfare and convenience of the people who live and work in the Westchester–Playa del Rey community. The Community Plan also provides for the maintenance of significant environmental resources within the community and seeks to enhance the distinctive community identity of the Westchester–Playa del Rey area.

The Community Plan includes the following objectives and policies applicable to scenic vistas.

- Objective 1-6: Preserve visual resources in residential areas.
    - Policy 1-6.1: The preservation of existing scenic views from surrounding residential uses, public streets and facilities, or designated scenic view sites should be a significant consideration in the approval of zone changes, conditional use permits, variances, divisions of land and other discretionary permits.
    - Policy 1-6.2: Protect the public views and scenic quality of the highly unique residential areas in this community, such as those located along the coast and on the Westchester Bluffs.
- Objective 18-5: Preserve coastal visual resources by protecting and enhancing scenic views of the ocean and wetlands from designated Scenic Highways, and public view sites.
    - Policy 18-5.1 The scenic and visual qualities of Westchester-Playa del Rey Coastal Zone should be protected and enhanced where feasible, by siting and designing development in order to: protect public views to and along the ocean and scenic coastal areas; minimize the alteration of natural landforms; be visually compatible with the character of the surrounding area; and retain existing views from designated public view areas and Scenic Highways.

City of El Segundo General Plan

As described in the City of El Segundo General Plan's Open Space and Recreation Element, the City's major open space and recreation resources are public parks and recreational facilities. Other land uses in the City that require open space preservation for outdoor recreation include privately-owned recreational facilities, scenic corridors, and utility easements. The associated right-of-way areas located underneath two utility transmission lines traversing the City provide valuable scenic and recreational open space. One such area is the LADWP corridor north of Scattergood that encompasses a 32-acre scenic strip area. The Open Space and Recreation Element includes the following objective and policy applicable to scenic vistas.

- Objective OS1-4: Develop utility transmission corridors for active or passive open space and recreational use.

The City of El Segundo General Plan's Land Use Element serves as a guide to the structuring of zoning and subdivision controls, urban renewal, and capital improvements programs, and affects the distribution and intensity of development and the location of public facilities and open space. The Land Use Element includes the following policy applicable to scenic vistas:

- Policy LU 4-3.3: Develop guidelines and standards for high-rise buildings within the Zoning Code, including height limits which will minimize nonresidential encroachment on the nearby residential community by retaining the open and expansive views of the horizon from the existing residences.

4.1.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the project would have a significant impact related to aesthetics if it would have a substantial adverse effect on a scenic vista (AES--A).

4.1.4 Project Impacts

AES-A Would the project have a substantial adverse effect on a scenic vista, including the objectives and policies of local plans?

As discussed above, three key view points were identified to show views that include both scenic vistas (generally defined as panoramic public views to natural features) and the proposed project:

- Key View Point 1, the view westward from the bluff northeast of Scattergood
- Key View Point 2, the view southward from Dockweiler State Beach
- Key View Point 3, the view northward from El Segundo Beach

The proposed project would construct a CCGS on approximately 3 acres at the southwest corner of the northern parcel of Scattergood. The proposed CCGS would be an industrial facility physically similar to Units 4 and 5, the existing CCGS located in the northwest corner of Scattergood. Photo-simulations were generated of the proposed CCGS to depict the appearance from the identified key view points.

Key View Point 1: The view westward from the bluffs northeast of Scattergood was simulated to represent the scenic vista from the rear of residences in this area after the implementation of the proposed project. As shown in Figure 4.1-2, the proposed project would minimally change the appearance of Scattergood from this view point with only the upper portion of the exhaust stack of the proposed CCGS marginally visible through the existing transmission towers and switchyard equipment. From this view point, the proposed project would not substantially alter the overall mass, character, or visual profile of Scattergood. Additionally, as discussed above, the vista from this view point is generally directed to the west and northwest because the existing facilities at Scattergood currently obscure the vista to the southwest. Implementation of the proposed project would not affect this view to the west and northwest. As such, impacts to the scenic vista from this key view point northeast of Scattergood would be less than significant.

Key View Points 2 and 3: The views looking toward the south and toward the north from the beach were simulated to represent a scenic vista after implementation of the proposed project. As shown in Figures 4.1-3 and 4.1-4, the proposed project would minimally change the appearance of Scattergood from these view points, with the proposed CCGS and stack blending into the existing profile and industrial character of Scattergood (looking from both Dockweiler State Beach and El Segundo Beach) and the Chevron El Segundo Refinery (looking from Dockweiler State Beach). From these key view points, the proposed project would not obstruct the vista of the beach, ocean, or coastline to the south or to the north. As such, impacts to the scenic vista from these key view points looking southward and northward from the beach would be less than significant.

Based on the evaluation of the key view points above, the proposed project would be consistent with the Westchester-Playa del Rey Community Plan and the El Segundo General Plan's Land Use Element and Open Space and Recreation Element. The project would be consistent with Westchester-Playa del Rey Community Plan Objective 1-6 in preserving visual resources in residential areas from key view point 1, as the proposed project would not substantially alter the overall mass, character, or visual profile of Scattergood. As such, the project would also be consistent with Policy LU 4-3.3 of the City of El Segundo General Plan's Land Use Element, which addresses the development of guidelines and standards for high-rise buildings and the importance of retaining open and expansive views of the horizon from existing residences. The project would also be consistent with Westchester-Playa del Rey Community Plan Policies 1-6.1 and 1-6.2, Objective 18-5, and Policy 18-5.1 in preserving and protecting scenic views and scenic quality from key view points 2 and 3, from which the project would not obstruct the vista of the beach, ocean, or coastline to the south or to the north.

In addition, Objective OS1-4 from the City of El Segundo's General Plan Open Space and Recreation Element focuses on the City's utility transmission corridors, one of which is LADWP's 32-acre strip to the north of Scattergood, and its use as scenic and recreational open space. As previously described, the proposed project would minimally change the appearance of Scattergood from a northeastern view point since only the upper portion of the exhaust stack of the CCGS would be marginally visible through the existing transmission towers and switchyard equipment. As such, the project would not obstruct or affect views from the LADWP corridor.

Therefore, the proposed project would not have a substantial adverse effect on a scenic vista and would be consistent with applicable objectives and policies of local plans.

4.1.5 Mitigation Measures

The proposed project's impacts were determined to be less than significant, and no mitigation measures are required.

4.1.6 Level of Significance After Mitigation

The proposed project's impacts were determined to be less than significant without mitigation.

Figure 4.1-2 Key View Point 1: Existing and Simulated View Westward from Bluff Northeast of Scattergood

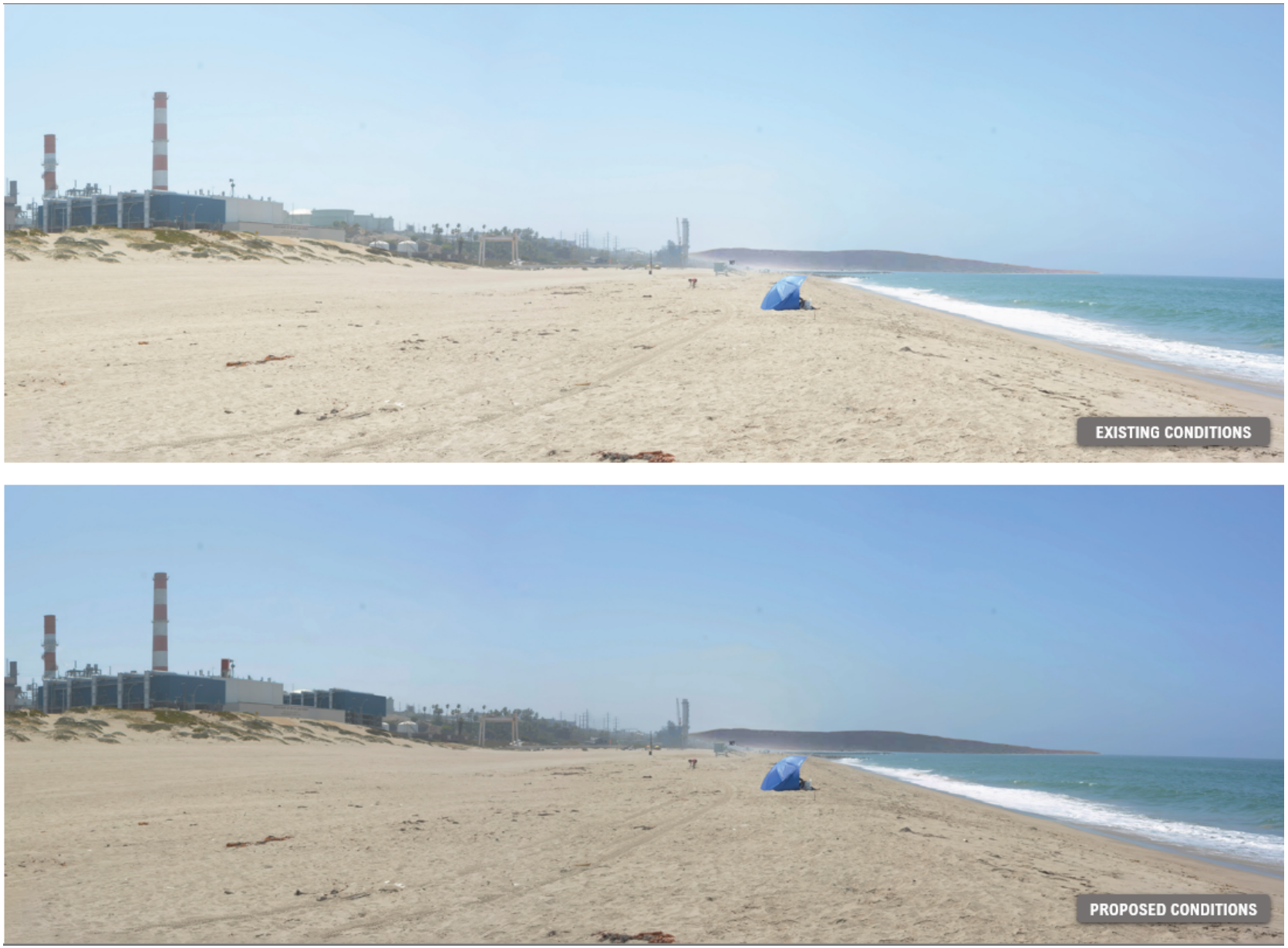


Figure 4.1-3 Key View Point 2: Existing and Simulated View Southward from Dockweiler State Beach

Figure 4.1-4 Key View Point 3: Existing and Simulated View Northward from El Segundo Beach

4.1.7 Cumulative Impacts

Cumulative impacts to aesthetic resources would occur if the proposed project in combination with other known future projects in the vicinity would have a substantial effect on a scenic vista. The only cumulative project (see Chapter 4 of this EIR) within the existing viewshed is the Hyperion 2035 program proposed by Los Angeles Sanitation & Environment. The Hyperion 2035 facilities would be located at the existing 144-acre Hyperion WRP, directly north of Scattergood. As discussed in Chapter 4, Hyperion 2035 is currently in planning stages, and the exact scope, extent, and location of the proposed facilities is currently unknown. Nonetheless, based on preliminary conceptual plans, the facilities may be located approximately 600 feet north of the northern boundary of Scattergood.

As discussed above, key view point 1 represents views from the residential properties located northeast of Scattergood on the bluff above Hyperion WRP. Key view point 1 possesses a view that includes both Scattergood and Hyperion WRP in the foreground with partial views of Dockweiler State Beach in the middleground to the west and vistas of Santa Monica Bay and the surrounding coastline in the background to the west and northwest. The existing Scattergood facilities obscure the scenic vista from this view point to the southwest, in a direction looking away from Hyperion WRP. The proposed project would minimally change the appearance of Scattergood from this view point, with only the upper portion of the exhaust stack of the proposed CCGS marginally visible through the existing transmission towers and switchyard equipment. Therefore, the project would not make a cumulatively considerable contribution to a wider impact on scenic vistas from key view point 1 involving future development at Hyperion WRP.

Hyperion WRP is not in the field of view when looking south from key view point 2, located on Dockweiler State Beach. Furthermore, any additional facilities related to Hyperion 2035 would not obscure the scenic vista looking north from key view point 3, located on El Segundo Beach. Therefore, the combined effects of the proposed project and future project at Hyperion WRP would not result in significant cumulative impacts to a scenic vista from either key view point 2 or key view point 3.

SECTION 4.2
AIR QUALITY

This section evaluates the proposed project's potential impacts on air quality. It estimates the air pollutant emissions generated by construction and operation of the proposed project and evaluates whether the proposed project would conflict with or obstruct implementation of the air pollution reduction strategies set forth in the South Coast Air Quality Management District's (SCAQMD) 2022 Air Quality Management Plan (AQMP). The analysis of project-generated air emissions focuses on whether the proposed project would cause an exceedance of an ambient air quality standard or SCAQMD significance thresholds. This section relies on information included in the Scattergood Generating Station Units 1 and 2 Green Hydrogen-Ready Modernization Project Air Quality, Greenhouse Gas, and Health Risk Assessment (HRA) Analysis Report, dated August 2024, provided in Appendix B of this EIR.

4.2.1 Environmental Setting

As described in Chapter 3, Project Description, Scattergood Generating Station currently includes six operating generation units. The units have a combined gross generation capacity of 830 megawatts (MW). The units supply power to the LADWP in-basin electrical transmission grid. Units 1 and 2 each employ a natural-gas-fired boiler that produces steam that drives a steam turbine, which in turn drives a generator to produce electricity. Units 1 and 2 together provide 296.8 MW of gross generation capacity (111.8 MW for Unit 1 and 185 MW for Unit 2).

Unit 4 is a natural-gas-fired combustion turbine generator, and Unit 5 is a steam turbine generator. However, the units operate in tandem as a Combined Cycle Generation System (CCGS). The hot exhaust from the Unit 4 combustion turbine passes through a heat recovery steam generator (HRSG), where it is used to produce steam, and then through an approximately 215-foot tall exhaust stack. The steam produced in the HRSG is used to drive the Unit 5 steam turbine generator. The exhaust steam from Unit 5 is condensed in an air-cooled condenser and returned to the HRSG in a continuous loop. The CCGS has a total gross generation capacity of 321.6 MW (214.4 MW for the Unit 4 combustion turbine generator and 107.2 MW for the Unit 5 steam turbine generator).

Units 6 and 7 are simple-cycle generation systems consisting of combustion turbine generators with individual approximately 100-foot-tall exhaust stacks. Each unit operates independently and has a gross generation capacity of 105.8 MW. Units 6 and 7 provide rapid response capability in terms of starting, ramping up and down, and shutting down to follow changes in demand for electrical energy, which increases overall system efficiency.

Together, Units 4, 5, 6, and 7 have a combined gross generation capacity of 533.2 MW. They replaced the generation capacity of the since demolished Unit 3, which had a gross generation capacity of 460 MW. To enable the increase of 73.2 MW (i.e., from 460 MW to 533.2 MW), the generation capacity of Unit 1 was physically and permanently reduced by an equivalent amount, resulting in the existing gross generation capacity of 111.8 MW.

Unit 4 uses a dry low nitrogen oxides (NO_X) system and Units 6 and 7 utilize water injection systems to reduce the production of NO_X during the combustion process. All combustion units at Scattergood use oxidation catalysts and selective catalytic reduction (SCR) systems, a post-combustion control technology for reducing nitrogen oxides (NO_x) air pollutant emissions. The SCR systems reduce NO_x emissions by injecting dilute aqueous ammonia (a solution of ammonia and water; ammonium hydroxide [NH_4OH]) and oxygen (O_2 in air) into the flue gas in the presence

of a catalyst, creating a chemical reaction that produces nitrogen (N_2) and water vapor (H_2O). Aqueous ammonia used in this process is stored in aboveground tanks at Scattergood.

Regional Climate

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the South Coast Air Basin (SCAB), which encompasses the project site, pursuant to the regulatory authority of the SCAQMD.

The climate in the SCAB is characterized by winter rainfall and hot summers tempered by cool ocean breezes. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap or "inversion" over the cool marine layer and inhibits the pollutants released into the marine layer from dispersing upward. In addition, light winds during the summer further limit dispersion. Finally, sunlight triggers the photochemical reactions that produce ozone, and the region experiences more days of sunlight than many other major urban areas in the nation.

Temperature affects air quality in the region in several ways. Local winds are the result of temperature differences between the relatively stable ocean air and the uneven heating and cooling that takes place in the SCAB due to a wide variation in topography. Temperature also has a major effect on vertical mixing height and affects chemical and photochemical reaction times. The annual average temperatures vary throughout the SCAB from the low 40s to the high 90s. The coastal areas show little variation in temperature on a year-round basis due to the moderating effect of the marine influence. On average, September is the warmest month, while December and January are typically the coolest months of the year. Annual rainfall varies from a low of under 4 inches to a high of over 20 inches.

Wind flow patterns play an important role in the transport of air pollutants in the SCAB. The winds flow from offshore and blow eastward during the daytime hours until sundown. There is a calm period until about midnight. At that time, the land breeze begins from the northwest, typically becoming calm again about sunrise. In winter, the same general wind flow patterns exist except that summer wind speeds average slightly higher than winter wind speeds. This pattern of low wind speeds is a major factor that allows pollutants to accumulate in the SCAB. The normal wind patterns in the SCAB are interrupted by the unstable air accompanying the passing storms during the winter and infrequent strong northeasterly Santa Ana wind flows from the mountains and deserts north of the SCAB.

Existing Air Quality

Criteria Pollutants

Ambient Air Quality Standards and Health Effects

The SCAQMD is responsible for ensuring that California and National Ambient Air Quality Standards (CAAQS and NAAQS, respectively) are achieved and maintained in its jurisdiction. Health-based air quality standards have been established by California and the federal government for the following criteria air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with an aerodynamic diameter of less than 10 microns (PM_{10}), fine particulate matter with an aerodynamic diameter of less than 2.5 microns ($PM_{2.5}$), sulfates (SO_4^{2-}), and lead (Pb). These standards were established to protect sensitive receptors within a margin of safety from adverse health impacts due to exposure to air pollution. In most cases, the California standards are more stringent than the federal standards.

California has also established standards for sulfate, visibility, hydrogen sulfide (H_2S), and vinyl chloride. The CAAQS and NAAQS for each of these pollutants and their effects on health are summarized in Table 4.2-1.

Table 4.2-1 Federal and California Ambient Air Quality Standards

Air Pollutant	California Standard (concentration/ averaging time)	Federal Primary Standard (concentration/ averaging time)	Most Relevant Health Effects
Ozone (O_3)	0.09 ppm, 1-hr; 0.070 ppm, 8-hr	0.070 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years[a]	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; (f) Property damage.
Carbon Monoxide (CO)	20 ppm, 1-hr; 9.0 ppm, 8-hr	9 ppm, 8-hr; 35 ppm, 1-hr	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses.
Nitrogen Dioxide (NO_2)	0.18 ppm, 1-hr; 0.030 ppm, annual	0.100 ppm, 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years; 0.053 ppm, annual[a]	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration.
Sulfur Dioxide (SO_2)	0.25 ppm, 1-hr; 0.04 ppm, 24-hr	0.075 ppm, 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years[a]	Bronchoconstriction accompanied by symptoms that may include wheezing, shortness of breath, and chest tightness during exercise or physical activity in persons with asthma.
Respirable Particulate Matter (PM_{10})	50 µg/m^3, 24-hr; 20 µg/m^3, annual arithmetic mean	150 µg/m^3, 24-hr	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Decline in pulmonary function or growth in children; (c) Increased risk of premature death.
Fine Particulate Matter ($PM_{2.5}$)	12 µg/m^3, annual arithmetic mean	35 µg/m^3, 24-hr; 9.0 µg/m^3, annual	
Sulfates (SO_4^{2-})	25 µg/m^3, 24-hr	No Federal Standard	(a) Decrease in lung function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage.
Lead (Pb)	1.5 µg/m^3, 30-day	0.15 µg/m^3, 3-month rolling	(a) Learning disabilities; (b) Impairment of blood formation and nerve conduction.

Table 4.2-1 Federal and California Ambient Air Quality Standards

Hydrogen Sulfide (H_2S)	0.03 ppm, 1-hr	No Federal Standard	Odor annoyance at low concentrations. Prolonged exposure to concentrations of 2 to 5 ppm may cause nausea, tearing of the eyes, headaches or loss of sleep – as well as airway problems (bronchial constriction) in some asthma patients. Possible fatigue, loss of appetite, headache, irritability, poor memory, and dizziness may occur at 20 ppm. Exposure to concentrations exceeding 100 ppm may cause coughing, eye irritation, loss of smell after 2-15 minutes (olfactory fatigue); altered breathing, drowsiness after 15-30 minutes; throat irritation after 1 hour; gradual increase in severity of symptoms over several hours; death may occur after 48 hours.[b]
Vinyl Chloride	0.01 ppm, 24-hr[c]	No Federal Standard	Known carcinogen.

Note: State standards are "not to exceed" values; federal standards follow the design value form of the NAAQS.

[a] USEPA. 2017. National Ambient Air Quality Standards (NAAQS). Available at: https://www.epa.gov/criteria-air-pollutants/naaqs-table. Accessed September 2023.

[b] Occupational Safety and Health Administration. 2015. Safety and Health Topics, Hydrogen Sulfide. Available at: https://www.osha.gov/hydrogen-sulfide/hazards. Accessed September 2023.

[c] CARB. 2015. Vinyl Chloride & Health. Website. Available at: http://www.arb.ca.gov/research/aaqs/caaqs/h2s/h2s.htm. Accessed September 2023.

Source: SCAQMD, 2022 AQMP, unless otherwise noted.

Regional Air Quality

Based on the most recent SCAQMD AQMP from 2022, which includes data from 2020, one or more stations in the SCAB exceeded the most current federal standards on a total of 181 days (49% of the year), including: 8-hour ozone (157 days over the 2015 ozone NAAQS), NO_2 (1 day), PM_{10} (3 days), and 24-hour $PM_{2.5}$ (39 days). Despite substantial improvement in air quality over the past few decades, some air monitoring stations in the SCAB still exceed the NAAQS for ozone more frequently than any other areas in the United States.

The following are descriptions of the attainment classifications:

- Unclassified: A pollutant is designated as unclassified if the data are incomplete and do not support a designation of attainment or non-attainment.
- Attainment: A pollutant is designated attainment if the AAQS for that pollutant was not violated at any site in the area during a 3-year period.
- Non-attainment: A pollutant is designated non-attainment if there was at least one violation of a AAQS for that pollutant in the area during the previous 3 years.
- Non-attainment/transitional: A subcategory of the non-attainment designation. An area is designated non-attainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the federal and California ambient air quality standards in the SCAB are summarized in Table 4.2-2.

Table 4.2-2 NAAQS and CAAQS Attainment Status in the South Coast Air Basin

Criteria Pollutant	NAAQS			CAAQS	
	Averaging Time (standard)	Designation	Attainment Date	Averaging Time (standard)	Designation
Ozone (O_3)	(1979) **1-Hour** (0.12 ppm)	Nonattainment ("extreme")	2/26/2023 (revised deadline)	**1-Hour** (0.09 ppm)	Nonattainment
	(2015) **8-Hour** (0.070 ppm)	Nonattainment ("extreme")	8/03/2038		
	(2008) **8-Hour** (0.075 ppm)	Nonattainment ("extreme")	7/20/2032	**8-Hour** (0.070 ppm)	Nonattainment
	(1997) **8-Hour** (0.08 ppm)	Nonattainment ("extreme")	6/15/2024		
CO	(1971) **1-Hour** (35 ppm)	Attainment (Maintenance)	6/11/2007 (attained)	**1-Hour** (20 ppm)	Attainment
	(1971) **8-Hour** (9 ppm)	Attainment (Maintenance)	6/11/2007 (attained)	**8-Hour** (9 ppm)	Attainment
NO_2	(2010) **1-Hour** (100 ppb)	Unclassifiable/ Attainment	N/A (attained)	**1-Hour** (0.18 ppm)	Attainment
	(1971) **Annual** (0.053 ppm)	Attainment (Maintenance)	9/22/1998 (attained)	**Annual** (0.030 ppm)	Attainment
SO_2	(2010) **1-Hour** (75 ppb)	Unclassifiable/ Attainment	1/9/2018 (attained)	**1-Hour** (0.25 ppm)	Attainment
	(1971) **24-Hour** (0.14 ppm)	Unclassifiable/ Attainment	3/19/1979 (attained)	**24-Hour** (0.04 ppm)	Attainment
PM_{10}	(1987) **24-hour** (150 µg/m^3)	Attainment (Maintenance)	7/26/2013 (attained)	**24-hour** (50 µg/m^3)	Nonattainment
				Annual (20 µg/m^3)	Nonattainment
$PM_{2.5}$	(2006) **24-Hour** (35 µg/m^3)	Nonattainment ("serious")	12/31/2023	**Annual** (12.0 µg/m^3)	Nonattainment
	(2024) **Annual** (9.0 µg/m^3)	TBD	TBD		
	(2012) **Annual** (12.0 µg/m^3)	Nonattainment ("serious")	12/31/2025		
	(1997) **Annual** (15.0 µg/m^3)	Attainment (final determination pending)	4/5/2015 (attained 2013)		
Lead (Pb)	(2008) **3-Month Rolling** (0.15 µg/m^3)	Nonattainment (Partial) (Attainment determination to be requested)	12/31/2015	**30-Day Average** (1.5 µg/m^3)	Attainment
Sulfates	N/A			**24-Hour** (25 µg/m^3)	Attainment
H_2S	N/A			**1-Hour** (0.03 ppm)	Unclassified

Source: SCAQMD 2022 AQMP, Tables 2-3 and 2-5.

Local Air Quality

The SCAQMD monitors levels of the aforementioned criteria pollutants at multiple monitoring stations throughout the SCAB. A compilation of air quality data from the Signal Hill site, representing the project area for 2021-2023, is presented in Table 4.2-3. The Signal Hill site was chosen to represent the project site as it is the only South Coastal Los Angeles site in the SCAQMD network that has available data for a majority of the pollutants. The Signal Hill station and project site also have similar background emission sources (i.e., the Port of Long Beach and Los Angeles International Airport) and coastal meteorology. Some pollutants (i.e., CO and SO_2), were not measured at the Signal Hill site. The U.S. Environmental Protection Agency (USEPA) AirData sites were used to supplement missing data for CO and SO_2.

Table 4.2-3 Maximum Monitored Pollutant Concentrations in Project Area

Constituent/Standard	2021	2022	2023
Ozone[a]			
Max 8-Hour (ppm)	0.064	0.077	0.065
# Days > National Standard	0	1	0
# Days > State Standard	0	1	0
1-Hour (ppm)	0.086	0.108	0.089
# Days > National Standard	0	0	0
# Days > State Standard	0	1	0
Carbon Monoxide[b]			
8-Hour (ppm)	1.6	1.5	1.2
1-Hour (ppm)	2.0	1.7	1.4
Nitrogen Dioxide[a]			
1-Hour (ppb)	59.0	58.1	56.2
Annual Arithmetic Mean (ppb)	12.8	12.8	11.0
Sulfur Dioxide[c]			
1-Hour (ppb)	7.7	6.1	23.2
PM_{10}[d]			
24-Hour (µg/m^3)	48	57	80
# Days > National Standard	0	0	0
# Days > State Standard	0	2	3
$PM_{2.5}$[d]			
Federal 24-Hour (µg/m^3)	32.8	28.8	26.5
# Days > National Standard	4	0	0
State 24-Hour (µg/m^3)	42.9	28.8	26.5
# Days > State Standard	4	0	0

Notes:

[a] Values reported are from the South Coastal Los Angeles County 4 monitoring station (Station No. 039, AQS ID 060374009) monitoring station.

[b] Values reported are from the 1630 N Main St. USEPA AirData monitoring station (AQS ID 060371103).

[c] 2023 and 2022 SO_2 values reported are from the South Coastal Los Angeles County 4 monitoring station (Station No. 039, AQS ID 060374009). 2021 SO_2 values reported are from the 7201 W. Westchester Parkway USEPA AirData monitoring station (AQS ID 060375005).

[d] 2023 and 2022 PM values reported are from the South Coastal Los Angeles County 4 monitoring station (Station No. 039, AQS ID 060374009). 2021 PM values reported are from the South Coastal Los Angeles County 2 monitoring station (AQS ID 060374004).

Sources: SCAQMD. 2024. Historical Data by Year. Available at: https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year. Accessed August 2024.
USEPA. 2024. Monitor Values Report. Available at:https://www.epa.gov/outdoor-air-quality-data/monitor-values-report. Accessed March 2024.

Toxic Air Contaminants

The SCAQMD has conducted urban air toxics studies within the SCAB, the most recent of which is the Multiple Air Toxics Exposure Study (MATES V). Monitoring data collected during the MATES V program, conducted from 2018-2019, was used to update a basin-wide emissions inventory of toxic air contaminants (TACs) and modeled to characterize carcinogenic risk from

exposure to air toxics across the SCAB. The MATES V study concludes the following regarding cancer risk in the SCAB:[1]

> *"In MATES V, diesel PM is the largest contributor to the cancer risk for all stations, contributing approximately 50% of the cancer risk. Based on other South Coast AQMD analyses of projected diesel PM emissions in future years,[12,13] significant decreases in diesel PM health impacts are expected within the next 5-10 years. These reductions reflect recent and continued efforts by the District, CARB and US EPA that reduce diesel PM emissions, especially from mobile sources. Benzene, 1,3- Butadiene, and Carbonyls make up approximately 25% of the cancer risk."*

Regarding chronic non-cancer risk, the SCAQMD concluded the following:

> *"Chronic non-cancer health impacts are primarily driven by arsenic, which accounts for approximately 49% of the overall chronic HI [hazard index]. The chronic HI from arsenic is driven equally by the following target organ systems: cardiovascular system, nervous system, reproductive/developmental, respiratory, and skin. Based on the monitoring data, acrolein (2- Propenol) accounts for approximately 23% of the chronic HI, driven by the impacts on the respiratory system, although there is substantial uncertainty associated with the measurement method, and no alternative method has been published.[14] Formaldehyde and benzene account for approximately 7% and 5% of the chronic HI, respectively. The HQ [hazard quotient] for formaldehyde is driven by the impacts on the respiratory system, while the HQ for benzene is driven by the hematologic system impacts. Other species are responsible for the remainder of the chronic HI."*

4.2.2 Regulatory Framework

Federal

Clean Air Act

The federal Clean Air Act (FCAA) was first enacted in 1970 and amended in 1977 and 1990 for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. The USEPA has set primary and secondary NAAQS for O_3, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$, and lead. Primary standards are those levels of air quality deemed necessary, with an adequate margin of safety, to protect public health. Table 4.2-2 lists the current federal and State standards for regulated pollutants.

Generally, stationary source regulation of air quality is delegated to the state or local agencies. However, there are various federal programs that are applicable to major sources of emissions, such as the proposed project's CCGS. For regulations controlling primarily criteria pollutant emissions, the USEPA has established New Source Performance Standards (NSPS). Applicable federal requirements include:

- **Code of Federal Regulations (CFR) Title 40 Part 52:** Non-attainment New Source Review requires Best Available Control Technology (BACT) and offsets. Permitting and enforcement have been delegated to the SCAQMD.

[1] *SCAQMD. 2021. Final Report, Multiple Air Toxics Exposure Study V (MATES V). Available at: https://www.aqmd.gov/docs/default-source/planning/mates-v/mates-v-final-report-9-24-21.pdf*

- **40 CFR 60 Subpart KKKK:** NSPS for Stationary Combustion Turbines: 15 parts per million (ppm) nitrogen oxide at 15% oxygen and fuel sulfur limit of 0.060 pounds of sulfur oxide per million British thermal units heat input. BACT would require additional controls.

- **40 CFR 60 Subpart TTTT:** NSPS for Greenhouse Gas Emissions from Electric Generating Units: 1,000 lb CO_2/MWh-Gross.

Title V of the FCAA requires state and local permitting authorities to adopt an operating permit program for major sources of air pollution. These operating permits are often referred to as Title V Permits. LADWP holds a facility Title V Major Source permit for the Scattergood (ID# 800075).

State

State Implementation Plan

The FCAA Amendments require that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. In California, the SIP is a collection of documents that set forth the State's strategies for achieving the NAAQS and CAAQS – a compilation of new and previously submitted plans, programs (such as monitoring, modeling, and permitting), district rules, state regulations, and federal controls. The California Air Resources Board (CARB) is the lead agency for all purposes related to the SIP under State law. Local air districts are responsible for preparing and implementing air quality attainment plans for pollutants for which the district is in non-compliance and the plans are incorporated into the SIP.

California Clean Air Act

The California Clean Air Act (CCAA), enacted in 1988, established the CAAQS, which are generally more stringent than the NAAQS. The CCAA requires that each local air district prepare and maintain an AQMP to achieve compliance with the CAAQS. These standards, included in Table 4.2-2, apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. California standards are generally more stringent than the national standards.

While the USEPA is the federal agency designated to administer air quality regulation, CARB is the State equivalent in the California Environmental Protection Agency. As with the FCAA, the CCAA also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas designated as nonattainment are those that do not meet (or that contribute to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant. Areas designated as attainment are those that meet the national primary or secondary ambient air quality standard for the pollutant.

CARB is the state agency that: 1) establishes and enforces emission standards for motor vehicles, fuels, and consumer products; 2) establishes health-based air quality standards; 3) conducts research; 4) monitors air quality; 5) identifies and promulgates control measures for TACs; 6) provides compliance assistance for businesses; 7) produces education and outreach programs and materials; and 8) oversees and assists local air quality districts that regulate most non-vehicular sources of air pollution. CARB also approves the regional AQMPs for incorporation into the SIP and is responsible for preparing those portions of the plan related to mobile source emissions. In addition, CARB implements the CCAA requirements, regulating emissions from motor vehicles and setting fuel standards.

While most regulations are developed and implemented at the local level by the SCAQMD, some regulations and emissions limits are prescribed by CARB. One example is the Portable Equipment

Registration Program. Once registered in the program, portable engines and equipment units can operate throughout the State of California without the need to get individual permits from local air districts, with some restrictions. The program has limits on engine certifications and emissions, and limits operation at a specific location (as defined in the regulation) to no more than 12 months. Operation exceeding 12 months would subject the equipment to stationary source permitting through the air district.

Regional

South Coast Air Quality Management District

The California legislature created the SCAQMD in 1977 as the agency responsible for developing and enforcing air pollution control rules and regulations in the SCAB and portions of the Salton Sea Air Basin and Mojave Desert Air Basin. By statute, the SCAQMD is required to adopt an AQMP demonstrating compliance with all federal and State ambient air quality standards for the areas under the jurisdiction of the SCAQMD. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP. The AQMP is a regional blueprint for how the SCAQMD will achieve air quality standards and healthful air. The current 2022 AQMP contains multiple goals promoting reductions of criteria air pollutants, GHGs, and TACs. In particular, the 2022 AQMP states that both NO_x and volatile organic compound (VOC) emissions need to be addressed, with the emphasis that NO_x emissions reductions are more effective to reduce the formation of O_3 and $PM_{2.5}$. The AQMP is implemented through new rules and regulations.

SCAQMD NO_x Regional Clean Air Incentives Market

The SCAQMD's NO_x Regional Clean Air Incentives Market (RECLAIM) program is a market trading program where participating facilities are required to meet targets for annual emission reductions of NO_x.[2] Each firm participating in RECLAIM receives RECLAIM trading credits equal to its annual emissions limit. Facilities must hold credits equal to their actual emissions, but they can sell excess credits to firms that cannot or choose not to meet their limits. As businesses are different, some may reduce emissions more easily and at less cost than others. Credits are assigned each year and can be bought or sold for use within that year. No matter who buys or sells credits, RECLAIM requires that total emissions from all participating companies be reduced each year.[3] LADWP is covered by the SCAQMD NO_x RECLAIM program.

SCAQMD Permits to Construct

LADWP is currently evaluating three vendors for the proposed power generating system (i.e., manufacturer and CCGS equipment). LADWP will prepare three separate applications to the SCAQMD for Permits to Construct. In order to ensure timely project implementation, LADWP is requesting that the SCAQMD contemporaneously review and consider all three applications for Permits to Construct and Permits to Operate so that when LADWP ultimately selects a power generating system, SCAQMD will already have reviewed, considered, and provided input on the permit applications. Upon selection of the power generating system, LADWP will inform SCAQMD of its selection and request the SCAQMD to approve the applicable permit application.

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[2] *SCAQMD. RECLAIM. Available at: https://www.aqmd.gov/home/programs/business/business-detail?title=reclaim. Accessed August 2024.*

[3] *SCAQMD. RECLAIM Facility Emissions – Frequently Asked Questions. Available at: https://www.aqmd.gov/docs/default-source/reclaim/reclaim-facility-emissions-faqs.pdf?sfvrsn=2. Accessed August 2024.*

SCAQMD Rule 402

In the SCAB, odors are regulated under SCAQMD Rule 402, Nuisance, which requires that: "[A] person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

The SCAQMD accepts air quality complaint calls 24 hours a day. During business hours (i.e., 7:00 a.m. to 5:30 p.m., Tuesday through Friday), an attendant answers the call and directs the information accordingly. During non-business hours, an automated answering service forwards the call to a standby supervisor, who takes appropriate action. If a public nuisance is expected based on the number of complaints received, the SCAQMD will respond to the complaint with an immediate investigation.

Local

City of Los Angeles

The proposed project has been identified by LADWP based on the findings and recommendations contained in the Los Angeles 100% Renewable Energy (LA100) Study, which analyzed multiple scenarios for the City to transform its electrical power supply into carbon-free resources. The LA100 study, for which the final report was published in 2021, was a multi-year effort undertaken jointly by the National Renewable Energy Laboratory and LADWP with active participation by the LA100 Advisory Group consisting of representatives from neighborhood councils, environmental organizations, business and labor groups, academia, city government, and the renewable energy industry. Various scenarios reflecting a range of energy demand-related and supply-related factors were analyzed in the study. However, across all scenarios, the requirement for firm local generation assets (i.e., located within the Los Angeles Basin) that can be readily dispatched in a controlled manner in response to demand was recognized as essential under a range of foreseeable but unpredictable circumstances that could temporarily severely limit the supply of renewable energy resources coming into the City. Under such circumstances, firm local generation would be critical to maintaining system reliability and resilience and avoiding power grid collapse.

Based on the findings of the LA100 study, the proposed project has been identified as an integral component of LADWP's 2022 Power Strategic Long-Term Resource Plan (SLTRP), which establishes a roadmap for reliable and sustainable electrical power for the City, while also providing the strategy to achieve a carbon-free energy system by 2035, relying primarily on renewable solar, wind, and geothermal generation resources as well as large-capacity energy storage facilities. The continued availability of firm local generation that can be dependably and rapidly dispatched to respond to demand for energy in the LADWP service area has been identified in the SLTRP as necessary to maintain the reliability and resilience of the City's electrical power grid during and after the transition to a carbon-free system. This transition will occur as the demand for electricity in the City is also anticipated to increase substantially with the electrification of various functions currently powered by the combustion of fossil fuels (e.g., cooking, space heating, water heating, and the transportation sector).

4.2.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the proposed project would have a significant impact related to air quality if it would:

- ***AQ-A*** *Conflict with or obstruct implementation of the applicable air quality plan;*
- ***AQ-B*** *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;*
- ***AQ-C*** *Expose sensitive receptors to substantial pollutant concentrations; or*
- ***AQ-D*** *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.*

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The SCAQMD air quality significance thresholds for construction and operation used to evaluate local and regional impacts are presented in Table 4.2-4. The analysis in this section relies on proprietary emissions rate data provided by the three vendors under consideration by LADWP for project implementation.

Table 4.2-4 SCAQMD CEQA Thresholds of Significance

Pollutant	Project Construction	Project Operation
	Mass Daily Thresholds (lbs/day)	
ROG (VOC)	75	55
CO	550	550
NO_x	100	55
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Ambient Air Quality Standards for Criteria Pollutants		
1-hour CO	20 ppm (state) and 35 ppm (federal)	
8-hour CO	9.0 ppm (state/federal)	
1-hour NO_2	0.18 ppm (state); 0.100 ppm (federal – 98th percentile)	
Annual NO_2	0.03 ppm (state) & 0.053 ppm (federal)	
1-hour SO_2	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile)	
24-hour SO_2	0.04 ppm (state); 0.14 ppm (federal)	
Annual SO_2	0.030 ppm (federal)	
24-hour Sulfate	25 ug/m^3 (state)	
24-hour PM_{10}	50 ug/m^3 (state); 150 ug/m^3 (federal)	
Annual PM_{10}	20 µg/m^3 annual average (state)	
24-hour $PM_{2.5}$	35 µg/m^3 annual average (federal)	
Annual $PM_{2.5}$	12 ug/m^3 (state); 9 ug/m^3 (federal)	
30-day Average Lead	1.5 ug/m^3 (state)	
Rolling 3-month Average Lead	0.15 ug/m^3 (federal)	
24-hour Vinyl Chloride	0.01 ppm (state)	

Table 4.2-4 SCAQMD CEQA Thresholds of Significance

1-hour H_2S	0.03 ppm (state)	
24-hour PM_{10} Significant Change	10.4 µg/m^3 (construction)	2.5 µg/m^3 (operation)
Annual PM_{10} Significant Change	1.0 µg/m^3 annual average	
24-hour $PM_{2.5}$ Significant Change	10.4 µg/m^3 (construction)	2.5 µg/m^3 (operation)
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥10 in one million	
	Cancer Burden >0.5 excess cancer cases (in areas ≥1 in one million)	
	Chronic & Acute Hazard Index ≥1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to Rule 402	
GHGs	10,000 MT/yr CO_2e for industrial facilities	
	Efficiency standards: 1,110 lb/MWh-Net (SB1368); 1,000 lb/MWh-Gross (NSPS TTTT)	

Sources: SCAQMD. 2023. Air Quality Significance Thresholds. Available at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf.
CARB. 2024. California Ambient Air Quality Standards. Available at: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards. Accessed August 2024.
Senate Bill 1368. Emissions Performance Standard. Available at: https://www.energy.ca.gov/rules-and-regulations/energy-suppliers-reporting/emission-performance-standard-sb-1368. Accessed August 2024.
40 CFR Part 60 Subpart TTTT. Available at: https://www.ecfr.gov/current/title-40/part-60/subpart-TTTT.

4.2.4 Project Impacts

AQ-A Would the project conflict with or obstruct implementation of the applicable air quality plan?

As previously mentioned, the project site is located within the SCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the FCAA, to reduce emissions of criteria pollutants for which the SCAB is in nonattainment. In order to reduce such emissions, the SCAQMD drafted and adopted the 2022 AQMP. The 2022 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state and federal air quality standards. The plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including Southern California Association of Government's (SCAG) 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), updated emission inventory methodologies for various source categories, and SCAG's growth forecasts, which were defined in consultation with local governments and with reference to local general plans. According to the SCAQMD, in order to determine a project's consistency with SCAQMD's air quality planning two main criteria must be addressed, as evaluated below.

a) Would the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations?

b) Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?

Criterion 1

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

During construction, as detailed below under Threshold AQ-B and as shown in Table 4.2-6, emissions are anticipated to exceed the significance thresholds for NO_x. Thus, regional air quality impacts associated with construction activities are considered potentially significant. As discussed under Threshold AQ-C and as shown in Table 4.2-28, emissions from construction would meet SCAQMD's Localized Significance Threshold (LST) criteria at the nearest receptors (100 meters). Therefore, the proposed project would not exceed the SCAQMD localized significance thresholds for emissions during construction.

As discussed above, LADWP is currently evaluating three vendors (Vendors A, B, and C) for the proposed power generating system (i.e., manufacturer and CCGS equipment). During commissioning (prior to generation unit connection to the grid), as shown in Table 4.2-7 under Threshold AQ-B, based on vendor data, emissions during the commissioning phase of the proposed project are anticipated to exceed the significance thresholds for VOCs, CO, and NO_x. The commissioning phase consists of testing and tuning the equipment and combustor to obtain peak performance and optimally install the SCR system and oxidation catalyst, which are the primary pollution control systems of the CCGS. Until the tuning and equipment installations are completed during the commissioning phase, emissions will temporarily be high compared to normal operation. Since the commissioning activities inherently consist of uncontrolled emissions that cannot be limited and no practical mitigation can be applied, air quality impacts associated with commissioning are considered significant and unavoidable.

As detailed in Appendix B of this EIR and as shown in Tables 4.2-16 through 4.2-21 under Threshold AQ-B, ground level concentrations from all three vendors' commissioning activity emissions (from either fuel source) would be below the CAAQS/NAAQS/SCAQMD thresholds and do not indicate significant impacts on local air quality.

During operations, as presented in Table 4.2-8 through Table 4.2-15 under Threshold AQ-B, emissions of the proposed project would exceed the significance thresholds for VOCs for Vendor B only. As shown in Tables 4.2-10 and 4.2-11, this exceedance is associated with startup and shutdown operations, when the CCGS must operate on natural gas (even when hydrogen would be utilized during normal operations) and the pollution control systems are not fully functioning. Thus, regional air quality impacts associated with operations from Vendor B would be considered potentially significant.

The project operations would not cause an exceedance of the CO, NO_2, or SO_2 CAAQS or NAAQS, and the proposed project would not cause an exceedance of PM_{10} and $PM_{2.5}$ of the SCAQMD's concentration thresholds for particulate matter. Thus, the proposed project would have a less than significant adverse impact to air quality based on ambient air quality modeling.

Based on the above, during commissioning in relation to VOCs, CO, and NO_x, and during operations in relation to VOCs for Vendor B only, the proposed project would result in an increase in the frequency or severity of existing air quality violations and would have the potential to cause or affect a violation of the ambient air quality standards, which could delay the timely attainment of air quality standards or AQMP emissions reductions.

Nonetheless, it should be noted that when compared to the existing Units 1 and 2, the proposed CCGS would substantially increase fuel efficiency, thereby also reducing the emissions of air pollutants and GHGs relative to the amount of energy produced. Unlike current operations, under which the in-basin generation units provide a substantial proportion of the City's energy on a daily and annual basis, the proposed CCGS is anticipated to be operated less frequently, primarily to meet peaks in the requirement for electric power during high demand days that exceed renewable energy production and energy storage capacity. In addition, the CCGS would be used during relatively short-term periods when renewable generation sources or transmission assets may become unavailable due to emergency circumstances (e.g., the temporary loss of critical renewable energy transmission lines caused by wildfire or earthquake).

Criterion 2

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the SCAB focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based, in part, on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining project consistency focuses on whether or not the project exceeds the assumptions utilized in preparing the forecasts presented in its air quality planning documents. Determining whether or not a project exceeds the assumptions reflected in the 2022 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the 2022 AQMP?

A project is consistent with regional air quality planning efforts in part if it is consistent with the population, housing, and employment assumptions that were used in the development of the SCAQMD air quality plans. Generally, three sources of data form the basis for the projections of air pollutant emissions in Los Angeles County. Specifically, SCAG's Growth Management Chapter of the Regional Comprehensive Plan and Guide (RCPG) provides regional population forecasts for the region and SCAG's RTP/SCS provides socioeconomic forecast projections of regional population growth. The City of Los Angeles is referenced by SCAG in order to assist forecasting future growth in the city.

As discussed in the proposed project's Initial Study included as Appendix A of this EIR, the proposed project would be located within the existing boundaries of Scattergood in the City of Los Angeles. Scattergood is zoned PF-1 (Public Facilities) under the City's zoning code and is designated as a Public Facilities land use under the City's General Plan. The existing uses are consistent with the zoning and general plan designations, and the proposed project would not result in land use or zoning changes. Therefore, the proposed project would be consistent with the types, intensity, and patterns of land use envisioned for the site in the RTP/SCS and RCPG. As also discussed in the Initial Study, the operation of the proposed project would not increase the number of personnel on site and thus would not directly induce population growth in the area. The project would not provide surplus infrastructure but would replace the generation capacity of existing Scattergood Units 1 and 2, which will be removed from service to comply with the statewide once-through cooling (OTC) policy. Scattergood has been identified as the most immediate and instrumental location in relation to the requirement for firm generation capacity due to the electrification of Los Angeles International Airport (LAX), the implementation of increased wastewater treatment capabilities at the City's Hyperion Water Reclamation Plant, and

anticipated increase in demand in the western areas of the City that Scattergood serves largely caused by electrification of various functions currently powered by the combustion of fossil fuels (e.g., cooking, space heating, water heating, and the transportation sector). Therefore, the project would not indirectly induce population growth in the area because it would replace existing generation capacity and is responsive to already anticipated increases in the need for electrical power. As a result, the proposed project would not conflict with the land use assumptions or exceed the population or job growth projections used by SCAQMD to develop the 2022 AQMP.

b) Would the project implement all feasible air quality mitigation measures?

In order to further reduce emissions, the proposed project would be required to comply with emission reduction measures promulgated by the SCAQMD, such as SCAQMD Rules 201, 402, 403, 1113, and 1401. SCAQMD Rule 201 requires a "Permit to Construct" prior to the installation of any equipment "the use of which may cause the issuance of air contaminants." SCAQMD Rule 402 prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. SCAQMD Rule 403 requires fugitive dust sources to implement BACT measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM_{10} emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. SCAQMD Rule 1113 requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce reactive organic gases (ROG) emissions from the use of these coatings, primarily by placing limits on the ROG content of various coating categories. SCAQMD Rule 1401 requires new source review of any new, relocated, or modified permit units that emit TACs.

In addition, all feasible mitigation measures to reduce significant air quality impacts would be implemented. This includes the use of Tier 4 final engines on all offroad construction equipment greater than 80 horsepower (hp) to reduce NOx emissions during construction to a less than significant level. The commissioning phase consists of testing and tuning the equipment and combustor to obtain peak performance and optimally install the SCR system and oxidation catalyst, which are the primary pollution control systems of the CCGS. Until the tuning and equipment installations are completed during the commissioning phase, emissions will temporarily be high compared to normal operation. Because the commissioning activities inherently consist of uncontrolled emissions that cannot be limited and no practical mitigation can be applied, air quality impacts associated with commissioning are considered significant and unavoidable. Therefore, the proposed project would meet this consistency criterion.

c) Would the project be consistent with the land use planning strategies set forth by SCAQMD air quality planning efforts?

The AQMP contains air pollutant reduction strategies based on SCAG's growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. As described above, the existing uses are consistent with the zoning and general plan designations, and the proposed project would not result in land use or zoning changes. Therefore, the proposed project would be consistent with the types, intensity, and patterns of land use envisioned for the site in the RTP/SCS and RCPG. In addition, the proposed project would not increase the number of personnel on site and thus would not directly induce

population growth in the area. The project would not provide surplus infrastructure but would replace the generation capacity of existing Scattergood Units 1 and 2, which will be removed from service to comply with the statewide OTC policy. Scattergood has been identified as the most immediate and instrumental location in relation to the requirement for firm generation capacity due to the electrification of LAX, the implementation of increased wastewater treatment capabilities at the City's Hyperion Water Reclamation Plant, and anticipated increase in demand in the western areas of the City that Scattergood serves largely caused by electrification of various functions currently powered by the combustion of fossil fuels (e.g., cooking, space heating, water heating, and the transportation sector). Therefore, the project would not indirectly induce population growth in the area because it would replace existing generation capacity and is responsive to already anticipated increases in the need for electrical power. Therefore, the proposed project would be consistent with land use planning strategies set forth by SCAQMD.

Conclusion

While the proposed project would conform to local land use plans and SCAG forecasts, the proposed project's exceedance of specific regulatory thresholds would result in a conflict with or obstruct implementation of the 2022 AQMP, and impacts would be potentially significant.

AQ-B Would the project 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?

Emissions Analyses

As discussed in Chapter 3, Project Description, of this EIR, the proposed project would construct and operate a CCGS that would replace the generation capacity of existing generation Units 1 and 2, which will be removed from service concurrent with implementation of the proposed project. The proposed CCGS, Units 8 and 9, would be physically similar to the existing Units 4 and 5 CCGS, consisting of a combustion-turbine generator and a steam-turbine generator operating in tandem. However, unlike the existing CCGS, which operates solely on natural gas, the proposed CCGS would be capable of operating on a fuel mixture of natural gas and a minimum of 30 percent hydrogen by volume. Additionally, new gas compressors and/or pressure reducers would be installed to maintain the required pressures prior to combustion in the proposed combustion turbine (Unit 8). This new equipment would be similar in scale and located adjacent to the existing compressors on the middle terrace of Scattergood. New belowground distribution infrastructure would be installed within the property to transport fuel from the compressors/pressure reducers to Unit 8 (the proposed CCGS combustion turbine).

Construction

The construction analysis was performed using CalEEMod version 2022.1.1.20, the official statewide land use computer model designed to provide a uniform platform for estimating potential criteria pollutant and GHG emissions associated with both construction and operations of land use projects under CEQA. The model quantifies direct emissions from construction (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The mobile source emission factors used in the model – published by CARB – include the Pavley standards and Low Carbon Fuel Standard. The model also identifies project design features, regulatory measures, and control measures to reduce criteria pollutant and GHG emissions, along with calculating the benefits achieved from the selected measures. CalEEMod was developed by the California Air Pollution Control Officers Association in collaboration with the SCAQMD, the Bay Area Air Quality Management District, the San Joaquin Valley Air Pollution Control District, and other California

air districts. Default land use data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) were provided by the various California air districts to account for local requirements and conditions. As the official assessment methodology for land use projects in California, CalEEMod is relied upon herein for construction emissions quantification, which forms the basis for the impact analysis.

The CalEEMod input for the proposed project included 260,000 square feet (or 5.97 acres) of General Heavy Industry land use. The proposed project would take approximately 3 years of planned work activities (i.e., from mobilization to substantial completion) comprising seven construction phases, including commissioning: (1) Demolition, (2) Site preparation, (3) Grading, (4) Building construction, (5) Paving, (6) Architectural coating, and (7) Commissioning. Commissioning of individual components of the CCGS would occur concurrently with the final months of construction as they are completed. This would be followed by an approximately 6-month period during which the operation of the CCGS and associated systems would be tested, verified for reliability, and adjusted as necessary. During this final CCGS commissioning phase, there would be no active construction during the testing phase. The preliminary construction schedule is shown in Table 4.2-5.

Table 4.2-5 Proposed Project Preliminary Construction Schedule by Phase

Phase Name	CalEEMod Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase
Demolition	Demolition	4/3/2026	4/30/2026	5	20
Mobilization	Architectural Coating	5/1/2026	6/30/2026	5	43
Site Preparation	Site Preparation	7/1/2026	9/30/2026	5	66
Grading	Grading	10/1/2026	3/31/2027	5	66
Building Construction	Building Construction	2/1/2027	6/29/2029	5	630
Paving	Paving	10/1/2026	11/30/2026	5	43
Architectural Coating	Architectural Coating	3/1/2028	6/29/2029	5	348
Final Commissioning	Architectural Coating	7/1/2029	12/28/2029	5	130

Notes:
In order to account for the worker and hauling trips for the mobilization and commissioning phases, two additional architectural coating phases were added in CalEEMod.
No offroad equipment would be used during mobilization and commissioning phases.

The SCAQMD quantitative significance thresholds shown in Table 4.2-4 were used to evaluate project emissions impacts. Refer to Appendix B for the detailed information on the offroad equipment types, quantities, usage hours, hp ratings and load factors, and on-road trip rates and trip distances for the construction phases. The schedule and data represents a reasonable construction scenario to be used for emissions estimation.

A project's construction phase produces many types of emissions; generally, PM_{10} (including $PM_{2.5}$) in fugitive dust and diesel engine exhaust is the pollutant of greatest concern. Construction-related emissions can cause substantial increases in localized concentrations of PM_{10}, as well as affecting PM_{10} compliance with ambient air quality standards on a regional basis. The use of diesel-powered construction equipment emits ozone precursors NO_x and ROG, as well as diesel particulate matter (DPM). Use of architectural coatings and other materials associated with finishing buildings may also emit ROG and TACs. CEQA significance thresholds address the impacts of construction activity emissions on local and regional air quality. Thresholds are also provided for other potential impacts related to project construction, such as TACs.

The SCAQMD's approach to CEQA analyses of fugitive dust impacts is to require implementation of effective and comprehensive dust control measures rather than to require detailed quantification of emissions. PM_{10} emitted during construction can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions, and other factors, making quantification difficult. Despite this variability in emissions, experience has shown that there are several feasible control measures that can be reasonably implemented to significantly reduce fugitive dust emissions from construction. For larger projects, the SCAQMD has determined that compliance with an approved fugitive dust control plan comprising Best Management Practices (BMPs), primarily through frequent water application, constitutes sufficient control to reduce PM_{10} impacts to a level considered less than significant. These BMPs are required for compliance with SCAQMD rules and pursuant to CEQA.

Based on these BMPs, which would be implemented for the proposed project, Table 4.2-6 shows criteria pollutant emissions from construction and evaluates emissions against SCAQMD significance thresholds. As shown therein, mass emissions of all criteria pollutants from construction, except for NO_x, fall below applicable SCAQMD significance thresholds. Therefore, project construction impacts related to NO_x would be potentially significant.

Table 4.2-6 Construction Emissions Summary and SCAQMD Regional Threshold Evaluation

Criteria Pollutants	Emissions (lbs/day)	SCAQMD Regional Threshold (lbs/day)	Exceeds Threshold?
ROG (VOC)	14.7	*75*	No
NO_x	132.0	*100*	Yes
CO	163.1	*550*	No
SO_x	0.29	*150*	No
Total PM_{10}	25.2	*150*	No
Total $PM_{2.5}$	11.5	*55*	No

Notes:
lbs/day are winter or summer maxima for planned land use.
Total PM_{10}/$PM_{2.5}$ comprises fugitive dust plus engine exhaust.
Sources: SCAQMD. 2023. Air Quality Significance Thresholds. Available at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf.
CalEEMod version 2022.1.1.20.

Commissioning

Commissioning emissions were estimated based on emissions data provided by the equipment manufacturer for each of the proposed turbine technologies, which are referred herein as Vendor A, Vendor B, and Vendor C. Table 4.2-7 provides the maximum daily commissioning emissions profile from each of the proposed vendors. Since commissioning activities would occur prior to project operations, and none of the generated energy would be distributed to the grid during commissioning, the incremental changes in peak daily emissions are compared to the SCAQMD's regional mass daily significance thresholds for construction in Table 4.2-7. The baseline is the daily emissions determined from the past two years of historical data for existing Units 1 and 2 on the day with highest fuel use, and the incremental change is the difference between the peak daily commissioning profile and the baseline. Based on the vendor data, emissions during the commissioning phase of the proposed project are anticipated to exceed the significance thresholds for VOCs, CO, and NO_x.

The commissioning phase consists of testing and tuning the equipment and combustor to obtain peak performance and optimally install the SCR system and oxidation catalyst, which are the primary pollution control systems of the CCGS. Until the tuning and equipment installations are completed during the commissioning phase, emissions will temporarily be high compared to normal operation. Therefore, because the commissioning activities inherently consist of uncontrolled emissions that cannot be limited and no practical mitigation can be applied, air quality impacts associated with commissioning are considered significant and unavoidable.

Table 4.2-7 Maximum Commissioning Emissions Summary

	(lb/day)					
	VOC	**CO**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Vendor A Total Peak Emissions	1,600	26,800	4,400	58.4	280	280
Vendor B Total Peak Emissions	61,783	273,588	8,264	73.7	204	204
Vendor C Total Peak Emissions	5,345	62,223	3,695	42.7	252	252
Baseline: Existing Emissions, Units 1 and 2	270	3,293	932	35.1	374	374
Vendor A Incremental Change in Emissions	1,330	23,507	3,468	23.3	-94	-94
Vendor B Incremental Change in Emissions	61,513	270,295	7,332	38.6	-170	-170
Vendor C Incremental Change in Emissions	5,075	58,930	2,763	7.6	-122	-122
SCAQMD Construction Mass Daily Emission Threshold	*75*	*550*	*100*	*150*	*150*	*55*
Vendor A Exceed SCAQMD Regional Threshold?	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**
Vendor B Exceed SCAQMD Regional Threshold?	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**
Vendor C Exceed SCAQMD Regional Threshold?	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**

Source: Vendor data; LADWP Unit 1 and 2 continuous emissions monitoring system (CEMS) data.

Operations

The term “project operations” refers to the full range of activities that can or may generate criteria pollutant, GHG, and TAC emissions when the project is functioning in its intended use. CEQA significance thresholds address the impacts of operational emissions sources on local and regional air quality.

Operational emissions from each of the proposed turbine vendors were estimated for operations firing 100% natural gas and for operations firing a fuel mix of 70% natural gas and 30% hydrogen on a volumetric basis. Peak daily project emissions are presented in Table 4.2-8 through Table 4.2-15 for each vendor equipment option. Peak daily emissions from the proposed units were estimated assuming one cold start per day, one shutdown per day, and maximum operation for the remainder of the day. These were compared to baseline, defined as the daily emissions determined from the past 2 years of historical data for existing Unit 1 and Unit 2 on the day with highest fuel use, which represents the comparable maximum use day for the existing generators. The emissions change between the baseline and the proposed units was compared to the SCAQMD CEQA operations significance thresholds.

The proposed wet surface air cooler (WSAC) is a potential source of PM_{10} emissions. The proposed WSAC would be equipped with BACT and would be a similar size as the WSAC being replaced. In a recent repowering project at Scattergood, PM_{10} emissions from the WSAC were 1.7 pounds per day and contributed 1% of the peak daily emissions. Emissions from the WSAC in the proposed project are assumed to be negligible, and only emissions from the turbines were used to determine if impacts are potentially significant.

As shown in the tables below, emissions during operations of the proposed project are anticipated to exceed the significance thresholds for VOCs for Vendor B. As shown, this exceedance is associated with startup and shutdown operations, when the CCGS must operate on natural gas (even when hydrogen would be utilized during normal operations) and the pollution control systems are not fully functioning. Therefore, air quality impacts associated with operations would be considered potentially significant.

Table 4.2-8 Peak Daily Emission Change for Vendor A, 100% Natural Gas

	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Cold Startup Emissions (lb/hr)	54	495	109	0.9	6.2	6.2
Cold Startup Duration (hr/day)	1.0	1.0	1.0	1.0	1.0	1.0
Cold Startup Emissions (lb/day)	54	495	109	0.9	6.2	6.2
Shutdown Emissions (lb/hr)	152	1,142	152	0.4	2.6	2.6
Shutdown Duration (hr/day)	0.5	0.5	0.5	0.5	0.5	0.5
Shutdown Emissions (lb/day)	76	571	76	0.2	1.3	1.3
Normal Ops Emissions (lb/hr)	6.1	8.0	17.6	2.0	8.3	8.3
Normal Ops Duration (hr/day)	22.5	22.5	22.5	22.5	22.5	22.5
Normal Ops Emissions (lb/day)	137	180	396	45	186	186
Total Peak Daily Emissions (lb/day)	267	1,246	581	46.1	194	194
Baseline: Existing Emissions, Units 1 and 2 (lb/day)	270	3,293	932	35	374	374
Incremental Change in Emissions (lb/day)	-3.1	-2,047	-351	11.0	-180	-180
SCAQMD Mass Daily Emission Threshold (lb/day)	*55*	*550*	*55*	*150*	*150*	*55*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Vendor data; LADWP Unit 1 and 2 CEMS data.

Table 4.2-9 Peak Daily Emission Change for Vendor A, 70% Natural Gas, 30% Hydrogen

	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Cold Startup Emissions (lb/hr)	54	495	109	0.9	6.2	6.2
Cold Startup Duration (hr/day)	1.0	1.0	1.0	1.0	1.0	1.0
Cold Startup Emissions (lb/day)	54	495	109	0.9	6.2	6.2
Shutdown Emissions (lb/hr)	152	1,142	152	0.4	2.6	2.6
Shutdown Duration (hr/day)	0.5	0.5	0.5	0.5	0.5	0.5
Shutdown Emissions (lb/day)	76	571	76	0.2	1.3	1.3
Normal Ops Emissions (lb/hr)	5.9	7.8	17.1	1.9	8.2	8.2
Normal Ops Duration (hr/day)	22.5	22.5	22.5	22.5	22.5	22.5
Normal Ops Emissions (lb/day)	133	176	385	42.8	184	184
Total Peak Daily Emissions (lb/day)	263	1,242	570	43.8	191	191
Baseline: Existing Emissions, Units 1 and 2 (lb/day)	270	3,293	932	35	374	374
Incremental Change in Emissions (lb/day)	-7.6	-2,051	-362	8.7	-182.2	-182.2
SCAQMD Mass Daily Emission Threshold (lb/day)	*55*	*550*	*55*	*150*	*150*	*55*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Vendor data; LADWP Unit 1 and 2 CEMS data.

Table 4.2-10 Peak Daily Emission Change for Vendor B, 100% Natural Gas

	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Cold Startup Emissions (lb/hr)	520	1400	60	1.1	6.2	6.2
Cold Startup Duration (hr/day)	1.0	1.0	1.0	1.0	1.0	1.0
Cold Startup Emissions (lb/day)	520	1400	60	1.1	6.2	6.2
Shutdown Emissions (lb/hr)	500	1,460	80	1.2	7.2	7.2
Shutdown Duration (hr/day)	0.5	0.5	0.5	0.5	0.5	0.5
Shutdown Emissions (lb/day)	250	730	40	0.6	3.6	3.6
Normal Ops Emissions (lb/hr)	7.3	10	21	2.0	10.2	10.2
Normal Ops Duration (hr/day)	22.5	22.5	22.5	22.5	22.5	22.5
Normal Ops Emissions (lb/day)	164	225	473	45.9	229	229
Total Peak Daily Emissions (lb/day)	934	2,355	573	47.6	239	239
Baseline: Existing Emissions, Units 1 and 2 (lb/day)	270	3,293	932	35	374	374
Incremental Change in Emissions (lb/day)	664	-938	-359	12.5	-134.7	-134.7
SCAQMD Mass Daily Emission Threshold (lb/day)	*55*	*550*	*55*	*150*	*150*	*55*
Exceed SCAQMD Threshold	**Yes**	**No**	**No**	**No**	**No**	**No**

Source: Vendor data; LADWP Unit 1 and 2 CEMS data.

Table 4.2-11 Peak Daily Emission Change for Vendor B, 70% Natural Gas, 30% Hydrogen

	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Cold Startup Emissions (lb/hr)	520	1,400	60	1.0	6.2	6.2
Cold Startup Duration (hr/day)	1.0	1.0	1.0	1.0	1.0	1.0
Cold Startup Emissions (lb/day)	520	1,400	60	1.0	6.2	6.2
Shutdown Emissions (lb/hr)	500	1,460	80	1.2	7.2	7.2
Shutdown Duration (hr/day)	0.5	0.5	0.5	0.5	0.5	0.5
Shutdown Emissions (lb/day)	250	730	40	0.6	3.6	3.6
Normal Ops Emissions (lb/hr)	7.1	10	21	1.8	9.6	9.6
Normal Ops Duration (hr/day)	22.5	22.5	22.5	22.5	22.5	22.5
Normal Ops Emissions (lb/day)	160	225	473	41	216	216
Total Peak Daily Emissions (lb/day)	929.8	2,355	572.5	42.4	226	226
Baseline: Existing Emissions, Units 1 and 2 (lb/day)	270	3,293	932	35.1	373.6	373.6
Incremental Change in Emissions (lb/day)	659	-938	-359	7.3	-147.5	-147.5
SCAQMD Mass Daily Emission Threshold (lb/day)	*55*	*550*	*55*	*150*	*150*	*55*
Exceed SCAQMD Threshold?	**Yes**	**No**	**No**	**No**	**No**	**No**

Source: Vendor data; LADWP Unit 1 and 2 CEMS data.

Table 4.2-12 Peak Daily Emission Change for Vendor C
100% Natural Gas

	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Cold Startup Emissions (lb/hr)	82.1	900	79.5	1.0	7.4	7.4
Cold Startup Duration (hr/day)	0.7	0.7	0.7	0.7	0.7	0.7
Cold Startup Emissions (lb/day)	54.7	600	53	0.8	4.9	4.9
Shutdown Emissions (lb/hr)	161	459	93.4	0.8	8.9	8.9
Shutdown Duration (hr/day)	0.4	0.4	0.4	0.4	0.4	0.4
Shutdown Emissions (lb/day)	61.9	176	35.8	0.3	3.4	3.4
Normal Ops Emissions (lb/hr)	5.9	7.8	17	1.7	9.1	9.1
Normal Ops Duration (hr/day)	23	23	23	23	23	23
Normal Ops Emissions (lb/day)	135	179	390	39.0	209	209
Total Peak Daily Emissions (lb/day)	252	955	479	40.0	217	217
Baseline: Existing Emissions, Units 1 and 2 (lb/day)	270	3,293	932	35	374	374
Incremental Change in Emissions (lb/day)	-18.3	-2,338	-453	4.9	-156.4	-156.4
SCAQMD Mass Daily Emission Threshold (lb/day)	*55*	*550*	*55*	*150*	*150*	*55*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Vendor data; LADWP Unit 1 and 2 CEMS data.

Table 4.2-13 Peak Daily Emission Change for Vendor C
70% Natural Gas, 30% Hydrogen

	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Cold Startup Emissions (lb/hr)	82.1	900	79.5	1.0	7.4	7.4
Cold Startup Duration (hr/day)	0.7	0.7	0.7	0.7	0.7	0.7
Cold Startup Emissions (lb/day)	54.7	600	53	0.7	4.9	4.9
Shutdown Emissions (lb/hr)	161	459	93	1	9	9
Shutdown Duration (hr/day)	0.4	0.4	0.4	0.4	0.4	0.4
Shutdown Emissions (lb/day)	61.9	176	35.8	0.3	3.4	3.4
Normal Ops Emissions (lb/hr)	5.8	7.6	16.6	1.5	9.9	9.9
Normal Ops Duration (hr/day)	23	23	23	23	23	23
Normal Ops Emissions (lb/day)	133	174	381	34.4	227	227
Total Peak Daily Emissions (lb/day)	250	950	470	35.4	236	236
Baseline: Existing Emissions, Units 1 and 2 (lb/day)	270	3,293	932	35	374	374
Incremental Change in Emissions (lb/day)	-20.6	-2,343	-462	0.3	-138	-138
SCAQMD Mass Daily Emission Threshold (lb/day)	*55*	*550*	*55*	*150*	*150*	*55*
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Vendor data; LADWP Unit 1 and 2 CEMS data.

Table 4.2-14 Summary of Peak Daily Emission Change for All Vendors, 100% Natural Gas

	(lb/day)					
	VOC	**CO**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Vendor A Total Peak Emissions	267	1,246	581	46.1	194	194
Vendor B Total Peak Emissions	934	2,355	573	47.6	239	239
Vendor C Total Peak Emissions	252	955	479	40	217	217
Baseline: Existing Emissions, Units 1 and 2	270	3,293	932	35.1	374	374
Vendor A Incremental Change in Emissions	-3.1	-2,047	-351	11	-180	-180
Vendor B Incremental Change in Emissions	664	-938	-359	12.5	-134.7	-134.7
Vendor C Incremental Change in Emissions	-18.3	-2,338	-453	4.9	-156.4	-156.4
SCAQMD Mass Daily Emission Threshold	*55*	*550*	*55*	*150*	*150*	*55*
Vendor A Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Vendor B Exceed SCAQMD Threshold?	**Yes**	**No**	**No**	**No**	**No**	**No**
Vendor C Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Vendor data; LADWP Unit 1 and 2 CEMS data.

Table 4.2-15 Summary of Peak Daily Emission Change for All Vendors, 70% Natural Gas, 30% Hydrogen

	(lb/day)					
	VOC	**CO**	**NO_x**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**
Vendor A Total Peak Emissions	263	1,242	570	43.8	191	191
Vendor B Total Peak Emissions	930	2,355	573	42.4	226	226
Vendor C Total Peak Emissions	250	950	470	35.4	236	236
Baseline: Existing Emissions, Units 1 and 2	270	3,293	932	35.1	374	374
Vendor A Incremental Change in Emissions	-7.6	-2,051	-362	8.7	-182.2	-182.2
Vendor B Incremental Change in Emissions	659	-938	-359	7.3	-147.5	-147.5
Vendor C Incremental Change in Emissions	-20.6	-2,343	-462	0.3	-138	-138
SCAQMD Mass Daily Emission Threshold	*55*	*550*	*55*	*150*	*150*	*55*
Vendor A Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Vendor B Exceed SCAQMD Threshold?	**Yes**	**No**	**No**	**No**	**No**	**No**
Vendor C Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Vendor data; LADWP Unit 1 and 2 CEMS data.

Ambient Air Quality Analyses

In addition to the emissions analyses, the SCAQMD generally requires that an ambient air quality impact analysis be performed to ensure that there are no localized impacts that would cause or contribute to an exceedance of any State or national ambient air quality standard. This analysis utilized the American Meteorological Society/USEPA Regulatory Model (AERMOD), which is a steady-state plume dispersion model that incorporates air dispersion calculations based on planetary boundary layer turbulence structure and scaling concepts. AERMOD includes the treatment of both surface and elevated sources and simple and complex terrain. AERMOD, like most dispersion models, uses mathematical algorithms to characterize the atmospheric processes that disperse pollutants emitted by a source. Using emission rates, release parameters, stack diameter, terrain characteristics, and meteorological inputs, AERMOD calculated downwind pollutant concentrations at specified receptor locations. The applied source release parameters for each source correspond to the worst-case dispersion stack parameters (i.e., lowest exhaust flow rate, lowest exhaust temperature) for each vendor and fuel source.

Commissioning

The turbines from the vendors would be commissioned in different phases comprised of activities using both fuel types (100% natural gas and hydrogen [H_2] blend). Vendor A includes 25 different phases, Vendor B includes 154 different phases, and Vendor C includes 61 different phases. The dispersion characteristics (flow rate and temperature) and pollutant emissions vary greatly from phase to phase. In order to be conservative, the maximum emission rate for each pollutant over all phases of natural-gas-based commissioning was modeled using the worst-case dispersion characteristics for any of the natural-gas-based commissioning/operational phases of the vendors. This method was repeated for the vendors' hydrogen-fuel-blend-powered commissioning events (i.e., maximum emission rate for each pollutant over all hydrogen-powered phases, coupled with worst-case hydrogen-powered dispersion characteristics).

As detailed in Appendix B of this EIR and as shown in Tables 4.2-16 through 4.2-21, ground level concentrations from all three vendors' commissioning activity emissions (from either fuel source) would not exceed the CAAQS/NAAQS/SCAQMD thresholds; therefore, impacts on local air quality would be less than significant.

Table 4.2-16 Modeling Analysis for Commissioning Phase for Vendor A Turbine Activities Using Natural Gas Fuel[1]

Pollutant	Averaging Time	Maximum Modeled CCGS Concentration (µg/m³)	Background Concentration (µg/m³)	Total Impact (µg/m³)	AAQS / Significant Change Threshold (µg/m³)	Threshold/ Ambient Air Quality Standard	Exceeds Threshold? (Yes/No)
CO	1-Hour[4]	229.0	2,290.4	2,519	40,082	NAAQS	No
	1-Hour[4]	229.0	2,290.4	2,519	22,904	CAAQS	No
	8-Hour[5]	180.0	1,832.3	2,012	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,4]	50.6	93.8	144.4	188	NAAQS	No
	1-Hour[2,4]	53.1	111.0	164.1	339	CAAQS	No
SO_2	1-Hour[3,4]	0.5	14.0	14.5	196	NAAQS	No
	1-Hour[4]	0.5	60.7	61.2	654	CAAQS	No
	24-Hour[6]	0.2	13.6	13.8	105	CAAQS	No
PM_{10}	24-Hour[6]	0.77	–	0.77	2.5	SCAQMD	No
$PM_{2.5}$	24-Hour[6]	0.77	–	0.77	2.5	SCAQMD	No

Notes:

[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) natural gas fueled scenario provided by Vendor A. Scenario 3: Natural Gas Fuel at 60% Load, Normal Operations; Exhaust Flow Rate - 761,333 actual cubic feet per minute (acfm), Exhaust Temperature - 162.5◦F

[2] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO_2/NO_x ratio of 0.5 and maximum NO_2/NO_x ratio of 0.9).

[3] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate

[4] 1-Hour Averaging Period is Worst Case 1-Hour Emissions from Natural Gas Fuel.

[5] 8-Hour Averaging Period is 1 - Hour Averaging Period x 8

[6] 24-Hour Averaging Period is Worst Case Daily Emissions from Natural Gas Fuel

Source: Appendix B of this EIR.

Table 4.2-17 Modeling Analysis for Commissioning Phase for Vendor A Turbine Activities Using H_2 Fuel Blend[1]

Pollutant	Averaging Time	Maximum Modeled CCGS Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	AAQS / Significant Change Threshold ($\mu g/m^3$)	Threshold/ Ambient Air Quality Standard	Exceeds Threshold? (Yes/No)
CO	1-Hour[4]	4.4	2,290.4	2,295	40,082	NAAQS	No
	1-Hour[4]	4.4	2,290.4	2,295	22,904	CAAQS	No
	8-Hour[5]	3.4	1,832.3	1,836	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,4]	7.4	93.8	101.1	188	NAAQS	No
	1-Hour[2,4]	7.8	111.0	118.8	339	CAAQS	No
SO_2	1-Hour[3,4]	0.3	14.0	14.3	196	NAAQS	No
	1-Hour[4]	0.3	60.7	61.0	654	CAAQS	No
	24-Hour[6]	0.1	13.6	13.7	105	CAAQS	No
PM_{10}	24-Hour[6]	0.52	–	0.52	2.5	SCAQMD	No
$PM_{2.5}$	24-Hour[6]	0.52	–	0.52	2.5	SCAQMD	No

Notes:
[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) H_2 Blend fueled scenario provided by Vendor A. Scenario 27: Natural Gas + 30% H_2 Fuel at 59% Load, Normal Operations; Exhaust Flow Rate - 784,600 acfm, Exhaust Temperature - 164.7°F
[2] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO_2/NO_x ratio of 0.5 and maximum NO_2/NO_x ratio of 0.9).
[3] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate).
[4] 1-Hour Averaging Period is Worst Case 1-Hour Emissions from H_2 Fuel Blending Activity
[5] 8-Hour Averaging Period is 1 - Hour Averaging Period x 8
[6] 24-Hour Averaging Period is Worst Case Daily Emissions from H_2 Fuel Blending Activity
Source: Appendix B of this EIR.

Table 4.2-18 Modeling Analysis for Commissioning Phase for Vendor B Turbine Activities Using Natural Gas Fuel[1]

Pollutant	Averaging Time	Maximum Modeled CCGS Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	AAQS / Significant Change Threshold ($\mu g/m^3$)	Threshold/ Ambient Air Quality Standard	Exceeds Threshold? (Yes/No)
CO	1-Hour[4]	1,727.8	2,290.4	4,018	40,082	NAAQS	No
	1-Hour[4]	1,727.8	2,290.4	4,018	22,904	CAAQS	No
	8-Hour[5]	1,315.9	1,832.3	3,148	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,4]	42.9	93.8	136.6	188	NAAQS	No
	1-Hour[2,4]	48.5	111.0	159.5	339	CAAQS	No
SO_2	1-Hour[3,4]	0.5	14.0	14.5	196	NAAQS	No
	1-Hour[4]	0.5	60.7	61.2	654	CAAQS	No
	24-Hour[6]	0.1	13.6	13.8	105	CAAQS	No
PM_{10}	24-Hour[6]	0.40	–	0.40	2.5	SCAQMD	No
$PM_{2.5}$	24-Hour[6]	0.40	–	0.40	2.5	SCAQMD	No

Notes:
[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) natural gas fueled scenario provided by Vendor B). Scenario 12: Natural Gas Fuel at 56% Load, Normal Operations; Exhaust Flow Rate - 1,042,579 acfm, Exhaust Temperature - 288◦F
[2] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO_2/NO_x ratio of 0.5 and maximum NO_2/NO_x ratio of 0.9).
[3] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate).
[4] 1-Hour Averaging Period is Worst Case 1-Hour Emissions from Natural Gas Fuel.
[5] 8-Hour Averaging Period is 1 - Hour Averaging Period x 8
[6] 24-Hour Averaging Period is Worst Case Daily Emissions from Natural Gas Fuel
Source: Appendix B of this EIR.

Table 4.2-19 Modeling Analysis for Commissioning Phase for Vendor B Turbine Activities Using H_2 Fuel Blend[1]

Pollutant	Averaging	Maximum Modeled CCGS Concentration	Background Concentration	Total Impact	AAQS / Significant Change Threshold	Threshold/ Ambient Air Quality	Exceeds Threshold?
	Time	(µg/m³)	(µg/m³)	(µg/m³)	(µg/m³)	Standard	(Yes/No)
CO	1-Hour[4]	1,727.5	2,290.4	4,018	40,082	NAAQS	No
	1-Hour[4]	1,727.5	2,290.4	4,018	22,904	CAAQS	No
	8-Hour[5]	1,318.9	1,832.3	3,151	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,4]	41.3	93.8	135.0	188	NAAQS	No
	1-Hour[2,4]	47.0	111.0	158.0	339	CAAQS	No
SO_2	1-Hour[3,4]	0.3	14.0	14.3	196	NAAQS	No
	1-Hour[4]	0.3	60.7	61.0	654	CAAQS	No
	24-Hour[6]	0.1	13.6	13.7	105	CAAQS	No
PM_{10}	24-Hour[6]	0.42	–	0.42	2.5	SCAQMD	No
$PM_{2.5}$	24-Hour[6]	0.42	–	0.42	2.5	SCAQMD	No

Notes:
[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) H_2 Blend fueled scenario provided by Vendor B). Scenario 15: Natural Gas + 30% H_2 Fuel at 52% Load, Normal Operations; Exhaust Flow Rate - 1,021,058 acfm, Exhaust Temperature - 289◦F
[2] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO_2/NO_x ratio of 0.5 and maximum NO_2/NO_x ratio of 0.9).
[3] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate
[4] 1-Hour Averaging Period is Worst Case 1-Hour Emissions from H_2 Fuel Blending Activity
[5] 8-Hour Averaging Period is 1 - Hour Averaging Period x 8
[6] 24-Hour Averaging Period is Worst Case Daily Emissions from H_2 Fuel Blending Activity
Source: Appendix B of this EIR.

Table 4.2-20 Modeling Analysis for Commissioning Phase for Vendor C Turbine Activities Using Natural Gas Fuel[1]

Pollutant	Averaging	Maximum Modeled CCGS Concentration	Background Concentration	Total Impact	AAQS / Significant Change Threshold	Threshold/ Ambient Air Quality	Exceeds Threshold?
	Time	(µg/m^3)	(µg/m^3)	(µg/m^3)	(µg/m^3)	Standard	(Yes/No)
CO	1-Hour[4]	3,042.8	2,290.4	5,333	40,082	NAAQS	No
	1-Hour[4]	3,042.8	2,290.4	5,333	22,904	CAAQS	No
	8-Hour[5]	2,126.7	1,832.3	3,959	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,4]	87.7	93.8	181.5	188	NAAQS	No
	1-Hour[2,4]	124.8	111.0	235.8	339	CAAQS	No
SO_2	1-Hour[3,4]	1.1	14.0	15.2	196	NAAQS	No
	1-Hour[4]	1.1	60.7	61.9	654	CAAQS	No
	24-Hour[6]	0.4	13.6	14.0	105	CAAQS	No
PM_{10}	24-Hour[6]	2.18	–	2.18	2.5	SCAQMD	No
$PM_{2.5}$	24-Hour[6]	2.18	–	2.18	2.5	SCAQMD	No

Notes:
[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) natural gas fueled scenario provided by Vendor C). Scenario 16: Natural Gas Fuel at 33% Load, Normal Operations; Exhaust Flow Rate - 661,972 acfm, Exhaust Temperature - 163◦F
[2] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO2/NOx ratio of 0.5 and maximum NO2/NOx ratio of 0.9).
[3] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate).
[4] 1-Hour Averaging Period is Worst Case 1-Hour Emissions from Natural Gas Fuel.
[5] 8-Hour Averaging Period is 1 - Hour Averaging Period x 8
[6] 24-Hour Averaging Period is Worst Case Daily Emissions from Natural Gas Fuel
Source: Appendix B of this EIR.

Table 4.2-21 Modeling Analysis for Commissioning Phase for Vendor C Turbine Activities Using H_2 Fuel Blend[1]

Pollutant	Averaging Time	Maximum Modeled CCGS Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	AAQS / Significant Change Threshold ($\mu g/m^3$)	Threshold/ Ambient Air Quality Standard	Exceeds Threshold? (Yes/No)
CO	1-Hour[4]	2,910.6	2,290.4	5,201	40,082	NAAQS	No
	1-Hour[4]	2,910.6	2,290.4	5,201	22,904	CAAQS	No
	8-Hour[5]	1,960.4	1,832.3	3,793	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,4]	47.7	93.8	141.5	188	NAAQS	No
	1-Hour[2,4]	69.8	111.0	180.8	339	CAAQS	No
SO_2	1-Hour[3,4]	1.0	14.0	15.1	196	NAAQS	No
	1-Hour[4]	1.0	60.7	61.8	654	CAAQS	No
	24-Hour[6]	0.2	13.6	13.8	105	CAAQS	No
PM_{10}	24-Hour[6]	0.93	–	0.93	2.5	SCAQMD	No
$PM_{2.5}$	24-Hour[6]	0.93	–	0.93	2.5	SCAQMD	No

Notes:
[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) H_2 Blend fueled scenario provided by Vendor C). Scenario 16: Natural Gas + 30% H_2 Fuel at 32% Load, Normal Operations; Exhaust Flow Rate - 700,515 acfm, Exhaust Temperature - 168◦F
[2] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO_2/NO_x ratio of 0.5 and maximum NO_2/NO_x ratio of 0.9).
[3] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate).
[4] 1-Hour Averaging Period is Worst Case 1-Hour Emissions from H_2 Fuel Blending Activity
[5] 8-Hour Averaging Period is 1 - Hour Averaging Period x 8
[6] 24-Hour Averaging Period is Worst Case Daily Emissions from H_2 Fuel Blending Activity
Source: Appendix B of this EIR.

Operations

In order to ensure that there would not be a significant localized impact due to operational emissions, ambient air modeling for CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ was conducted. The maximum pollutant concentrations for each averaging period and fuel type for Vendors A, B, and C are presented in Tables 4.2-22 through 4.2-27. For hydrogen fuel blend powered scenarios, the emission averaging periods include a natural gas fueled cold start/shutdown. This is inherent to the design of the turbine, which can only undergo cold-start/shutdown using natural gas fuel, before it switches over to hydrogen fuel blend for normal operations.

As shown in Tables 4.2-22 through 4.2-27, the proposed project would not cause an exceedance of the CO, NO_2, or SO_2 CAAQS or NAAQS, and the proposed project would not cause an exceedance of PM_{10} and $PM_{2.5}$ of the SCAQMD's concentration thresholds for particulate matter. Therefore, the proposed project would have a less than significant impact to air quality based on ambient air quality modeling.

Table 4.2-22 Operational AQIA Results for Vendor A Using Natural Gas Fuel[1]

Pollutant	Averaging Time	Maximum Modeled CCGS Concentration (µg/m³)	Background Concentration (µg/m³)	Total Impact (µg/m³)	AAQS / Significant Change Threshold (µg/m³)	Threshold/ Ambient Air Quality Standard	Exceeds Threshold? (Yes/No)
CO	1-Hour[2]	97.3	2,290.4	2,388	40,082	NAAQS	No
	1-Hour[2]	97.3	2,290.4	2,388	22,904	CAAQS	No
	8-Hour[4]	10.6	1,832.3	1,843	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,6]	18.4	93.8	112.2	188	NAAQS	No
	1-Hour[2,6]	19.3	111.0	130.3	339	CAAQS	No
	Annual[3]	0.7	24.1	24.8	100	NAAQS	No
	Annual[3]	0.7	24.1	24.8	56	CAAQS	No
SO_2	1-Hour[2,7]	0.2	14.0	14.2	196	NAAQS	No
	1-Hour[2]	0.2	60.7	60.9	654	CAAQS	No
	24-Hour[5]	0.1	13.6	13.7	105	CAAQS	No
PM_{10}	24-Hour[5]	0.53	–	0.53	2.5	SCAQMD	No
	Annual[3]	0.23	–	0.23	1.0	SCAQMD	No
$PM_{2.5}$	24-Hour[5]	0.53	–	0.53	2.5	SCAQMD	No

Notes:
[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) natural gas fueled scenario provided by Vendor A). Scenario 3 - Natural Gas Fuel at 60% Load, Normal Operations; Exhaust Flow Rate - 761,333 acfm, Exhaust Temperature - 162.5◦F
[2] 1-Hour Cold Start Emissions
[3] 1 Cold Start Event, followed by Normal Operations, followed by 1 Shutdown Event; every day; for 365 Days
[4] 1 Cold Start Event, followed by Normal Operations
[5] 1 Cold Start Event, Normal Operations, 1 Shutdown Event
[6] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO_2/NO_x ratio of 0.5 and maximum NO_2/NO_x ratio of 0.9).
[7] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate).
Source: Appendix B of this EIR.

Table 4.2-23 Operational AQIA Results for Vendor A Using H_2 Fuel Blend[1]

Pollutant	Averaging	Maximum Modeled CCGS Concentration	Background Concentration	Total Impact	AAQS / Significant Change Threshold	Threshold/ Ambient Air Quality	Exceeds Threshold?
	Time	(µg/m³)	(µg/m³)	(µg/m³)	(µg/m³)	Standard	(Yes/No)
CO	1-Hour[2]	1.5	2,290.4	2,292	40,082	NAAQS	No
	1-Hour[2]	1.5	2,290.4	2,292	22,904	CAAQS	No
	8-Hour[4]	1.2	1,832.3	1,833	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,6]	2.8	93.8	96.6	188	NAAQS	No
	1-Hour[2,6]	2.9	111.0	113.9	339	CAAQS	No
	Annual[3]	0.6	24.1	24.7	100	NAAQS	No
	Annual[3]	0.6	24.1	24.7	56	CAAQS	No
SO_2	1-Hour[2,7]	0.4	14.0	14.4	196	NAAQS	No
	1-Hour[2]	0.4	60.7	61.1	654	CAAQS	No
	24-Hour[5]	0.1	13.6	13.7	105	CAAQS	No
PM_{10}	24-Hour[5]	0.51	–	0.51	2.5	SCAQMD	No
	Annual[3]	0.22	–	0.22	1.0	SCAQMD	No
$PM_{2.5}$	24-Hour[5]	0.51	–	0.51	2.5	SCAQMD	No

Notes:
[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) H2 Blend fueled scenario provided by Vendor A). Scenario 27: Natural Gas + 30% H_2 Fuel at 59% Load, Normal Operations; Exhaust Flow Rate - 784,600 acfm, Exhaust Temperature - 164.7◦F
[2] 1-Hour Cold Start Emissions on Natural Gas (the turbine can only be started up using natural gas fuel, before switching to hydrogen fuel for normal operations).
[3] 1 Cold Start Event, followed by Normal Operations, followed by 1 Shutdown Event; every day; for 365 Days
[4] 1 Cold Start Event, followed by Normal Operations
[5] 1 Cold Start Event, Normal Operations, 1 Shutdown Event
[6] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO_2/NO_x ratio of 0.5 and maximum NO_2/NO_x ratio of 0.9).
[7] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate).
Source: Appendix B of this EIR.

Table 4.2-24 Operational AQIA Results for Vendor B Using Natural Gas Fuel[1]

Pollutant	Averaging Time	Maximum Modeled CCGS Concentration (µg/m³)	Background Concentration (µg/m³)	Total Impact (µg/m³)	AAQS / Significant Change Threshold (µg/m³)	Threshold/ Ambient Air Quality Standard	Exceeds Threshold? (Yes/No)
CO	1-Hour[2]	208.2	2,290.4	2,499	40,082	NAAQS	No
	1-Hour[2]	208.2	2,290.4	2,499	22,904	CAAQS	No
	8-Hour[4]	20.8	1,832.3	1,853	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,6]	7.1	93.8	100.9	188	NAAQS	No
	1-Hour[2,6]	8.0	111.0	119.0	339	CAAQS	No
	Annual[3]	0.5	24.1	24.5	100	NAAQS	No
	Annual[3]	0.5	24.1	24.5	56	CAAQS	No
SO_2	1-Hour[2,7]	0.2	14.0	14.2	196	NAAQS	No
	1-Hour[2]	0.2	60.7	60.9	654	CAAQS	No
	24-Hour[5]	0.1	13.6	13.7	105	CAAQS	No
PM_{10}	24-Hour[5]	0.48	–	0.48	2.5	SCAQMD	No
	Annual[3]	0.19	–	0.19	1.0	SCAQMD	No
$PM_{2.5}$	24-Hour[5]	0.48	–	0.48	2.5	SCAQMD	No

Notes:
[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) natural gas fueled scenario provided by Vendor B). Scenario 12: Natural Gas Fuel at 56% Load, Normal Operations; Exhaust Flow Rate - 1,042,579 acfm, Exhaust Temperature - 288◦F
[2] 1-Hour Cold Start Emissions
[3] 1 Cold Start Event, followed by Normal Operations, followed by 1 Shutdown Event; every day; for 365 Days
[4] 1 Cold Start Event, followed by Normal Operations
[5] 1 Cold Start Event, Normal Operations, 1 Shutdown Event
[6] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO2/NOx ratio of 0.5 and maximum NO2/NOx ratio of 0.9).
[7] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate).
Source: Appendix B of this EIR.

Table 4.2-25 Operational AQIA Results for Vendor B Using H_2 Fuel Blend[1]

Pollutant	Averaging Time	Maximum Modeled CCGS Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	AAQS / Significant Change Threshold ($\mu g/m^3$)	Threshold/ Ambient Air Quality Standard	Exceeds Threshold? (Yes/No)
CO	1-Hour[2]	1.5	2,290.4	2,292	40,082	NAAQS	No
	1-Hour[2]	1.5	2,290.4	2,292	22,904	CAAQS	No
	8-Hour[4]	21.3	1,832.3	1,854	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,6]	2.5	93.8	96.3	188	NAAQS	No
	1-Hour[2,6]	2.9	111.0	113.9	339	CAAQS	No
	Annual[3]	0.5	24.1	24.6	100	NAAQS	No
	Annual[3]	0.5	24.1	24.6	56	CAAQS	No
SO_2	1-Hour[2,7]	0.3	14.0	14.3	196	NAAQS	No
	1-Hour[2]	0.3	60.7	61.0	654	CAAQS	No
	24-Hour[5]	0.1	13.6	13.7	105	CAAQS	No
PM_{10}	24-Hour[5]	0.47	–	0.47	2.5	SCAQMD	No
	Annual[3]	0.19	–	0.19	1.0	SCAQMD	No
$PM_{2.5}$	24-Hour[5]	0.47	–	0.47	2.5	SCAQMD	No

Notes:

[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) H_2 Blend fueled scenario provided by Vendor B). Scenario 15: Natural Gas + 30% H_2 Fuel at 52% Load, Normal Operations; Exhaust Flow Rate - 1,021,058 acfm, Exhaust Temperature - 289◦F

[2] 1-Hour Cold Start Emissions on Natural Gas (the turbine can only be started up using natural gas fuel, before switching to hydrogen fuel for normal operations).1-Hour Cold Start Emissions

[3] 1 Cold Start Event, followed by Normal Operations, followed by 1 Shutdown Event; every day; for 365 Days

[4] 1 Cold Start Event, followed by Normal Operations

[5] 1 Cold Start Event, Normal Operations, 1 Shutdown Event

[6] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO_2/NO_x ratio of 0.5 and maximum NO_2/NO_x ratio of 0.9).

[7] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate).

Source: Appendix B of this EIR.

Table 4.2-26 Operational AQIA Results for Vendor C Using Natural Gas Fuel[1]

Pollutant	Averaging Time	Maximum Modeled CCGS Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	AAQS / Significant Change Threshold ($\mu g/m^3$)	Threshold/ Ambient Air Quality Standard	Exceeds Threshold? (Yes/No)
CO	1-Hour[2]	320.0	2,290.4	2,610	40,082	NAAQS	No
	1-Hour[2]	320.0	2,290.4	2,610	22,904	CAAQS	No
	8-Hour[4]	30.5	1,832.3	1,863	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,6]	19.7	93.8	113.4	188	NAAQS	No
	1-Hour[2,6]	28.0	111.0	139.0	339	CAAQS	No
	Annual[3]	1.2	24.1	25.3	100	NAAQS	No
	Annual[3]	1.2	24.1	25.3	56	CAAQS	No
SO_2	1-Hour[2,7]	0.7	14.0	14.7	196	NAAQS	No
	1-Hour[2]	0.7	60.7	61.4	654	CAAQS	No
	24-Hour[5]	0.3	13.6	14.0	105	CAAQS	No
PM_{10}	24-Hour[5]	1.88	–	1.88	2.5	SCAQMD	No
	Annual[3]	0.55	–	0.55	1.0	SCAQMD	No
$PM_{2.5}$	24-Hour[5]	1.88	–	1.88	2.5	SCAQMD	No

Notes:
[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) natural gas fueled scenario provided by Vendor C). Scenario 16: Natural Gas Fuel at 33% Load, Normal Operations; Exhaust Flow Rate - 661,972 acfm, Exhaust Temperature - 163◦F
[2] 1-Hour Cold Start Emissions
[3] 1 Cold Start Event, followed by Normal Operations, followed by 1 Shutdown Event; every day; for 365 Days
[4] 1 Cold Start Event, followed by Normal Operations
[5] 1 Cold Start Event, Normal Operations, 1 Shutdown Event
[6] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO_2/NO_x ratio of 0.5 and maximum NO_2/NO_x ratio of 0.9).
[7] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate).
Source: Appendix B of this EIR.

Table 4.2-27 Operational AQIA Results for Vendor C Using H_2 Fuel Blend[1]

Pollutant	Averaging Time	Maximum Modeled CCGS Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Total Impact ($\mu g/m^3$)	AAQS / Significant Change Threshold ($\mu g/m^3$)	Threshold/ Ambient Air Quality Standard	Exceeds Threshold? (Yes/No)
CO	1-Hour[2]	3.9	2,290.4	2,294	40,082	NAAQS	No
	1-Hour[2]	3.9	2,290.4	2,294	22,904	CAAQS	No
	8-Hour[4]	28.0	1,832.3	1,860	10,307	CAAQS/NAAQS	No
NO_2	1-Hour[2,6]	5.2	93.8	98.9	188	NAAQS	No
	1-Hour[2,6]	7.6	111.0	118.6	339	CAAQS	No
	Annual[3]	1.1	24.1	25.2	100	NAAQS	No
	Annual[3]	1.1	24.1	25.2	56	CAAQS	No
SO_2	1-Hour[2,7]	0.8	14.0	14.8	196	NAAQS	No
	1-Hour[2]	0.8	60.7	61.5	654	CAAQS	No
	24-Hour[5]	0.3	13.6	13.9	105	CAAQS	No
PM_{10}	24-Hour[5]	1.88	–	1.88	2.5	SCAQMD	No
	Annual[3]	0.55	–	0.55	1.0	SCAQMD	No
$PM_{2.5}$	24-Hour[5]	1.88	–	1.88	2.5	SCAQMD	No

Notes:
[1] Stack Parameters used to model ground level concentrations were determined by taking the worst case (i.e., lowest exhaust flow rate and temperature) H_2 Blend fueled scenario provided by Vendor C). Scenario 16: Natural Gas + 30% H_2 Fuel at 32% Load, Normal Operations; Exhaust Flow Rate - 700,515 acfm, Exhaust Temperature - 168◦F
[2] 1-Hour Cold Start Emissions on Natural Gas (the turbine can only be started up using natural gas fuel, before switching to hydrogen fuel for normal operations).1-Hour Cold Start Emissions
[3] 1 Cold Start Event, followed by Normal Operations, followed by 1 Shutdown Event; every day; for 365 Days
[4] 1 Cold Start Event, followed by Normal Operations
[5] 1 Cold Start Event, Normal Operations, 1 Shutdown Event
[6] The modeled concentration presented is the model predicted maximum hourly value using ARM2 Ratio processing (minimum NO_2/NO_x ratio of 0.5 and maximum NO_2/NO_x ratio of 0.9).
[7] The modeled concentration presented is the model predicted maximum hourly value (conservative estimate).
Source: Appendix B of this EIR.

AQ-C Would the project expose sensitive receptors to substantial pollutant concentrations?

The SCAQMD's LST methodology was used to analyze the neighborhood scale impacts of CO, NO_x, PM_{10}, and $PM_{2.5}$ associated with project-specific mass emissions. Introduced in 2003, the LST methodology was revised in 2008 to include the $PM_{2.5}$ significance threshold methodology and update the LST mass rate lookup tables for the new 1-hour NO_2 standard.

For determining localized air quality impacts from small projects in a defined geographic source-receptor area (SRA), the LST methodology provides mass emission rate lookup tables for 1-acre, 2-acre, and 5-acre parcels by SRA. The tabulated LSTs represent the maximum mass emissions from a project that would not cause or contribute to an exceedance of CAAQS or NAAQS for the above pollutants and were developed based on ambient concentrations of these pollutants for each SRA in the SCAB.

For projects, the highest daily emission rates occur during the site preparation and grading phases of construction; where applicable, these maximum daily emissions are used in the LST analysis.

The LST of SRA Zone 3 – Southwest Coastal LA County (El Segundo) was used to evaluate the localized air quality impacts since this SRA has the most stringent thresholds of the areas that are being considered for the project site. The 5-acre screening lookup tables were used to evaluate CO, NO_x, PM_{10}, and $PM_{2.5}$ impacts on nearby receptors. The impact evaluation was performed using the distance of 100 meters (328 feet) for construction.

The LST results provided in Table 4.2-28 show that emissions from construction would meet the LST passing criteria at the nearest receptors (100 meters) and would not exceed the SCAQMD localized significance thresholds for emissions during construction.

Table 4.2-28 Construction Localized Significance Threshold Evaluation

Criteria Pollutants	Emissions[a] (lbs/day)	SCAQMD LST Screening Threshold[b] (lbs/day)	Exceeds Threshold?
CO	163.1	2,608	No
NO_x	132.0	202	No
Total PM_{10}	25.2	60	No
Total $PM_{2.5}$	11.5	19	No

Notes:
[a] Refer to Table 4.2-4.
[b] SRA – Zone 3 Southwest Coastal LA County (El Segundo).
Sources: SCAQMD. 2008. Localized Significance Threshold Methodology. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2. Accessed September 2023. CalEEMod version 2022.1.1.20.

Construction Health Risk Assessment

The principal TAC emitted during project construction would be DPM from diesel-powered equipment. DPM emissions were derived from the CalEEMod runs in Appendix B of this EIR, in which DPM was assumed to be the same amount as the exhaust PM_{10} emissions. The DPM emission rates for construction are shown in Table 4.2-29.

Table 4.2-29 DPM Emissions from Project Construction

DPM (PM_{10}) Exhaust Emissions during Construction (lbs)	Working Days	Approximate Number of Years	Emission Rate (lbs/year)	Emission Rate (lbs/hour)
406	969	3	135.33	0.0155

Source: Appendix B of this EIR.

The proposed project's construction HRA was conducted in accordance with SCAQMD Risk Assessment Procedures and the Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program Guidance Manual. The construction HRA health risk calculations were performed using the Hotspots Analysis and Reporting Program, version 2 (HARP2), HARP2 Air Dispersion Modeling and Risk Tool. Values determined for each risk source using AERMOD were imported into HARP2 and used in conjunction with hourly and annual emissions to determine the ground level concentration of DPM to an individual receptor. The ground level concentrations were then used to estimate the long-term cancer health risk to an individual. Since DPM is the only TAC in this HRA, and only carcinogenic and chronic toxicity values are documented for DPM, only cancer and chronic risk assessments were conducted.

Cancer risk is the estimated probability of a maximally exposed individual potentially contracting cancer as a result of exposure to TACs over a period of time. Cancer risk at all receptors was estimated over a 3-year period, corresponding to the 3-year construction period shown in Table 4.2-29. Residential receptor cancer risk estimates were calculated using CARB's Risk Management Policy (RMP), "RMP Using the Derived Method," and off-site workplace cancer risk estimates used the "OEHHA Derived" calculation method. The RMP uses high-end breathing rates (95th percentile) for children from the third trimester through age 2 and 80th percentile breathing rates for all other ages for residential exposures. The "OEHHA Derived" method uses high-end exposure parameters for the top two exposure pathways and mean exposure parameters for the remaining pathways for cancer risk estimates. The "RMP Using the Derived Method" combines the two approaches.

DPM also has non-cancer health risk due to long-term (chronic) exposure. The Chronic Hazard Index (HIC) is the sum of the individual substance HICs for all TACs affecting the same target organ system. Chronic risk was calculated using the "OEHHA Derived" Method at all receptors for an annual exposure duration.

Some TACs may have non-cancer health risk due to short-term (acute) exposures. The Acute Hazard Index (HIA) is the sum of the individual substance HIAs for all TACs affecting the same target organ system. Since DPM does not have an acute reference exposure level, no acute risks were estimated for the construction scenario.

Results

Based on the construction HRA, the maximally exposed individual resident was predicted to be slightly north of the facility, near the fenceline, and the maximally exposed individual worker was predicted to be at the Chevron Products Company El Segundo Refinery, located south of the facility. As summarized in Table 4.2-30, all health risk factors were determined to be less than the CEQA significance thresholds at all actual receptors. Therefore, project construction would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant.

Table 4.2-30 Summary of Construction HRA Results

Risk	Receptor	Receptor	UTM Easting Coordinate (m)	UTM Northing Coordinate (m)	Estimated Risk Value	CEQA Threshold (SCAQMD)	Exceeds Threshold?
Cancer	MEIR	987	368,355	3,754,194	6.04	10 in one million	No
	MEIW	1098	368,188	3,753,794	2.09		No
Chronic	MEIR	987	368,355	3,754,194	0.0039	1.0	No
	MEIW	1098	368,188	3,753,794	0.0096		No

Notes:
MEIR = maximally exposed individual resident; MEIW = maximally exposed individual worker; UTM = Universal Transverse Mercator coordinate system.
Refer to thresholds provided in Table 4.2-4.
Source: Appendix B of this EIR.

Final commissioning for the proposed project CCGS would occur during the last phase of construction and prior to CCGS operations and distribution of energy to the grid. The final commissioning phase would last approximately 6 months. However, during this time, the CCGS would be operated for limited periods only to test, verify, and adjust pollution control and other generator systems. The exposure time for maximally exposed individuals to TACs from commissioning would be very short-duration compared to project operations used to evaluate

long-term health impacts (see below), and therefore, the cancer and non-cancer health risks from commissioning would be less than significant.

Operations Health Risk Assessment

TAC emissions were estimated using emission factors from USEPA AP-42 documentation for stationary gas turbines or from vendor data. For ammonia, the hourly ammonia rate provided by each vendor was applied to 8,760 hours of operation. Other TAC emissions were calculated from AP-42 emission factors and assumptions about operation. For annual emissions, operation was conservatively assumed to be 365 days assuming one cold start per day, one shutdown per day, and maximum operation for the remainder of each day. During startup, the most conservative emission factors (e.g., without CO catalyst) were used. During operation and shutdown, the catalyst would be at its design temperature, and emission factors with CO catalyst were used. The maximum heat input for each vendor was used for startup, shutdown, and normal operation, even though actual heat input during startup and shutdown would be lower; this is conservative for startup and shutdown. Since there are no published TAC emission factors available for hydrogen fuel usage, only TAC emissions from natural gas usage were considered. Hydrogen combustion is also less likely to produce TACs as its combustion byproduct, and thus, the natural gas combustion TAC emissions evaluated in Appendix B of this EIR are likely a conservative estimate.

The proposed WSAC is a potential source of arsenic emissions and other trace toxics in the cooling water. The proposed WSAC would be equipped with BACT and would be a similar size as the WSAC being replaced. In a recent repowering project at Scattergood, toxic emissions from the WSAC contributed 6% to the cancer risk. Emissions from the WSAC in the proposed project are assumed to be negligible, and only emissions from the turbines are used for the HRA.

The proposed project's operational HRA was conducted in accordance with SCAQMD Risk Assessment Procedures and the OEHHA Air Toxics Hot Spots Program Guidance Manual. The construction HRA health risk calculations were performed using HARP2 and the Air Dispersion Modeling and Risk Tool. Values determined for each risk source using AERMOD were imported into HARP2 and used in conjunction with hourly and annual emissions to determine the ground-level concentrations for each pollutant. The ground-level concentrations were then used to estimate the long-term cancer health risk to an individual and non-cancer chronic and acute hazard indices.

Per SCAQMD HRA guidance, the operational HRA estimated cancer risk over a 30-year period for residential grid receptor locations and 25 years for off-site worker receptor locations. Residential receptor cancer risk estimates were calculated using CARB's RMP, "RMP Using the Derived Method," and off-site workplace cancer risk estimates used the "OEHHA Derived" calculation method.

Some TACs may have non-cancer health risk due to long-term (chronic) exposure. The HIC is the sum of the individual substance HICs for all TACs affecting the same target organ system. Chronic risk was calculated using the "OEHHA Derived" Method at all receptors for an annual exposure duration. To ensure potential off-site worker exposure is fully assessed, an 8-hour HIC was estimated in a similar manner to the annual HIC. The 8-hour reference exposure levels were developed principally for exposure of individuals during 8-hour work schedules.

Some TACs may have non-cancer health risk due to short-term (acute) exposures. HIA is the sum of the individual substance HIAs for all TACs affecting the same target organ system. Acute risk was calculated at all receptors for an exposure duration of 1 hour.

Results

As shown in Table 4.2-31, the operational HRA for each combustion turbine vendors demonstrated that the maximum estimated Maximum Individual Cancer Risk would be 4.69, 3.32, and 9.37 in one million for the Vendor A, B, and C combustion turbines, respectively, which would be below the CEQA TAC thresholds of 10 in one million. In addition, the results show that the chronic and acute hazard indices would be less than the limit of 1.0.

Therefore, project operations would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant.

Table 4.2-31 Summary of Health Risk Assessment Results (Combustion Turbines)

	Residential Receptor			Worker Receptor		
	Vendor A	**Vendor B**	**Vendor C**	**Vendor A**	**Vendor B**	**Vendor C**
Maximum Individual Cancer Risk	4.69 per million	3.32 per million	9.37 per million	0.11 per million	0.08 per million	0.21 per million
Exceeds CEQA TAC Threshold: 10 in one million?	**No**	**No**	**No**	**No**	**No**	**No**
Chronic Hazard Index	0.00567	0.00424	0.0114	0.00534	0.00392	0.00999
8-hour Chronic Hazard Index	N/A			0.00290	0.00202	0.00533
Acute Hazard Index	0.0085	0.0068	0.0184	0.0077	0.0061	0.0165
Exceeds CEQA Threshold: Chronic & Acute Hazard Index ≥1.0?	**No**	**No**	**No**	**No**	**No**	**No**

Refer to thresholds provided in Table 4.2-4.
Source: Appendix B of this EIR.

AQ-D Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The proposed project has the potential to result in mildly objectionable odors during construction, with some odors associated with excavation of earth and the operation of diesel engines during construction. However, these odors are typical of urbanized environments and would be subject to construction and air quality regulations, including proper maintenance of machinery to minimize engine emissions. These emissions are also of short duration and are quickly dispersed into the atmosphere. Therefore, as the proposed project would not create objectionable odor impacts adversely affecting a substantial number of people during construction. In addition, the project would not cause any objectionable odors during operation. Therefore, the impact would be less than significant.

4.2.5 Mitigation Measures

As discussed above for Thresholds AQ-A and AQ-B, and as shown in Table 4.2-4, mass emissions of all criteria pollutants from construction, except for NO_x, were determined to be below applicable SCAQMD significance thresholds. The following mitigation measure is required to reduce potential significant impacts related to NO_x during construction.

MM-AQ-1 **Tier 4 Final Engines.** Offroad construction equipment greater than 80 hp shall be equipped with Tier 4 Final engines.

Based on proprietary vendor data, emissions during the commissioning phase of the proposed project would exceed the significance thresholds for VOCs, CO, and NO_x. The commissioning phase consists of testing and tuning the equipment and combustor to obtain peak performance and optimally install the SCR system and oxidation catalyst. Until the tuning and equipment installations are completed during the commissioning phase, emissions would temporarily be high compared to normal operation. Therefore, because the commissioning activities inherently consist of uncontrolled emissions that cannot be limited, no practical mitigation measures can be applied.

In addition, emissions during operations of the proposed project would exceed the significance thresholds for VOCs for Vendor B only. This conclusion is based on proprietary emissions rate data provided by the vendor. This exceedance is created primarily by the CCGS startup and shutdown operations, which last 1.0 hour and 0.5 hours, respectively. During normal operations, which last 22.5 hours under the maximum daily operational scenario, VOC emissions are substantially less and would not create a significant impact. As discussed above, during generator startup and shutdown, the pollution control systems are not fully functioning. Therefore, because the startup and shutdown operations inherently consist of uncontrolled emissions that cannot be limited, no practical mitigation measures can be applied.

4.2.6 Level of Significance After Mitigation

Mitigation Measure MM-AQ-1 would require that offroad construction equipment greater than 80 hp be equipped with Tier 4 Final engines. As shown in Table 4.2-32, regional air quality impacts during project construction related to NO_x emissions would be less than significant with mitigation incorporated.

Table 4.2-32 Construction Emissions Summary and Significance Evaluation

Criteria Pollutants	Emissions (lbs/day)		SCAQMD Regional Threshold	Significance
	Without Mitigation	With Mitigation		
ROG (VOC)	14.7	5.9	*75*	Less Than Significant
NO_x	132.0	34.2	*100*	Less Than Significant with Mitigation
CO	163.1	179.6	*550*	Less Than Significant
SO_x	0.29	0.29	*150*	Less Than Significant
Total PM_{10}	25.2	14.9	*150*	Less Than Significant
Total $PM_{2.5}$	11.5	4.7	*55*	Less Than Significant

Notes:
lbs/day are winter or summer maxima for planned land use.
Total PM_{10}/$PM_{2.5}$ comprises fugitive dust plus engine exhaust.
Sources: SCAQMD. 2023. Air Quality Significance Thresholds. Available at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf.
CalEEMod version 2022.1.1.20.

As discussed above, emissions during the commissioning phase of the proposed project would exceed the significance thresholds for VOCs, CO, and NO_x, and operational emissions for Vendor B (primarily related to generator startup and shutdown operations) would exceed the significance thresholds for VOCs. Because commissioning as well as startup and shutdown operations inherently consist of uncontrolled emissions that cannot be limited, no practical mitigation measures can be applied, and the associated air quality impacts would remain significant and unavoidable.

Project impacts related to Thresholds AQ-C and AQ-D were determined to be less than significant without mitigation. Therefore, no mitigation measures were required or included for these impact areas, and the impacts would remain less than significant.

4.2.7 Cumulative Impacts

The cumulative context for air quality is regional. The SCAB region is designated as a nonattainment area for the federal standards for O_3 and $PM_{2.5}$ and a nonattainment area for the state standards for O_3, $PM_{2.5}$ and PM_{10}. The SCAB is designated unclassifiable or in attainment for other federal and State standards. As discussed above, one or more stations in the SCAB exceeded the most current federal standards for O_3, NO_2, PM_{10}, and $PM_{2.5}$. Despite substantial improvement in air quality over the past few decades, some air monitoring stations in the SCAB still exceed the NAAQS for O_3 more frequently than any other areas in the United States.

The proposed project would contribute PM and the O_3 precursors (VOC and NO_X) to the area during construction and operation. As described above, mass emissions of all criteria pollutants from construction, except for NO_x, would be below applicable SCAQMD significance thresholds. With implementation of Tier 4 engines as outlined in Mitigation Measure MM-AQ-1, project construction impacts related to NO_x would be reduced to a less than significant level. However, as also analyzed above, emissions during the commissioning phase of the proposed project are anticipated to exceed the significance thresholds for VOCs, CO, and NO_x, and emissions during operations of the proposed project are anticipated to exceed the significance thresholds for VOCs for Vendor B only. Therefore, project emissions during commissioning and operations (related to Vendor B) would be cumulatively considerable.

SECTION 4.3
GREENHOUSE GAS EMISSIONS

This section compares the proposed project's characteristics with applicable regulations, plans, and policies to reduce greenhouse gas (GHG) emissions to determine whether the project is consistent with and/or would conflict with the provisions of these plans. To assist in analyzing the project's potential to conflict with applicable regulations, plans, and policies, this section estimates the project's GHG emissions generated by project construction and operations. This section relies on information included in the Scattergood Generating Station Units 1 and 2 Green Hydrogen-Ready Modernization Project Air Quality, Greenhouse Gas, and Health Risk Assessment Analysis Report, dated August 2024, provided in Appendix B of this EIR.

4.3.1 Environmental Setting

Global Climate Change

Climate change, also referred to as global warming, is believed to be caused by gases that trap heat in the atmosphere called GHGs. Pursuant to California Health and Safety Code Section 38505(g), the seven principal GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). GHGs occur naturally because of volcanoes, forest fires, and biological processes, such as enteric fermentation and aerobic decomposition. They are also produced by the combustion of hydrocarbons, industrial processes, agricultural operations, waste management, and land use changes, such as conversion of farmland to urban uses. Emissions caused by human activities are called anthropogenic emissions.

The American Meteorological Society refers to climate change as any systematic change in the long-term statistics of climate elements (such as temperature, pressure, or winds) sustained over several decades or longer. The American Meteorological Society also indicates that climate change may be due to natural external forces, such as changes in solar emissions or slow changes in the Earth's orbital elements, natural internal processes of the climate system, or anthropogenic forcing. The climate system can be influenced by changes in the concentration of various GHGs in the atmosphere that affect the Earth's absorption of radiation.[1] The United Nations Framework Convention on Climate Change defines climate change as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods".[2]

In its Sixth Assessment Report (2023), the Intergovernmental Panel on Climate Change stated that human activities have unequivocally caused global warming. Temperatures from 2011 to 2020 were 1.1°C higher than temperatures from 1850 to 1900.[3] The report stated that climate related risks and future damages are likely to continue to increase as global temperatures i

[1] American Meteorological Society (AMS). 2012. Glossary of Meteorology. Available at: https://www.ametsoc.org/ams/index.cfm/about-ams/ams-statements/statements-of-the-ams-in-force/climate-change/. Accessed March 2017.

[2] United Nations Framework Convention on Climate Change (UNFCCC). 2014. Glossary of Climate Change Acronyms. Available at: http://unfccc.int/essential_background/glossary/items/3666.php#G. Accessed September 2023.

[3] Intergovernmental Panel on Climate Control (IPCC). 1990-2023. IPCC Assessment Reports, Climate Change 1990, 1995, 2001, 2007, 2013, 2023 (Reports 1-6). Available at: https://www.ipcc.ch/reports/. Accessed September 2023.

ncrease. To mitigate these risks and damages, sharp reductions in GHGs are needed, including plans to achieve net zero and net negative carbon emissions.

Greenhouse Gases

The potential heat trapping ability of different GHGs in the atmosphere varies significantly. To account for these differences in warming effect, GHGs are defined by their global warming potential (GWP). The GWP value for a GHG depends on the time span over which it is calculated and how the gas concentration decays in the atmosphere over time. Gases with a higher GWP absorb more energy, per pound (lb), than gases with a lower GWP, and thus contribute more to warming the Earth. Under this U.S. Environmental Protection Agency (USEPA) methodology, CO_2 is the most widely emitted GHG and, thus, is the reference gas (GWP of 1) for determining GWPs for other GHGs. Carbon dioxide equivalents (CO_2e) are calculated by totaling the products of mass GHG emissions by species multiplied by their respective GWP. The following is based on the most recent USEPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021, published in 2023.[4]

Carbon Dioxide (CO_2): Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, CO_2 emissions from fossil fuel combustion increased by a total of 1.8 percent between 1990 and 2019. Between 2019 and 2020, the decrease in total GHG emissions was driven largely by a 10.5 percent decrease in CO_2 emissions from fossil fuel combustion, including a 13.3 percent decrease in transportation sector emissions from less travel due to the COVID-19 pandemic and a 10.4 percent decrease in emissions in the electric power sector.

Methane (CH_4): CH_4 is primarily produced through anaerobic decomposition of organic matter in biological systems. Agricultural processes and the decomposition of animal wastes emit CH_4, as does the decomposition of municipal solid wastes. CH_4 is the primary component of natural gas, used for space and water heating, steam production, and power generation. The GWP of CH_4 is 25. From 1990 to 2021, total emissions of CH_4 in the U.S. decreased by 16.3 percent.

Nitrous Oxide (N_2O): Anthropogenic sources of N_2O emissions include agricultural soils, especially the use of synthetic and manure fertilizers; fossil fuel combustion, especially from combustion in mobile sources; adipic, which is also known as nylon and nitric acid production; wastewater treatment and waste combustion; and industrial biomass burning (e.g., electric power generation). The GWP of N_2O is 298. From 1990 to 2021, total emissions of N_2O in the U.S. decreased by 3.2 percent.

Refrigerants: Refrigerants include the fugitive GHG emissions associated with building air conditioning and refrigeration equipment. Refrigerant emissions from leaks during regular operation and routine servicing over the equipment lifetime is estimated using CalEEMod.

The most common GHG from human activity (fuel combustion) is CO_2, followed by CH_4 and N_2O. The main sources of GHG emissions in the United States in 2021 include electric power generation (25 percent), transportation (28.5 percent), industry (23.5 percent), commercial and residential uses (13 percent), and agriculture (10 percent). Land areas and forestry offsets absorb and sequester approximately 12 percent of GHG emissions (CO_2) from the atmosphere. Over 60 percent of electric power generation is generated by burning fossil fuels, mainly natural gas and coal. However, GHG emissions from electric power generation in the United States have

[4] USEPA. 2023. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021, Executive Summary, Available at: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021. Accessed September 2023.

decreased by about 15.7 percent since 1990 due to changes in the U.S. economy, fuel switching, and energy efficiency improvements.

GHG Emission Trends

The California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32) required the California Air Resources Board (CARB) to prepare a Scoping Plan to achieve substantial GHG emissions reductions, both from within the State and from "exported" emissions, such as importing electric power generated at coal-fired power plants located in neighboring western states. In June 2008, CARB developed a Draft Scoping Plan for Climate Change pursuant to AB 32. The Scoping Plan was approved on December 12, 2008. The Scoping Plan proposed a comprehensive set of actions designed to reduce overall carbon emissions in California, improve our environment, reduce dependence on oil, diversify energy sources, save energy, and enhance public health while creating new jobs and enhancing the growth of California's economy. The Climate Change Scoping Plan was updated in May 2014 and confirmed that California was on target for meeting the 2020 GHG emissions reduction goal. On December 14, 2017, CARB approved the 2017 Final Scoping Plan Update. The 2017 Plan Update outlined CARB's programs to achieve a 40 percent reduction in GHG emissions from 1990 levels by 2030, as required by the passage of Senate Bill (SB) 32 in 2017. In December 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality. The 2022 Scoping Plan outlines the State's plan to reduce anthropogenic emissions to 85 percent below 1990 levels by 2045 and achieve carbon neutrality by 2045 or earlier. The 2022 Scoping Plan also emphasizes that there is no realistic path to carbon neutrality without carbon removal and sequestration, and to achieve the State's carbon neutrality goal, carbon reduction programs must be supplemented by strategies to remove and sequester carbon.[5]

Annual GHG emissions inventories provide the basis for establishing historical emissions trends. Trends are useful in tracking progress toward a specific goal or target. There are many factors affecting GHG emissions, including the state of the economy, changes in demography, improved efficiency, and changes in environmental conditions, such as drought.

Statewide GHG Emission Inventory

Based on CARB's 2000-2022 GHG Emission Inventory, 2022 emissions from statewide emitting activities were 371.1 million metric tons (MT) of CO_2e. This is 9.3 million MT CO_2e (2.4 percent) lower than 2021 levels (380.4 million MT CO_2e).[6] The 2022 emissions data shows that the State of California is continuing its established long-term trend of GHG emissions declines, despite the anomalous emissions trends from 2019 through 2021, due in large part to the impacts of the COVID-19 pandemic.[7]

[5] California Air Resources Board (CARB). 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents.

[6] CARB. 2024. Current California GHG Emission Inventory Data. 2000-2022 GHG Inventory (2024 Edition). Available at: https://ww2.arb.ca.gov/ghg-inventory-data#:~:text=California%20Greenhouse%20Gas%20Emissions%20from.

[7] CARB. 2022. California Greenhouse Gas Emissions from 2000 to 2022: Trends of Emissions and Other Indicators. Available at: https://ww2.arb.ca.gov/sites/default/files/2024-09/nc-2000_2022_ghg_inventory_trends.pdf.

4.3.2 Regulatory Framework

Federal

Code of Federal Regulations (CFR) Title 40 Parts 51, 52, 70, and 71 – Prevention of Significant Deterioration and Title V Permitting Programs

On June 23, 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. USEPA* (No. 12-1146). The Court ruled that the USEPA may not treat GHGs as air pollutants for purposes of determining whether a source is a major source required to obtain a Prevention of Significant Deterioration (PSD) or Title V permit. The Court also stated that PSD permits that are otherwise required (based on emissions of criteria pollutants, such as NO_x and sulfur oxides [SO_x]) may continue to require limitations on GHG emissions based on the application of Best Available Control Technology. The USEPA is currently evaluating the implications of the Court's decision and awaiting further action by the U.S. Courts.

Notwithstanding the Supreme Court's decision, beginning January 2, 2011, GHG emissions from the largest stationary sources are covered by the PSD and Title V Operating Permit Programs. These permitting programs, required under the Federal Clean Air Act, are established mechanisms for protecting air quality and are now being used to regulate GHG emissions. However, the major source thresholds established by the Federal Clean Air Act (i.e., 100 or 250 MT per year depending on pollutant and attainment status) were designed for criteria pollutants, such as NO_x and SO_x, and were not designed to be applied to GHGs, which are emitted in much larger quantities. In response, on May 13, 2010, the USEPA issued the Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule (Federal Register Volume 75 Page 31514, 40 CFR Parts 51, 52, 70, and 71, effective August 2, 2010), which established a new quantitative approach to permitting GHG emissions under PSD and Title V. The Tailoring Rule set initial emissions thresholds, designated as Steps 1 and 2, for permitting based on CO_2e emissions. Step 3 of the rule will introduce plant-wide applicability limitations for GHG emissions from certain types of facilities.[8]

Greenhouse Gas Reporting (40 CFR Part 98)

On October 30, 2009, the USEPA issued the Mandatory Reporting of Greenhouse Gases Rule [74 FR 56260, CFR Title 40 Part 98, effective December 29, 2009], which requires reporting of GHG data and other relevant information from large sources and suppliers in the United States pursuant to the Fiscal Year 2008 Consolidated Appropriations Act (U.S. House of Representatives 2764; Public Law 110-161).

The rule facilitates collection of accurate and comprehensive emissions data to provide a basis for future USEPA policy decisions and regulatory initiatives. The rule requires specified industrial source categories and facilities with an aggregated heat input of 30 million British thermal units or more per hour or that emit 25,000 MT or more per year of GHGs to submit annual reports to the USEPA. The gases covered by the rule are CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, and other fluorinated gases, including NF_3 and hydrofluorinated ethers.

[8] USEPA. 2011. PSD and Title V Permitting Guidance For Greenhouse Gases. Available at: https://www.epa.gov/sites/production/files/2015-08/documents/ghgguid.pdf.

State

Global Warming Solutions Act

The Global Warming Solutions Act of 2006 (AB 32, Núñez, Chapter 488, Statutes of 2006) codifies California's goal of reducing statewide emissions of GHGs to 1990 levels by 2020, down to about 427 million MT CO_2e on a statewide basis.[9] This reduction is to be accomplished through an enforceable statewide cap on GHG emissions commencing in 2012 (see Cap and Trade section below) to achieve maximum technologically feasible and cost-effective GHG emissions reductions. In order to effectively implement the cap, AB 32 directs CARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor global warming emissions levels.

In June 2007, CARB directed staff to pursue 37 early actions for reducing GHG emissions under AB 32. The broad spectrum of strategies to be developed includes a Low Carbon Fuel Standard (LCFS), regulations for refrigerants with high GWPs, guidance and protocols for local governments to facilitate GHG reductions, and "green ports".[10]

In December 2008, CARB approved the AB 32 Scoping Plan outlining the State's strategy to achieve the 2020 GHG emissions limit. This Scoping Plan, developed by CARB in coordination with the Climate Action Team, proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health.[11]

Cap and Trade

Under AB 32, CARB's "Cap and Trade" regulation (Subchapter 10, Article 5, Sections 95800 to 96023, Title 17, California Code of Regulations) is a set of rules (effective September 1, 2012) that establishes a limit on GHG emissions from the largest sources of GHGs in the State. The purpose of the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms is to reduce emissions of GHGs from affected stationary sources through the establishment, administration, and enforcement of an aggregate GHG allowance budget and to provide a trading mechanism for compliance instruments (i.e., "GHG allowances" or "carbon credits"). The Cap-and-Trade program was officially extended to 2030 under AB 398, passed in 2017.

Executive Order S-3-05

On June 1, 2005, Executive Order S-3-05 was issued, establishing GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels. SB 32 and AB 197 provided additional GHG reduction targets of 40 percent from 1990 levels by 2030 and to rank GHG emissions reduction measures.

Executive Order S-1-07

On January 18, 2007, the LCFS was issued, mandating a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. It instructed the California EPA to

[9] CARB. 2008. Climate Change Scoping Plan: A Framework for Change. December. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/document/adopted_scoping_plan.pdf.

[10] CARB. 2007. Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration. Available at: http://www.arb.ca.gov/cc/ccea/meetings/ea_final_report.pdf.

[11] CARB. 2008. Climate Change Scoping Plan: A Framework for Change. December. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/document/adopted_scoping_plan.pdf.

coordinate activities among the University of California, the California Energy Commission, and other State agencies to develop and propose a draft compliance schedule to meet the 2020 target. Furthermore, it directed CARB to consider initiating regulatory proceedings to establish and implement the LCFS. In response, CARB identified the LCFS as an early action item with a regulation to be adopted and implemented by 2010.

The LCFS, administered by CARB, uses a market-based cap-and-trade approach to lowering the GHG emissions from petroleum-based transportation fuels, like reformulated gasoline and diesel. The LCFS requires producers of petroleum-based fuels to reduce the carbon intensity of their products, beginning with 0.25 percent in 2011 and culminating in a 10 percent total reduction in 2020. Petroleum importers, refiners, and wholesalers can either develop their own low carbon fuel products or buy LCFS credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas, or hydrogen. Updates to the LCFS regulation passed in 2018 now require a 20 percent total reduction by 2030.

Senate Bill 1368

California SB 1368 adds Sections 8340 and 8341 to the Public Utilities Code (effective January 1, 2007) with the intent "to prevent long-term investments in power plants with GHG emissions in excess of those produced by a combined-cycle natural gas power plant" with the aim of "reducing emissions of GHGs from the state's electricity consumption, not just the state's electricity production." SB 1368 provides a mechanism for reducing the GHG emissions of electricity providers, both in-State and out of State, thereby assisting CARB in meeting its mandate under AB 32, the Global Warming Solutions Act of 2006.

Executive Order B-55-18 and Assembly Bill 1279, California Climate Crisis Act

In 2018, Executive Order B-55-18 was issued, establishing a new statewide goal to be carbon neutral as soon as possible and no later than 2045, and maintain net negative emissions afterwards. This was codified into law under AB 1279, the California Climate Crisis Act, in 2022. In response to the passage of AB 1279 and the identification of the 2045 GHG emissions reduction target, CARB adopted the 2022 Climate Change Scoping Plan in December 2022, as discussed in Section 4.3.1. The 2022 Scoping Plan builds upon the framework established by the 2008 Climate Change Scoping Plan and previous updates while identifying a new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Scoping Plan includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

Senate Bill 350 and 100

SB 350, approved in 2015, requires that 50 percent of electricity come from renewable sources by 2030, an increase of 33 percent from 2020, and double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation. SB 100, approved in 2018, revised the renewable resource targets to 44 percent by 2024, 52 percent by the end of 2027, and 60 percent of electricity from renewable sources by 2030. SB 100 also requires that the appropriate agencies plan for 100 percent of total retail sales of electricity to come from eligible renewable energy resources and zero-carbon sources by the end of 2045.

Senate Bill 605, Short-Lived Climate Pollutants

SB 605 requires that the State complete an inventory of sources and emissions of short-lived climate pollutants (including methane) in the State based on available data, identify research needs to address any data gaps, identify existing and potential new control measures to reduce emissions, prioritize the development of new measures for short-lived climate pollutants that offer co-benefits by improving water quality or reducing other air pollutants, and coordinate with other State agencies and districts to develop measures identified as part of the comprehensive strategy.

Senate Bill 253, Climate Corporate Data Accountability Act

SB 253 requires both public and private businesses with revenues greater than $1 billion doing business in California to report their emissions comprehensively, including Scope 1, 2, and 3 emissions based on methodology from The Greenhouse Gas Protocol, beginning in 2026. Reporting companies will be required to have reports verified by a third party. This law requires CARB to pass regulation to comply with this bill by January 1, 2025, and reporting companies to pay fees to administer this program. The report shall be submitted to CARB and made public on the company's website.

Senate Bill 261, Climate-Related Financial Risk Act

SB 261 requires any business entity with revenues greater than $500 million to prepare a biennial climate-related financial risk report. Reporting is required to start in 2026 and be completed using the framework and disclosures contained in the Final Report of Recommendations of the Task Force on Climate-related Financial Disclosures or equivalent reporting requirements. This report shall be submitted to CARB and made public on the company's website.

Regional

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) Air Quality-Related Energy Policy integrates air quality, energy, and climate change issues in a coordinated and consolidated manner. On September 9, 2011, the SCAQMD adopted ten air quality-related energy policies to guide and coordinate SCAQMD efforts to support the policies. These various policies and initiatives will:

- Promote zero- or near-zero-emission technologies, including ultra-clean energy strategies;
- Encourage "demand-side" energy management through energy efficiency and shifting of some energy use to off-peak hours;
- Encourage "distributed generation," including "renewables," as well as storage of electricity to reduce the need for new, large power plants and transmission lines;
- Acknowledge that some additional fossil-fueled power plants will be needed to accommodate growth and complement intermittent renewable energy sources such as wind and solar, while at the same time ensure that any community impacts from these plants are minimized; and
- Conduct public education and outreach to inform individuals and businesses of the benefits and availability of clean, efficient technologies and energy conservation.

A central part of the SCAQMD's Air Quality-Related Energy Policy is the promotion of renewable energy generation, and California has identified Los Angeles, Riverside, and San Bernardino Counties as locations with substantial renewable generating resource potential in wind and solar power. As indicated by the California Energy Commission's Integrated Energy Policy Report, these renewable energy sources will increasingly need to be supported by highly efficient electrical power generating facilities.

Local

County of Los Angeles

The County of Los Angeles has adopted a Green Building Ordinance which consists of two components related to new construction projects: Standards of Sustainability and Standards of Sustainable Excellence. The purpose of the ordinance is to incentivize reduced natural resource use during the planning and development of projects within the Los Angeles area. Although this ordinance does not address generation or use of renewable energy, it is consistent with the goals and objectives of the SCAQMD Air Quality-Related Energy Policy and reducing GHG emissions through demand-side management building practices.

City of Los Angeles

The City of Los Angeles has established and adopted the Green LA initiative along with the City's General Plan, which includes goals and policies that would indirectly reduce GHG emissions and climate change impacts through improved energy efficiency.[12] Air Quality Element Goal 5 of the General Plan promotes energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels, and the implementation of conservation measures, including passive methods such as site orientation and tree planting. Objective 5.1 states that the City will "increase energy efficiency of City facilities and private developments." Furthermore, Policy 5.1.3 states that the City will have LADWP make improvements at its in-basin power plants in order to reduce air emissions.

In response to the City of Los Angeles's Green LA initiative, LADWP has implemented various measures and deployed marketing initiatives geared towards reducing GHG emissions and climate change impacts. Measures include the purchase of renewable energy, promotion of energy efficiency, water conservation, improved recycling/reusing, and infrastructure improvements. In 2010, 20 percent of LADWP power was provided by renewable energy sources. In addition, LADWP offers cash rebates for efficient appliances and exchange programs for inefficient appliances. As one of the largest utility providers in California, LADWP is required to achieve the Renewable Portfolio Standard established under AB 32 as well as emissions performance standards for new baseload generation, established per SB 1368.

To combat climate change while capturing health and economic benefits, the City of Los Angeles has set ambitious goals to transform its electricity supply, aiming for a 100 percent renewable energy power system by 2045, along with a push to electrify the buildings and transportation sectors. To reach these goals and assess the implications for jobs, electricity rates, the environment, and environmental justice, the Los Angeles City Council passed a series of motions in 2016 and 2017 directing the LADWP to determine the technical feasibility and investment pathways of a 100 percent renewable energy portfolio standard.

The LADWP partnered with the National Renewable Energy Laboratory on the LA100, a study to analyze potential pathways the community can take to achieve a 100 percent clean energy future.

[12] City of Los Angeles. 1992. Air Quality Element- An Element of the General Plan of the City of Los Angeles. Available at: https://planning.lacity.gov/odocument/0ff9a9b0-0adf-49b4-8e07-0c16feea70bc/Air_Quality_Element.pdf.

Released in March 2021, the LA100 found that the City of Los Angeles can achieve reliable, 100 percent renewable power as early as 2035.

4.3.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, a project would have a significant impact related to greenhouse gas emissions if it would:

- ***GHG-A*** *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or*
- ***GHG-B*** *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

Electrical generation that serves a distribution grid is part of the California energy system, and a comparison of direct emissions from an individual generation unit does not adequately assess the impact to GHG emissions because of the need to consider electrical generating efficiency on a system-wide basis. The GHG emissions from the proposed project would be offset by reductions in emissions from other less efficient generation units whose output would be displaced. Therefore, the established GHG threshold applicable to the proposed project operation is the baseload performance standard from SB 1368 of 1,100 pounds CO_2 per megawatt-hour (MWh)-Net[13] and the federal New Source Performance Standard Subpart TTTT for Greenhouse Gas Emissions for Electric Generating Units (NSPS TTTT) of 1,000 pounds per MWh-Gross.[14]

For project construction, the SCAQMD CEQA threshold of significance for GHGs for industrial facilities is 10,000 MT per year CO_2e. This threshold accounts for emissions generated during construction, which are amortized over a 30-year projected project lifetime.[15] Table 4.3-1 shows the GHG thresholds of significance for project construction and operations.

Table 4.3-1 CEQA Thresholds of Significance for GHGs

Project	Threshold
Construction	10,000 MT/yr CO_2e for industrial facilities
Operations	Efficiency standards: 1,110 lb/MWh-Net (SB 1368); 1,000 lb/MWh-Gross (NSPS TTTT)

Source: SCAQMD. 2023; SB 1368, NSPS TTTT.

[13] California Public Utilities Commission. PUB Sets GHG Emissions Performance Standard to Help Mitigate Climate Change News Release. Docket #R.06-04-009. Available at: https://docs.cpuc.ca.gov/word_pdf/NEWS_RELEASE/63997.pdf.

[14] 40 CFR Part 60 Subpart TTTT. Available at: https://www.ecfr.gov/current/title-40/part-60/subpart-TTTT. Accessed May 9, 2024.

[15] SCAQMD. 2023. Air Quality Significance Thresholds. Available at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf.

4.3.4 Project Impacts

GHG-A Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Short-Term Construction Impacts

Construction of the proposed project would involve several phases including construction of retaining walls, Unit 3 basin backfill, compaction and grading, other site preparation, switchyard upgrade and plant construction (civil earthwork, foundations, structural steel, mechanical and electrical). GHG emissions from construction activities would primarily result from fuel combustion during the operation of off-road diesel-fueled construction equipment. Active construction would occur continually over a period of approximately 3 years (i.e., 969 working days) during calendar years 2026 to 2029. Table 4.3-2 shows a breakdown of the proposed project construction GHG emissions over the planned construction period. Table 4.3-2 also aggregates the CO2e emissions for all construction phases and determines the 30-year amortization amount. The maximum annual GHG emissions from construction would occur in year 2028 with 4,233 MT CO2e. Detailed information on the GHG construction emissions scenario, including the California Emissions Estimators Model (CalEEMod) output file, is provided in Appendix B.

Table 4.3-2 Construction GHG Emissions by Year (2026-2029)

GHG	2026 (MT)	2027 (MT)	2028 (MT)	2029 (MT)	Total (MT)	30-Year Amortization (MT/yr)
CO_2	647	3,895	4,192	2,109	--	--
CH_4	<1	<1	<1	<1	--	--
N_2O	<1	<1	<1	<1	--	--
Refrigerants	<1	2	2	1	--	--
CO_2e	663	3,940	4,233	2,130	10,966	366

Note: Construction would occur over approximately 969 working days, coinciding with calendar years 2026-2029.
Source: Yorke Engineering, LLC 2024.

As shown in Table 4.3-2, the estimated project-generated construction emissions amortized over 30 years would be 366 MT CO_2e per year, which would not exceed the GHG mass emissions threshold established by the SCAQMD of 10,000 MT CO_2e per year. As such, impacts related to project-generated GHG emissions would be less than significant.

Long-Term Operational Impacts

The main source of GHG emissions from project operations would be the combined-cycle generation system (CCGS), which would result in higher GHG emissions when run with 100 percent natural gas than a natural gas/hydrogen fuel blend. Table 4.3-3 shows the project-generated operational GHG emissions by vendor assuming 100 percent natural gas.

As shown in Table 4.3-3, the project-generated operational GHG emissions intensity in pounds CO_2 per MWh would fall below the federal NSPS TTTT and state SB 1368 standards for all three vendors. Therefore, operational GHG emissions would be less than significant.

Table 4.3-3 Operational GHG Emissions by Vendor Assuming 100% Natural Gas

Vendor	CO_2 (lb/hr)	CO_2 (lb/MWh-Gross)[a]	Exceed NSPS TTTT Standard of 1,000 lb CO2/MWh-Gross?	CO_2 (lb/MWh-Net)[b]	Exceed SB 1368 Standard of 1,100 lb CO2/MWh-Net?
A	299,000	864	No	887	No
B	330,359	955	No	980	No
C	275,502	796	No	818	No

[a] Gross power generated for the proposed project for each vendor shall not exceed 346 MW. Calculation assumes 2.5 percent of gross power is lost to parasitic use.
[b] Net power generated for the proposed project for each vendor shall not exceed 337 MW.
Source: Yorke Engineering, LLC 2024.

GHG-B Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

As shown in Tables 4.3-2 and 4.3-3, project-generated GHG emissions were evaluated against the established SCAQMD threshold for construction and the federal NSPS TTTT standards and SB 1368 standards for project operations. Construction-related GHG emissions for the proposed project would fall below the SCAQMD threshold of 10,000 MT/yr CO_2e for industrial facilities. Operations-related GHG emissions for the proposed project would not exceed the federal NSPS TTTT standards and SB 1368 standards. Therefore, the proposed project would not conflict with or obstruct regional and statewide goals to reduce GHG emissions and climate change impacts.

As discussed in Section 4.3.2, several plans and policies have been adopted to reduce GHG emissions throughout California and in Los Angeles. The project's consistency with CARB's 2022 Scoping Plan and the City's General Plan is discussed below.

The 2022 Scoping Plan notes that though renewable energy sources like solar and wind can typically meet demand during the day, fossil fuel generation is currently a resource that is typically ramped up to meet evening demand as solar production drops and electrical loads increase. The electricity sector has started to pair solar with battery energy storage; however, the state's electricity grid is expected to be stressed further in the coming years by heat waves, drought, wildfires, and the growing intermittent power supply from renewables. The 2022 Scoping Plan stresses the importance of decarbonizing the electricity sector by using energy more efficiently and replacing fossil-fueled generation with renewable and zero carbon resources. Supported by the State's RPS and Cap-and-Trade Programs to incentivize dispatch of renewables over fossil generation, SB 100's requirement of 60 percent renewables by 2030 and 100 percent renewable or zero carbon resources by 2045 for electricity generation, the 2022 Scoping Plan provides strategies to continue transitioning to renewable and zero carbon resources.[16]

The proposed project would replace Scattergood Units 1 and 2, which are conventional natural-gas-fired steam-boiler generators, with a rapid-response CCGS that would be capable of operating on a fuel mixture of natural gas and a minimum of 30 percent hydrogen by volume. The proposed project CCGS would be operated less frequently compared to existing operations, primarily to meet peaks in the requirement for electrical power during high demand days that exceed renewable energy production and energy storage capacity. In addition, the CCGS would be used during relatively short-term periods when the renewable generation resources and/or transmission assets become unavailable due to emergency circumstances (e.g., the temporary

[16] California Air Resources Board. 2022. 2022 Scoping Plan for Achieving Carbon Neutrality. December. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents.

loss of critical renewable energy transmission lines caused by wildfire or earthquake). This CCGS would continue to meet the evening demand and the electricity grids intermittent power supply from renewables while allowing LADWP to begin the conversion from natural gas to green hydrogen in its in-basin combustion-turbine generation system as the City transitions to a carbon-free electrical energy system. Therefore, the proposed project would not conflict with the 2022 Scoping Plan.

The City's General Plan Air Quality Element sets forth the goals, objectives, and policies which guide the City in implementing its air quality improvement programs and strategies. Specifically, Goal 5 promotes "energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels, and the implementation of conservation measures, including passive methods such as site orientation and tree planting." Objective 5.1 further states that the City will "increase energy efficiency of City facilities and private developments" with Policy 5.1.3 stating that the City will have LADWP "make improvements at its in-basin power plants in order to reduce air emissions."[17] As discussed, in Section 3.2, the Scattergood generation units would be retained through a conversion from natural gas to renewable hydrogen fuel. Additionally, the proposed project would substantially increase fuel efficiency, when compared to the existing steam-boiler Units 1 and 2, thereby also reducing the emission of air pollutants and GHGs relative to the amount of energy produced. Therefore, the proposed project would not conflict with the City's Air Quality Element of the General Plan.

In summary, the proposed project's GHG emissions impacts would be consistent with federal, statewide, regional, and local policies described in Section 4.3.2 including CARB's 2022 Scoping Plan and the City's Air Quality Element of the General Plan, which are intended to reduce and eventually eliminate GHG emissions from power generation through the use of renewable resources and less-polluting fuels. As such, the project would not conflict with or obstruct regional and state-wide goals to reduce GHG emissions and climate change impacts.

4.3.5 Mitigation Measures

The proposed project's impacts were determined to be less than significant, and no mitigation measures are required.

4.3.6 Level of Significance After Mitigation

The proposed project's impacts were determined to be less than significant without mitigation.

4.3.7 Cumulative Impacts

GHG impacts to global climate change are inherently cumulative; therefore, no additional analysis of cumulative impacts is necessary. Project-related GHG emissions are not confined to the air basin within which a project site is located; instead, GHG emissions are dispersed worldwide. GHG impacts are recognized as exclusively cumulative impacts, and there are no non-cumulative GHG emission impacts from a climate change perspective. No single project is large enough to result in a measurable increase in global concentrations of GHG emissions. Therefore, impacts identified under Threshold GHG-A are not project-specific impacts to global climate change, but rather, the proposed project's contribution to this cumulative impact. As such, significant direct impacts associated with the project also serve as the project's cumulative impact.

[17] City of Los Angeles. 1992. Air Quality Element- An Element of the General Plan of the City of Los Angeles. Available at: https://planning.lacity.gov/odocument/0ff9a9b0-0adf-49b4-8e07-0c16feea70bc/Air_Quality_Element.pdf.

As analyzed under Thresholds GHG-A and GHG-B, implementation of the proposed project would be consistent with applicable policies and guidance contained in Section 4.3.2, including CARB's 2022 Scoping Plan, as the net emissions generated for construction would not exceed the SCAQMD 10,000 MT per year CO_2e threshold and the net emissions for operation would not exceed SB 1368's baseload performance standard of 1,100 pounds CO_2 per MWh-Net and the federal NSPS Subpart TTTT 1,000 pounds per MWh-Gross threshold. Therefore, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative GHG emissions impact, and the cumulative impact would be less than significant.

SECTION 4.4
HAZARDS AND HAZARDOUS MATERIALS

As discussed in the Initial Study (Appendix A of this EIR) and summarized in Section 4.0.3, Effects Not Found To Be Significant, of this EIR, most impacts under the Hazards and Hazardous Materials section of the Initial Study checklist were found to be less than significant. Such impacts included those related to significant hazards through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The discussion therein stated that the proposed project would adhere to applicable local, state, and federal regulations for the transport, storage, and use of construction-related materials. Nonetheless, to ensure that reasonably foreseeable and accident conditions are sufficiently responded to during construction activities, including excavation and removal of potentially contaminated soils and non-soil/sediment wastes, a Soil/Sediment Management Plan and a Waste Management Plan would be implemented as mitigation (Mitigation Measure [MM]-HAZ-1 and MM-HAZ-2, respectively). As such, the Initial Study concluded that potential construction impacts related to the release of hazardous materials through reasonably foreseeable upset and accident conditions would be less than significant with mitigation. The Initial Study also concluded that the storage, use, and transport of potentially hazardous materials during project operation, such as natural gas, ammonia, and water treatment chemicals, would be similar to current operations at Scattergood, and their use for the proposed project would be subject to the existing Scattergood Risk Management Plan and offset by a reduction in use associated with removal from service of existing Generation Units 1 and 2. All project components would be designed to ensure these hazardous materials would be contained and that such substances would not spill or leak. Therefore, there would be no increase in hazards through reasonably foreseeable upset and accident conditions related to these materials during operation.

Hydrogen is currently used at Scattergood in relatively small quantities in the generation unit cooling process. However, it would be used in greater quantities as a fuel for the proposed project combustion turbine. Accordingly, this section of the EIR addresses the potential of the proposed project to expose the public and environment to hydrogen-related hazards during operation.

4.4.1 Environmental Setting

Existing Operations

As described in Chapter 3, Project Description, of this EIR, Scattergood currently includes six operating generation units which use natural gas fuel. Existing Units 1 and 2 each employ a natural-gas-fired boiler to produce steam that drives a turbine, which in turn drives a generator to produce electricity. Units 4 and 5 operate in tandem as a combined-cycle generation system (CCGS); Unit 4 is a natural-gas-fired combustion-turbine generator, and Unit 5 is a steam-turbine generator. The heated exhaust from the Unit 4 combustion turbine passes through a heat recovery steam generator, where it is used to produce steam to drive the Unit 5 steam-turbine generator. Units 6 and 7 are independently operated, simple-cycle generation systems consisting of natural gas combustion-turbine generators.

The natural gas used at Scattergood is supplied by continuous feed from a dedicated pipeline that enters the Scattergood property from Grand Avenue. Gas compressors needed to ensure optimum pressure of the gas prior to use in the combustion turbines are located on the middle terrace of Scattergood.

Proposed Project Facilities and Operations

As discussed in Chapter 3, Project Description, of this EIR, the proposed project would construct and operate a CCGS that would replace the generation capacity of existing generation Units 1 and 2, which will be removed from service concurrent with project commissioning. The proposed CCGS, Units 8 and 9, would be physically similar to the existing Units 4 and 5 CCGS, consisting of a combustion-turbine generator and a steam-turbine generator operating in tandem. However, unlike the existing CCGS, which operates on natural gas, the proposed CCGS would be capable of operating on a fuel mixture of natural gas and a minimum of 30 percent hydrogen by volume.

Additionally, new gas compressors and/or pressure reducers would be installed to maintain the required pressures prior to combustion in the proposed combustion turbine (Unit 8). This new equipment would be similar in scale and located adjacent to the existing compressors on the middle terrace of Scattergood. New belowground distribution infrastructure would be installed within the property to transport fuel from the compressors/pressure reducers to Unit 8.

4.4.2 Regulatory Framework

A description of the major codes and standards for hydrogen piping and pipelines applicable to hydrogen-related activities on the project site is provided below.

City of Los Angeles Fire Code

The City of Los Angeles Fire Code (Los Angeles Municipal Code [LAMC], Chapter 5, Article 7) incorporates by reference portions of the California Fire Code (CFC) with amendments. LAMC Section 57.5301 adopts by reference provisions of CFC Chapter 53 (Compressed Gases), and LAMC Section 57.5801 adopts by reference provisions of CFC Chapter 58 (Flammable Gases and Flammable Cryogenic Fluids). The CFC provisions related to hydrogen-related hazards are described below.

California Fire Code

The CFC provides regulations consistent with nationally recognized and accepted practices for safeguarding life and property from the hazards of fire and explosions; dangerous conditions arising from the storage, handling, and use of hazardous materials and devices; and hazardous conditions in the use or occupancy of buildings or premises.

The CFC is Part 9 of 13 parts of the triennial publication of the California Building Standards Code. In January 2022, the 2022 CFC (the latest edition) adopted by reference the 2022 National Fire Protection Association (NFPA) 2, Hydrogen Technologies Code.[1] CFC Chapter 53 (Compressed Gases), Section 5301.1, also states that compressed hydrogen must comply with the applicable portions of CFC Chapters 23 and 58, the International Fuel Gas Code, and the NFPA 2. In addition, CFC Chapter 58 (Flammable Gases and Flammable Cryogenic Fluids), Section 5801.1, states that the storage and use of flammable gases must also be in accordance with the NFPA 2 and NFPA 55, the Compressed Gases and Cryogenic Fluids Code.

As the NFPA 2 was most recently updated in 2023, the California Department of Forestry and Fire Protection has stated that the local authority having jurisdiction (AHJ) is allowed to consider using the 2023 NFPA 2 on a case-by-case basis per the alternate means and methods of construction provisions contained in the CFC or California Building Code Section 1.11.2.4,

[1] California Department of Forestry and Fire Protection. Office of the State Fire Marshal. Information Bulletin 23-005, issued July 13, 2023.

Request for Alternate Means of Protection.[2] The AHJ for the proposed project would be the City of Los Angeles Fire Department.

International Fuel Gas Code

Published by the International Code Council, the International Fuel Gas Code establishes minimum requirements for fuel gas systems and gas-fired appliances using prescriptive and performance-related provisions in order to adequately protect public health, safety, and welfare. The code regulates the design and installation of fuel gas distribution piping and systems, appliances, appliance venting systems, combustion air provisions, gaseous hydrogen systems, and motor vehicle gaseous-fuel-dispensing stations. The purpose of the code is to establish the minimum acceptable level of safety and to protect life and property from the potential dangers associated with the storage, distribution, and usage of fuel gases and the byproducts of combustion of such fuels. The code also protects the personnel that install, maintain, service, and replace the systems and appliances that are included in the code. Chapter 7 of the International Fuel Gas Code is specific to hydrogen used as a fuel or feedstock for appliances, processes, and fuel cells. The requirements in Chapter 7 address hydrogen generation, storage, dispensing, piping, location, operation, and the maintenance of hydrogen generation, storage, and distribution systems.

National Fire Protection Association 2, Hydrogen Technologies Code

Due to the increased interest in hydrogen use as a fuel source, the NFPA was petitioned to develop an all-encompassing document that establishes the necessary requirements for hydrogen technologies. In 2006, the Technical Committee on Hydrogen Technology was formed to develop a document that addresses all aspects of hydrogen storage, use, and handling; draws from existing NFPA codes and standards; and identifies and fills technical gaps for a complete functional set of requirements for code users and enforcement. The NFPA 2, Hydrogen Technologies Code, was developed and structured to be implemented with building and fire codes. The purpose of the NFPA 2 is to provide fundamental safeguards for the generation, installation, storage, piping, use, and handling of hydrogen in compressed gas form. The first version of the NFPA 2, Hydrogen Technologies Code, was published in 2011, and was adopted by reference by the California Office of the Fire Marshal into the CFC. The most recent edition, 2023 NFPA 2, went into effect on December 19, 2022.

Chapter 2 of the NFPA 2 provides a list of publications referenced in the code and states that such documents or portions of such documents are also considered as part of the NFPA 2 requirements. The publication American Society of Mechanical Engineers (ASME) B31.12, which is described further below, is listed as a referenced publication.

Chapter 4 of the NFPA 2 provides general fire safety requirements, and states that the goals of the NFPA 2 are to provide a reasonable level of safety, property protection, and public welfare from the hazards created by fire, explosion, and other hazardous conditions. NFPA 2 Section 4.2.3.3 states that the storage, use, or handling of hydrogen in a building or facility shall be accomplished in a manner that provides a reasonable level of safety for occupants and to those adjacent to a building or facility from illness, injury, or death due to conditions that include: unplanned release of hydrogen; fire impinging upon the hydrogen piping or containment system or the involvement of hydrogen in a fire; the application of an external force on the hydrogen piping or containment system that is likely to result in an unsafe condition. Section 4.2.4.2 requires that the facility be designed, constructed, protected, and maintained, and operations be

[2] California Department of Forestry and Fire Protection, Office of the State Fire Marshal, Information Bulletin 23-005, issued July 13, 2023.

conducted, to provide protection from damage. Pursuant to Section 4.4, compliance with the NFPA 2 goals and objectives (Section 4.2) is determined based on prescriptive measures (i.e., in accordance with the NFPA 2 code requirements) and/or performance-based design (i.e., in accordance with Chapters 1 to 5 of the NFPA 2).[3]

Pursuant to Section 4.6, an emergency plan is required wherever hydrogen is produced, handled, stored or used in amounts exceeding the maximum allowable quantity per control area, or where required by the AHJ (i.e., the Los Angeles Fire Department for Scattergood). The plan is required to be made available for inspection by the AHJ, including the following:

- The type of emergency equipment available and its location;
- A brief description of any testing or maintenance programs for the available emergency equipment;
- An indication that hazard identification labeling is provided for each storage area;
- The location of posted emergency procedures;
- A safety data sheet or equivalent for hydrogen stored or used on the site;
- A list of the types and quantities of hydrogen within the facility; and
- A list of personnel who are designated and trained to be liaison personnel for the fire department and who are responsible for the following: aiding the emergency responders in pre-emergency planning; identifying the location of the hydrogen stored or used; accessing safety data sheets; and knowing the site emergency procedures.

Pursuant to Section 4.9, safety data sheets are required to be available on site and electronically. When required by the AHJ, a hazardous materials management plan and hazardous material inventory statement will also be submitted.

Section 4.10 oversees the release of hydrogen. Specifically, hydrogen cannot be released into a sewer, storm drain, ditch, drainage canal, lake, river, or tidal waterway; upon the ground, a sidewalk, a street, or a highway; or into the atmosphere, unless such release is permitted by the following: (1) federal, state, or local governing regulations, and (2) pressure relief devices and vents designated as part of a system. Provisions and records are required for controlling and mitigating unauthorized releases.

Section 4.11 requires personnel training for persons in areas where hydrogen is stored, dispensed, handled or used. Training would occur prior to the beginning of work and consists of hazards identification, communication, and emergency protocols prior to initiation of work.

[3] If a performance-based design is selected for the method of compliance, the performance-based design is required to be prepared by a person with qualifications acceptable to the AHJ. Per Chapter 5 of the NFPA 2, when submitted to the AHJ for review, the performance-based design must include performance objectives and design scenarios, calculation methods or models, and data sources used to establish the proposed design's fire and life safety performance. Performance-based designs for facilities with high hazard contents must identify the properties of hazardous materials to be stored, used, or handled, and provide safeguards that consider both normal and possible abnormal conditions. Section 5.2.2 lists specific performance criteria that address fire conditions, explosion conditions, hazardous materials exposure, property protection, occupant protection from untenable conditions, emergency responder protection, and occupant protection from structural failure. The proposed design shall be considered to meet the NFPA 2 goals and objectives if it achieves the performance criteria for each required design scenario. Scenarios include but are not limited to: fires; explosion from ruptured hydrogen pressure vessel; hydrogen deflagration; hydrogen detonation; hazardous materials release from internal and external factors.

Operations personnel also require training in safeguards, dispensing, processing, or use of the materials and equipment.

Chapter 6 of the NFPA 2 provides general hydrogen requirements. This chapter details the maximum allowable quantity of hydrogen per control area and the thresholds requiring special provisions. Where quantities exceed storage or usage thresholds, explosion prevention and/or deflagration venting would be required. Per Section 6.4.1.4, gaseous hydrogen blended with other gases having multiple hazards shall also comply with NFPA 55, the Compressed Gases and Cryogenic Fluids Code. Section 6.5 requires that piping materials and systems be designed and installed, as well as inspected and pressure tested, in accordance with applicable sections of the ASME B31 (Code for Pressure Piping) and the International Fuel Gas Code. Chapter 6 of the NFPA 2 also requires the provision of gaseous hydrogen detection systems that are designed, installed, tested, inspected, calibrated, and maintained in accordance with manufacturer and equipment listing requirements. Additionally, indoor storage and use areas and storage buildings for hydrogen are required to provide mechanical exhaust ventilation or fixed natural ventilation.

Chapter 7 of the NFPA 2 provides additional requirements related to the storage, use, and handling of gaseous hydrogen and the provision of gaseous hydrogen systems, including, but not limited to, the following components: installation, controls, containers, piping, pressure relief devices, valves, ventilation, equipment enclosures, emergency shutoff.

American Society of Mechanical Engineers B31.12, Hydrogen Piping and Pipelines

The ASME B31 series provides the Code for Pressure Piping. To bridge the gap between existing pipeline codes and standards and hydrogen infrastructure applications, a committee of engineering societies, industries, government bureaus, institutes, and trade associations developed the ASME B31.12, Hydrogen Piping and Pipelines. ASME B31.12 specifically addresses requirements for hydrogen piping and pipelines. The first edition of the ASME B31.12 from 2008 included design, construction, operation, and maintenance requirements for piping, pipelines, and distribution systems in hydrogen service. Typical applications include power generation, process plants refining, transportation, distribution, and automotive filling stations. Updated editions from 2011, 2014, 2019, and 2023 (the most recent edition) include material performance factors to account for the adverse effects of hydrogen gas on the mechanical properties of carbon and low alloy steels. Specific materials for piping have been omitted due to their unsuitability for hydrogen service, and rules have been added for conversion or retrofit of existing pipeline and distribution systems from natural gas or petroleum to hydrogen service.

ASME B31.12 is applicable up to and includes the joint connecting the piping to associated pressure vessels and equipment but not to the vessels and equipment themselves. It is also applicable to the location and type of support elements, but not to the structure to which the support elements are attached. ASME B31.12 is presented in the following parts:

- Part GR, General Requirements, contains definitions and requirements for materials; welding, brazing, heat treating, forming, testing; inspection, examination, and testing; operation and maintenance; and quality system programs.

- Part IP, Industrial Piping, includes rules developed for hydrogen service including petroleum refineries, refueling stations, chemical plants, power generation plants, semiconductor plants, cryogenic plants, hydrogen fuel appliances, and related facilities. Chapters of Part IP include requirements for design conditions and criteria; pressure design of piping components; service requirements for piping components and joints; piping flexibility and support; specific piping systems; dimensions and ratings of components; fabrication, erection, and assembly; and inspection, examination, and testing of piping.

Under Section GR-5.2, Operation and Maintenance Plan, each applicable operating entity is required to: (a) have a written plan covering operating and maintenance procedures in accordance with the requirements of the ASME B31.12; (b) have an emergency plan covering facility failure, accidents, leakage, and other emergencies; (c) operate and maintain its facilities in conformance with these plans; (d) modify the plans from time to time as experience dictates, and as exposure of the public to the facilities and changes in operating conditions require; (e) provide training for employees in procedures established for their operating and maintenance functions; and (f) prepare and maintain records showing successful implementation of items (a) through (e). ASME B31.12 outlines prevention of accidental ignitions where possible leakage of hydrogen constitutes a fire or explosion hazard, and when a hazardous amount of hydrogen is to be vented and activities occur around combustible hydrogen mixtures. As part of a facility's operation and maintenance, leakage surveys are required with procedures, including, but not limited to: surface hydrogen detection surveys, subsurface hydrogen detector surveys, pressure drop test, bubble leakage test, and ultrasonic leakage test. Repairs and follow-up examinations are also required.

Under Section GR-6.1, Quality System Program, each organization/owner is responsible for developing a Quality System Program (QSP), the purpose of which is to ensure quality is achieved for all hydrogen piping and pipeline systems by meeting the requirements of the ASME B31.12 and any additional requirements specified by the owner at all phases (i.e., design, construction, testing and inspection, implementation, and maintenance). The QSP includes a quality manual, quality policy and objective, structure of organization, documented procedures, and work instructions. The QSP also provides for interface with the owner and jurisdiction, and the program would be reviewed for acceptance by the owner and would be subject to jurisdictional participation. As included in Part IP of the ASME B31.12, prior to initial operation and after completion of examinations and repairs, each piping system shall be tested to ensure tightness. Tests include hydrostatic leak tests, pneumatic leak tests, sensitive leak tests, and alternative tests, including mechanical tests, metallurgical tests, and ferrite tests (for corrosivity, cracking, material failure). Records of testing would be documented and retained according to the QSP.

Compressed Gas Association G-5.4, Standard for Hydrogen Piping Systems at User Locations

The Compressed Gas Association (CGA) is a non-profit trade association and standards developer dedicated to promoting safety standards and safe practices in the industrial, medical, and specialty gas industries. CGA addresses safety and technical information related to the manufacture, transportation, storage, transfilling, and disposal of gases; and the containers and valves which hold compressed gases. CGA publications are developed and maintained by CGA's technical committees consisting of subject matter and trade experts.

CGA G-5.4, Standard for Hydrogen Piping Systems at User Locations, provides the specifications and general principles recommended for piping systems for hydrogen. As noted by the CGA, the G-5.4 document is not a federal, state, provincial, or municipal specification or regulation; insurance requirement; or national safety code. The CGA recommends references to or use of the G-5.4 document by government agencies and others; however, the document is voluntary and not binding unless adopted by reference in regulations.

Most recently released as the 6th edition in 2019, CGA G-5.4 applies to hydrogen piping in a supply system (to the source valve) and to customer piping from the source valve to the point of use. For this standard, high pressure is defined as gaseous hydrogen at service pressures equal to or greater than 3,000 pounds per square inch.

CGA G-5.4 states that hydrogen piping systems should be designed in accordance with ASME B31.12 (described above) and applicable codes and regulations. Criteria for piping systems are detailed by design criteria, piping materials, system components (i.e., pressure relief devices, isolation valves, emergency isolation valves, excess flow valves, check valves), and electrical equipment. Valves, gauges, regulators, and other accessories shall be suitable for hydrogen service and for the pressures and temperatures that are encountered. Instruments and pressure gauges shall be located to reduce hazards to personnel from leakage or failure. The use of safety glass and blow-out plugs on pressure gauges is recommended, and in-line restricting devices may be used to reduce flow to gauges.

In addition, hydrogen gas detectors may be installed to sound an alarm or activate shutdown if gas leakage is detected. Sensors should be installed at locations most likely to have an accumulation of hydrogen in the event of a leak. Sensors should be installed at or above the height of the hydrogen system. The detectors should be set to alarm at no more than 0.8 percent hydrogen concentration (no greater than 20 percent of the lower flammable limit) and to shut down the system at 1 percent hydrogen concentration (no greater than 25 percent of the lower flammable limit). Fire detectors also should be considered in the event a hydrogen leak is ignited.

CGA G-5.4 outlines piping installation requirements, system startup procedures, cleaning procedures, and detection of contaminants on piping system surfaces. Excessive contamination can cause a chemical reaction, interfere with operation of moving parts, damage critical surfaces, or reduce product purity to below acceptable limits. CGA also advises the regular inspection of the hydrogen piping system to check for physical damage, leak tightness, ground system integrity, vent system operation, equipment identification, warning signs, operator information and training records, scheduled maintenance and retest records, alarm operation, and all other safety related features.

4.4.3 Thresholds of Significance

As discussed above, the Initial Study concluded that most impacts under the Hazards and Hazardous Materials section of the Initial Study checklist were found to be less than significant. However, effects with regard to potential hydrogen-related hazards during operation were identified in the Initial Study as potentially significant and, thus, are discussed below. In accordance with Appendix G of the CEQA Guidelines, the project would have a significant impact related to the handling of hydrogen if it would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment (HAZ-A).

4.4.4 Project Impacts

HAZ-A Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

As described in Chapter 3, Project Description, of this EIR, while it is anticipated that a sufficient supply of green hydrogen may be available to support the proposed project's dual-fuel CCGS when it is fully commissioned at the end of 2029, the details of the green hydrogen infrastructure system outside Scattergood in terms of the production, delivery, and storage are currently unknown. Therefore, the EIR does not address the supply of green hydrogen to Scattergood, which will be analyzed under a separate environmental document when the necessary information to support an adequate analysis of potential environmental impacts is available. LADWP would not implement or operate this hydrogen infrastructure but would be a purchaser of hydrogen to supply the proposed project. Nonetheless, because the combustion-turbine generator component

of the proposed CCGS would be capable of operating on a mixture of natural gas and hydrogen fuel, project impacts related to the on-site hydrogen system are analyzed herein.

As described above in Section 4.4.2, the City of Los Angeles Fire Code adopts by reference the provisions of the CFC, including CFC Chapter 53 (Compressed Gases) and Chapter 58 (Flammable Gases and Flammable Cryogenic Fluids). The CFC also adopts by reference the NFPA 2. Section 6.5 of NFPA 2 additionally requires that piping materials and systems be designed and installed, as well as inspected and pressure tested, in accordance with applicable sections of the ASME B31. Accordingly, the project's use of hydrogen on site for the proposed CCGS would comply with the City of Los Angeles Fire Code and CFC by adhering to requirements set forth by the NFPA 2, Hydrogen Technologies Code, and the ASME B31.12, Hydrogen Piping and Pipelines.

Therefore, the project's hydrogen system would be required to be designed, constructed, protected, maintained, and operated in accordance with technical standards for hydrogen piping and pipelines pursuant to the NFPA 2 and the ASME B31.12. The project would comply with the general hydrogen requirements of the NFPA 2 and adhere to the maximum allowable quantity of hydrogen per control area for storage and usage and implement hydrogen detection, explosion prevention, and venting systems. Piping materials and systems would be designed and installed, inspected, and tested in accordance with the ASME B31 and the International Fuel Gas Code.

Specifically, per the ASME B31.12, the project's hydrogen pipelines would be designed, constructed, operated, and maintained to account for the hydrogen embrittlement of carbon and low alloy steels and other materials. ASME B31.12 also requires LADWP to prepare and update a plan containing operating and maintenance procedures as well as an emergency plan covering facility failure, accidents, fires, potential ignition, leakage, and other emergencies. In addition, ASME B31.12 requires training be provided for employees and for records to be maintained showing successful implementation of these plans. Extensive procedural training would be provided to staff and personnel for areas where hydrogen is stored, dispensed, handled, or used. Required training would consist of hazards identification, communication, emergency protocols, safeguards, dispensing, processing, or use of the materials and equipment.

Additionally, per the ASME B31.12, the project is required to prepare a QSP to detail how the system's quality is achieved with requirements of the ASME B31.12 and any additional requirements for the phases of the facility's lifetime. The QSP would consist of a quality manual, quality policy and objective, structure of the facility's organization, documented procedures, and work instructions.

As part of the QSP, the project's hydrogen system would undergo extensive testing and inspection prior to operation and after completion of examinations and repairs to ensure hydrogen leaks would not occur. As described in the ASME B31.12, testing would include hydrostatic leak tests, pneumatic leak tests, sensitive leak tests, and alternative tests, including mechanical tests, metallurgical tests, and ferrite tests. Records of testing would be documented and retained according to the QSP. While release of hydrogen into waterways, upon the ground, or into the atmosphere is not allowed, releases would be permitted by the following: (1) federal, state, or local governing regulations, and (2) pressure relief devices and vents designated as part of a safety system. In the case that the proposed system would require releases, the project would comply with code requirements accordingly. Furthermore, compliance with proper operation and maintenance would ensure prevention and/or control of piping corrosion, hydrogen-induced cracking, mechanical damage, welding/fabrication defects, and other errors or failures.

As described above, CGA G-5.4 is not a federal, state, provincial, or municipal specification or regulation; insurance requirement; or national safety code, but CGA recommends references to or use of the G-5.4 document by government agencies and others. LADWP has adopted CGA G-

5.4 by its inclusion in the construction contract bid documents related to the design and construction of facilities and equipment for the proposed project.

With compliance of regulatory requirements of the NFPA 2 and the ASME B31.12 and the standards outlined in CGA G-5.4, as described above, the project's on-site hydrogen operational activities would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

4.4.5 Mitigation Measures

The proposed project's impacts were determined to be less than significant, and no mitigation measures are required.

4.4.6 Level of Significance After Mitigation

The proposed project's operational impacts were determined to be less than significant without mitigation.

4.4.7 Cumulative Impacts

Based on the list of cumulative projects described in Chapter 4 of this EIR, the proposed project is currently the only development within the vicinity of Scattergood that includes the handling and use of hydrogen gas. It is acknowledged that a green hydrogen supply system outside the boundaries of Scattergood would be required to support the proposed project. However, as discussed above, the details of this hydrogen system in terms of production, delivery, and storage infrastructure are currently unknown. Nonetheless, within the context of a region-wide hydrogen supply system, the proposed project's incremental use of hydrogen at the Scattergood site would not be anticipated to make a cumulatively considerable contribution to wider combined effect with the regional supply system.

SECTION 4.5
NOISE

As discussed in the Initial Study (Appendix A of this EIR) and summarized in Section 4.0.3, Effects Not Found To Be Significant, of this EIR, the project would not expose people residing or working in the project area to excessive aviation-related noise levels, and no impact would occur. However, effects of the proposed project on generating a substantial temporary or permanent increase in ambient noise levels or excessive groundborne vibration to surrounding land uses were identified in the Initial Study as potentially significant and are further discussed below. This section evaluates short-term construction-related impacts, as well as long-term operational-related impacts. Noise measurements and noise modeling data can be found in Appendix C, Noise Measurements and Modeling Data.

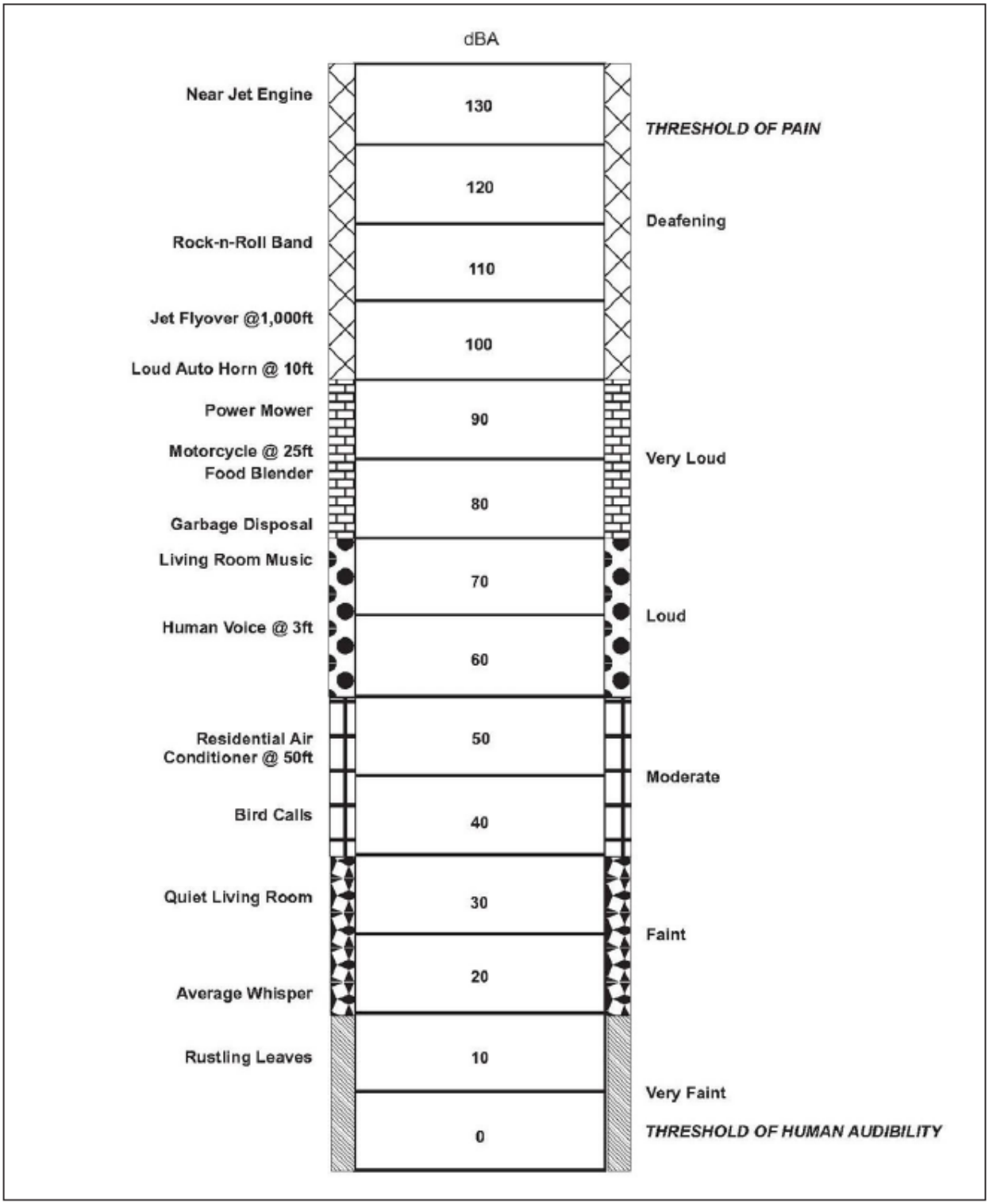
4.5.1 Environmental Setting

Noise Scales and Definitions

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air and is characterized by both its loudness (amplitude) and frequency (or pitch). The decibel (dB) is the standard logarithmic unit used to measure the loudness of sound. The human ear does not hear all frequencies equally. In particular, the ear de-emphasizes low and very high frequencies. To better approximate the sensitivity of human hearing, the A-weighted decibel sound measurement scale (dBA) has been developed which adjusts the pressure of individual frequencies according to human sensitivities. On this scale, the human range of hearing extends from approximately 3 dBA to around 140 dBA.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is judged to be twice as loud, and 20 dBA higher four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). Examples of various sound levels in different environments are illustrated on Figure 4.5-1, Common Environmental Noise Levels.

Many methods have been developed for evaluating community noise to account for, among other things, the variation of noise levels over time, the influence of periodic individual loud events, and the response to changes in the community noise environment. The Community Noise Equivalent Level (CNEL) is a rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. The Equivalent Sound Level (L_{eq}) is the average sound level containing the same total energy as a fluctuating sound level over a given time period. The U.S. Environmental Protection Agency (USEPA) adopted the L_{dn}, a measure of the 24-hour average noise level (the average L_{eq} for each hour of the day) at a given location, to evaluate community noise exposure. The L_{day} is the average daytime noise level measured from 7:00 a.m.-10:00 p.m. (as defined in the El Segundo Noise Ordinance), also known as the daytime noise indicator. The L_{night} is the nighttime noise level measured from 10:00 p.m.-7:00 a.m., also known as the nighttime noise indicator.



SCATTERGOOD GENERATING STATION UNITS 1 AND 2
GREEN HYDROGEN-READY MODERNIZATION PROJECT

Common Environmental Noise Levels

Figure 4.5-1

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Human Response to Noise

Human response to sound is highly individualized. The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The impacts of noise on the community can include noise-induced hearing loss, interference with communication, effects of noise on sleep, effects on performance and behavior, extra-auditory health effects, and annoyance. Annoyance is the most common issue regarding community noise. Field evaluations of community annoyance are useful for predicting the consequences of planned actions involving highways, airports, road traffic, railroads, or other noise sources. However, many factors influence people's response to noise. The factors can include the character of the noise, the variability of the sound level, the presence of tones or impulses, and the time of day of the occurrence. Additionally, non-acoustical factors, such as the person's opinion of the noise source, the ability to adapt to the noise, the attitude towards the source, and the predictability of the noise, all influence people's response. As such, response to noise varies widely from one person to another and with any particular noise, individual responses will range from "not annoyed" to "highly annoyed."

Groundborne Vibration

Sources of groundborne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). Both construction and operation of development projects can generate groundborne vibration.

Ground vibration consists of rapidly fluctuating motions or waves carried through the ground. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared amplitude of the signal. PPV is typically used for evaluating potential building damage, whereas PPV and RMS vibration velocity amplitudes are both used to evaluate human response to vibration. Typically, groundborne vibration generated by man-made activities attenuates rapidly with distance from the source of vibration. Man-made groundborne vibration issues are therefore usually confined to short distances (i.e., 50 feet or less) from the source.

Table 4.5-1, Human Reaction and Damage to Buildings from Continuous Vibration Levels, displays the reactions of people and the effects on buildings produced by continuous vibration levels. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Table 4.5-1 Human Reaction and Damage to Buildings from Continuous Vibration Levels

Peak Particle Velocity (inch/second)	Human Reaction	Effects on Buildings
0.006–0.019	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	Vibrations readily perceptible	Recommended upper level to which ruins and ancient monuments should be subjected
0.1	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Virtually no risk of architectural damage to normal buildings
0.2	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to normal dwellings[a]
0.4-0.6	Vibrations considered unpleasant by people continuously subjected	Architectural damage and possibly minor structural damage

[a] Historic and some old buildings have a threshold of 0.25 PPV (in/sec).
Source: California Department of Transportation. 2020. Transportation and Construction Vibration Guidance Manual, Tables 5 and 12.

Sensitive Receptors

Human response to noise varies widely depending on the type of noise, time of day, and sensitivity of the receptor. Sensitive populations are more susceptible to the effects of noise than are the general population. Land uses considered sensitive by the State of California include schools, playgrounds, athletic facilities, hospitals, rest homes, rehabilitation centers, long-term care and mental care facilities. Generally, a sensitive receptor is identified as a location where human populations (especially children, senior citizens, and sick persons) are present. Moderately sensitive land uses typically include residential dwellings, hotels, motels, dormitories, and outpatient clinics. Land uses less sensitive to noise are business, commercial, and professional developments. Noise receptors categorized as being least sensitive to noise include industrial, manufacturing, utilities, agriculture, open space, undeveloped land, parking lots, warehousing, and transit terminals. Many of these least sensitive land use types generate high noise levels. The nearest receptors to the proposed project site are listed in Table 4.5-2, Nearest Receptors.

Table 4.5-2 Nearest Receptors

Land Uses	Uses	Distance from Center of CCGS Construction Activity (feet)[a]	Distance from Operational Activity[b]	Direction from Project Site	Location
Residential	Single Family Residences	1,200	985	Northeast	Single-family dwelling units located to the northeast of the project site along Hillcrest Street.
	Single Family Residences	1,500	1,320	East	Multi-family dwelling units located to the east of the project site along Loma Vista Street.
Beach	Beach Use	700	550	West	Dockweiler State Beach

Note: CCGS = combined-cycle generation system
[a] Per the FTA Transit Noise and Vibration Impact Assessment Manual, September 2018, distances are measured from the center of major construction activities due to the complex moving and fluctuating construction noise patterns over the project area. The modeling assumes that all noise sources are combined at one location.
[b] Distances are measured from the exterior boundary of the CCGS unit operational area.
Source: Google Earth. 2022.

Ambient Noise Measurements

In order to quantify existing ambient noise levels in the project area, both long-term and short-term noise measurements were conducted on August 16 and August 17, 2023 (see Figure 4.5-2, Noise Measurement Locations).

Meteorological conditions were partly cloudy, cool temperatures, with light wind speeds (less than 5 miles per hour), and low humidity. Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a Type 4189 pre-polarized microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute for sound level meters. The detailed results of the field measurements are included in Appendix C, Noise Measurements and Modeling Data.

In order to determine the typical noise level at the surrounding receptors, long-term noise measurements were conducted near the existing residential uses to the northeast and east of the project site from August 16 to August 17, 2023, for a period of 24 hours. These long-term measurements are considered representative of the noise levels at the project site and the nearest receptors (see Table 4.5-3, Long-Term Noise Measurements).

Table 4.5-3 Long-Term Noise Measurements

Measurement Location Number	Location	Average Measured Noise Levels	
		L_{Day} (dBA)	L_{Night} (dBA)
LT-1 (NM-1)	Along the northeast section of Scattergood; southwest of 337 Hillcrest Street	58.5	55.8
LT-2 (NM-2)	Along the eastern border of Scattergood; west of 213 Loma Vista Street	57.3	54.0

Notes: LT = Long-term; NM = Noise Measurement; dBA = A-weighted decibels; L_{Day} = Average Daytime Sound Level (7:00 a.m. to 10:00 p.m.); L_{Night} = Average Nighttime Sound Level (10:00 p.m. to 7:00 a.m.).
Source: Michael Baker International, 2023; refer to Appendix C, Noise Measurements and Modeling Data.

The project site is also located approximately 550 feet away from the existing beach use to the west of the project site. In order to determine the typical noise level at the beach, one short-term, weekday noise measurement was conducted on August 16, 2023, between the hours of 10:30 a.m. and 11:00 a.m. The short-term measurement is considered representative of the noise levels at the beach since it is a day use area. As shown in Table 4.5-4, Short-Term Noise Measurements, short-term noise levels during the daytime were approximately 56.2 dBA L_{eq}.

Table 4.5-4 Short-Term Noise Measurement

Site No.	Location	L_{eq} (dBA)
ST-1 (NM-3)	Directly south of Lifeguard Tower 60; along Dockweiler State Beach	56.2

Notes: ST = Short-term; NM = Noise Measurement; dBA = A-weighted decibels; L_{eq} = Equivalent Sound Level.
Source: Michael Baker International, 2023; refer to Appendix C, Noise Measurements and Modeling Data.

Source: Google Earth Pro, October 2023

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Noise Measurement Locations

Figure 4.5-2

Existing Noise Sources

The project site is located in an urban area. The surrounding area consists of residential, industrial, and recreational uses. The primary sources of noise in areas adjacent to Scattergood are mechanical equipment associated with Scattergood, vehicular traffic within Scattergood and along Vista Del Mar Boulevard and West Grand Avenue, and aircrafts associated with the Los Angeles International Airport. The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise. Additionally, the northern parcel rises in elevation from west to east and contains three terraces that are separated by retaining walls or landscaped embankments. The existing generation units are located on the lower and middle terraces. The proposed combined-cycle generation system (CCGS) would be located on the lower terrace. Therefore, noise from the operating units would be partially obstructed at residential properties adjacent to Scattergood to the east.

4.5.2 Regulatory Framework

Federal

Noise Control Act of 1972

The Federal Noise Control Act of 1972 established programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In 1981, the USEPA administrators determined that subjective issues such as noise would be better addressed at more local levels of government, thereby allowing more individualized control for specific issues by designated federal, state, and local government agencies. Consequently, in 1982, responsibilities for regulating noise control policies were transferred to specific federal agencies and state and local governments. However, noise control guidelines and regulations contained in the USEPA rulings in prior years remain in place. In the absence of local noise regulations, the USEPA has identified acceptable noise levels for various land uses to protect the public with an adequate margin of safety.[1]

State

Office of Planning and Research General Plan Noise Element Guidelines

California Government Code Section 65302(f) mandates that the legislative body of each county, town, and city adopt a noise element as part of their comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services. The State of California General Plan Guidelines, published by the State Governor's Office of Planning and Research, provides guidance for the acceptability of specific land use types within areas of specific noise exposure.

The Office of Planning and Research Noise Element Guidelines include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The Noise Element Guidelines contain a land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL. Table 4.5-5, Land Use Compatibility for Community Noise Environments, presents guidelines for determining acceptable and unacceptable community noise exposure limits for various land use categories. As depicted in

[1] U.S. Environmental Protection Agency. 2016. EPA Identifies Noise Levels Affecting Health and Welfare. Updated September 2016. Available at: https://www.epa.gov/archive/epa/aboutepa/epa-identifies-noise-levels-affecting-health-and-welfare.html#:~:text=Likewise%2C%20levels%20of%2055%20decibels.

Table 4.5-5, the range of noise exposure levels may overlap between the normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable categories. These guidelines apply to Dockweiler State Beach (Land Use Category: Water Recreation).

Table 4.5-5 Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure (CNEL)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential-Low Density, Single-Family, Duplex, Mobile Homes	50 – 60	55 - 70	70 – 75	75 – 85
Residential – Multiple Family	50 – 65	60 – 70	70 – 75	70 – 85
Transient Lodging – Motel, Hotels	50 – 65	60 – 70	70 – 80	80 – 85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50 – 70	60 – 70	70 – 80	80 – 85
Auditoriums, Concert Halls, Amphitheaters	NA	50 – 70	NA	65 – 85
Sports Arenas, Outdoor Spectator Sports	NA	50 – 75	NA	70 – 85
Playgrounds, Neighborhood Parks	50 – 70	NA	67.5 – 77.5	72.5 – 85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50 – 75	NA	70 – 80	80 – 85
Office Buildings, Business Commercial and Professional	50 – 70	67.5 – 77.5	75 – 85	NA
Industrial, Manufacturing, Utilities, Agriculture	50 – 75	70 – 80	75 – 85	NA

Notes: CNEL = community noise equivalent level; NA = not applicable.
NORMALLY ACCEPTABLE: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
CONDITIONALLY ACCEPTABLE: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
NORMALLY UNACCEPTABLE: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be included in the design.
CLEARLY UNACCEPTABLE: New construction or development should generally not be undertaken.
Source: Governor's Office of Planning and Research. 2017. State of California General Plan Guidelines.

Local

The project is located within the City of Los Angeles. The only adjacent use within Los Angeles is the Hyperion Water Reclamation Plant, which is located to the north and which would not be significantly impacted by noise generated by the proposed project. Likewise, petroleum storage areas within the Chevron El Segundo Refinery, located adjacent to the south, would not be significantly impacted. However, adjacent residential receptors, which may be negatively impacted by noise, are located within the City of El Segundo. As such, regulatory thresholds the El Segundo are applicable and are discussed below.

City of El Segundo General Plan

The City of El Segundo General Plan was adopted on May 18, 2004. Chapter 9, Noise Element identifies noise-sensitive land uses and noise sources, defines areas of noise impact, and establishes goals, policies, and programs to ensure that residents are protected from excessive noise. The following lists applicable noise goals and targets obtained from the General Plan:

- Goal N 1: Encourage a high-quality environment within all parts of the City of El Segundo where the public's health, safety, and welfare are not adversely affected by excessive noise.

- Objective N 1-1: It is the objective of the City of El Segundo to ensure that City residents are not exposed to mobile noise levels in excess of the interior and exterior noise standards or the single event noise standards specified in the El Segundo Municipal Code.

- Objective N 1-2: It is the objective of the City of El Segundo to ensure that City residents are not exposed to stationary noise levels in excess of El Segundo's Noise Ordinance standards.

City of El Segundo Municipal Code

The El Segundo noise ordinance is contained in the El Segundo Municipal Code, Chapter 7-2 (Noise and Vibration). As discussed below, El Segundo Municipal Code Section 7-2-4 establishes noise standards for residential, commercial, and industrial properties.

No person shall, at any location within the City, create any noise, nor shall any person allow the creation of any noise within the person's control on public or private property (hereinafter ‘noise source’), which causes the noise level when measured on any other property (hereinafter ‘receptor property’), to exceed the applicable noise standard, except as set forth in subsection C1 of this Section.

A. Residential Property: Five (5) dBA above the ambient noise level.

B. Commercial and Industrial Property: Eight (8) dBA above the ambient noise level.

C. Adjustments:

1. Increases to the noise standards as set forth in subsections A and B of this Section may be permitted in accordance with the following and depend on cumulative duration of minutes within any hour: 30 minutes = 0 dB increase; 15 minutes = 5 dB increase; 5 minutes = 10 dB increase; 1 minute = 15 dB increase; and less than one minute = 20 dB increase allowed.

2. If the receptor property is located on a boundary between two (2) different noise zones, the lower noise level standard applicable to the quieter zone shall apply.

According to El Segundo Municipal Code Section 7-2-10, construction activities are exempted as follows from the provisions of El Segundo Municipal Code Chapter 7-2:

(D) Noise sources associated with or vibration created by construction, repair, or remodeling of any real property, provided said activities do not take place between the hours of 6:00 p.m. and 7:00 a.m. Monday through Saturday, or at any time on Sunday or a Federal holiday, and provided the noise level created by such activities does not exceed the noise standard of sixty five (65) dBA plus the limits specified in Section 7-2-4C of this Chapter as measured on the receptor residential property line and provided any vibration created does not endanger the public health, welfare and safety.

4.5.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the project would have a significant impact related to noise if it would:

- ***NOI-A*** *Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies*; or
- ***NOI-B*** *Generate excessive groundborne vibration or groundborne noise levels*.

4.5.4 Project Impacts

NOI-A Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Short-Term Construction Noise Impacts

Construction of the proposed project would involve several phases including construction of retaining walls, Unit 3 basin backfill, compaction and grading, other site preparation, switchyard upgrade and plant construction (civil earthwork, foundations, structural steel, mechanical and electrical). Active construction would occur continually over a period of approximately 3 years.

Quantifying construction noise involves several variables, including the specific equipment types, percentage of time each piece is in operation, and number of pieces that would operate simultaneously on the site. Construction equipment produces maximum noise levels when the equipment operates under full power conditions (i.e., the equipment engine is on at maximum speed). However, equipment used on construction sites typically operate under less than full power conditions, or part power. To more accurately characterize construction-period noise levels, the average (L_{eq}) noise level associated with various construction tasks is calculated based on the quantity, type, and usage factors for each type of equipment that would be used. These noise levels are typically associated with multiple pieces of equipment simultaneously operating on part power.

To present a conservative impact analysis, the estimated noise levels were calculated for a scenario in which all heavy construction equipment were assumed to operate simultaneously at one location. Though construction activities would occur across the entire construction area, the estimated noise levels were calculated from the center of the construction area.[2] The CCGS would be located in the southwest corner of the station on an approximately 3-acre site. The geographic center where the majority of all major construction activities would occur is approximately 1,200 feet from the closest residential receptors to the northeast, with the exception of switchyard upgrade phase, which would be approximately 500 feet away from the nearest residential receptor to the northeast.

High noise levels can be created by the operation of heavy-duty trucks, backhoes, bulldozers, excavators, front-end loaders, scrapers, and other heavy-duty construction equipment. Table 4.5-6, Construction Noise Levels Generated by Construction Activity*,* indicates the anticipated

[2] Per the FTA Transit Noise and Vibration Impact Assessment Manual, September 2018, due to the complex moving and fluctuating construction noise patterns over the project area, noise can be considered as concentrated at the center of the site for a large facility spreading out over considerable area with various noise sources with different noise levels.

noise levels of construction equipment at the closest receptor (LT-1). The average noise levels presented in Table 4.5-6 are based on the quantity, type, and Acoustical Use Factor for each type of equipment that is anticipated to be used during each activity. Construction noise emissions are atmospherically attenuated by a factor of 6 dBA per doubling of distance from the source.

Table 4.5-6 Construction Noise Levels Generated by Construction Activity

Construction Activity	Distance from Construction Activity to LT-1 (nearest residential receptor)[a]	Estimated Construction Noise Level at LT-1 (L_{eq}, dBA)[b]
Retaining Walls	1,200	53.0
Unit 3 Basin Backfill	1,200	54.6
Other Site Preparations	1,200	57.7
Switchyard Upgrade	500	62.8
Civil Earth Work	1,200	60.1
Foundation	1,200	53.0
Structural Steet	1,200	56.3
Mechanical	1,200	56.0
Electrical	1,200	58.6

[a] Per the FTA Transit Noise and Vibration Impact Assessment Manual, September 2018, distances are measured from the nearest residential use to the center of the proposed construction activities due to the complex moving and fluctuating construction noise patterns over the project area.
Source: Federal Highway Administration. December 2008. Roadway Construction Noise Model (Version 1.1). Refer to Appendix C, Noise Measurements and Modeling Data.
[b] The modeling for construction noise at the closest receptor (LT-1) accounts for an additional noise reduction based on the existing approximately 10-foot high walls along the residential property boundary. The walls would block the line-of-sight between the residence and project construction activity, which would conservatively provide an additional 2 dBA noise reduction at the residential property.

As shown in Table 4.5-6, the nearest receptor to the northeast (LT-1), where the existing daytime ambient noise level was measured at 58.5, could be exposed to temporary and intermittent construction noise levels up to 62.8 dBA L_{eq} during a relatively short period associated with the switchyard upgrade activity, when construction occur at a distance of approximately 500 feet. During all other phases of construction, noise levels would range between 53.0 to 60.1 dBA L_{eq}, when construction activities occur at approximately 1,200 feet from LT-1.

As previously discussed, the surrounding residential receptors are located within the City of El Segundo. Noise impacts from the proposed project's construction activities were analyzed based on the El Segundo noise ordinance thresholds for construction and on the anticipated increase in the ambient noise level. El Segundo Municipal Code Section 7-2-10 establishes a construction noise threshold of 65 dBA L_{eq} for residential receptors.

As shown in Table 4.5-6, the switchyard upgrade activity would have the potential to create the highest noise levels during construction (approximately 62.8 dBA L_{eq}), which would not exceed the El Segundo Municipal Code 65 dBA L_{eq} construction noise threshold at LT-1, where the existing daytime ambient noise level was measured at 58.5. Furthermore, noise generating construction activities would be limited to the timeframe specified in El Segundo Municipal Code Section 7-2-10 (between 7:00 a.m. and 6:00 p.m., Monday through Saturday). Therefore, construction-related noise levels would not exceed the standards established in the local noise ordinance. In addition, construction activities would not create a substantial temporary increase in ambient noise levels in the vicinity, which are generally considered noticeable once they increase by at least 5 dBA. Impacts related to construction noise would be less than significant.

Construction Trips Noise Impacts

Construction activities would also cause increased noise along access routes to and from the project site due to delivery and haul truck trips as well as worker commute trips. During the peak of construction activity, it is currently anticipated that the number of on-site daily workers would generally range between 200 and 300. The peak number of daily off-site truck trips would be approximately 40 for several months during the backfilling of the proposed project site. Construction worker vehicles and trucks would access the project site via West Grand Avenue and Vista Del Mar.

According to the California Department of Transportation (Caltrans), a doubling of traffic (i.e., 100 percent increase) on a roadway would be necessary to result in a perceptible increase in traffic noise levels of approximately 3 dBA.[3] Existing average daily trips along West Grand Avenue exceed 6,000, and average daily trips along Vista Del Mar exceed 20,000. As such, the project's construction worker trips of up to 300 trips per day and off-site truck trips of up to 40 trips per day would be nominal compared to existing average daily trips, and any increase in traffic noise levels would thus be imperceptible. Therefore, short-term noise impacts from construction traffic would be less than significant.

Long-Term Operational Noise Impacts

Mobile Sources

The proposed project would not require additional personnel beyond those currently employed at Scattergood nor additional delivery trucks to support operations. Therefore, the project would not result in an increase of traffic in the surrounding roadways from existing levels, and impacts from operational traffic noise would be less than significant.

Stationary Sources

Stationary noise sources associated with the project would include the operation of the proposed CCGS and ancillary facilities, such as the gas compressors/pressure reducers. The CCGS would be located in the southwest corner of the station on the approximately 3-acre site. Noise associated with the project operations would be generated from the combustion-turbine generator, steam-turbine generator, exhaust, compressors, etc.

The nearest residential receptors are located approximately 985 feet to the northeast of the proposed CCGS and are within the City of El Segundo. Therefore, operational noise impacts from the proposed project were analyzed based on the El Segundo noise ordinance thresholds. Based on the City of El Segundo Municipal Code Section 7-2-4, a significant impact would occur if the project created noise levels exceeding 5 dB over the existing ambient noise levels.

The Dockweiler State Beach receptor location is approximately 550 feet west of the proposed CCGS. Therefore, the operational noise impacts at the beach from the proposed project were analyzed based on the State's land use compatibility for community noise environments as shown in Table 4.5-5. Based on Table 4.5-5, the upper limit for water recreational use is conservatively 70 dBA CNEL.

LADWP is considering, under a competitive process, systems with similar equipment parameters from three vendors. An operational noise model as reflected in the noise contour plans shown in Figures 4.5-3, 4.5-4, and 4.5-5, was developed by LADWP for each vendor's equipment. The models were based on field monitoring of noise generated by Scattergood Units 4 and 5, which

[3] California Department of Transportation. 2013. Technical Noise Supplement to the Traffic Noise Analysis Protocol. September.

are a CCGS similar in configuration to the proposed project Units 8 and 9 CCGS, including a combustion turbine generator, a steam turbine generator, and an air cooled condenser as well as ancillary equipment such as gas compressors and a wet surface air cooler. The modeled noise was refined based upon the vendor technical drawings for the proposed generator equipment and noise sound power level data for the equipment. The operational noise model accounted for terrain and buildings and other structures on the site that would attenuate noise. The modeling did not account for the approximately 10-foot high property walls along the closest single-family residences located approximately 985 feet to the northeast of the proposed CCGS. The walls would block the line-of-sight between the residences and the proposed project facilities, which would conservatively provide an additional 2 dBA noise reduction at the residential property. The operational noise levels associated with each of the manufacturer's equipment are analyzed below.

Vendor A

Based on Figure 4.5-3, Predicted Noise for Units 8 & 9 for Vendor A, noise levels from the operation of the proposed project would be approximately 52.0 dBA L_{eq} at the noise monitoring location to the northeast (LT-1). However, this predicted project noise level would be further reduced at the actual residential property due to the existing wall by at least an additional 2 dBA to approximately 50.0 dBA L_{eq}. The existing daytime average ambient noise level at LT-1 is approximately 58.5 dBA L_{eq}, and the existing nighttime average ambient noise level is approximately 55.8 dBA L_{eq}. As shown in Table 4.5-7, Operational Noise Levels to Receptors, the resultant noise level when combining the existing ambient noise and the project-generated noise would be approximately 59.1 dBA L_{eq} during the daytime and approximately 56.8 dBA L_{eq} during the nighttime. Therefore, the project would not exceed 5 dBA over the existing daytime or nighttime ambient noise levels at the receptor to the northeast (LT-1).

Based on Figure 4.5-3, Predicted Noise for Units 8 & 9 for Vendor A, noise levels from the operation of the proposed project would be approximately 39 dBA L_{eq} at the noise monitoring location to the east (LT-2). The existing daytime average ambient noise level at LT-2 is approximately 57.3 dBA L_{eq}, and the existing nighttime average ambient noise level is approximately 54.0 dBA L_{eq}. As shown in Table 4.5-7, the resultant combined noise level would be approximately 57.4 dBA L_{eq} during the daytime and approximately 54.1 dBA L_{eq} during the nighttime. Therefore, the project would not exceed 5 dBA over the existing daytime or nighttime ambient noise levels at the receptor to the east (LT-2).

Based on Figure 4.5-3, operational noise levels for Vendor A would be approximately 59.0 dBA L_{eq} at the noise monitoring location on the beach (ST-1). The existing ambient noise level at ST-1 is approximately 56.2 dBA L_{eq}. As shown in Table 4.5-7, the resultant combined noise level would be approximately 60.8 dB Leq. Therefore, operational noise levels would remain below the 70 dBA CNEL threshold for beach use under the State's land use compatibility for community noise environments.

As shown in Table 4.5-7, operational noise levels from Vendor A would not exceed the thresholds established in local or state standards for receptors within El Segundo or on Dockweiler State Beach. In addition, project operations would not create a substantial permanent increase in ambient noise levels in the vicinity, which are generally considered noticeable once they increase by at least 5 dBA. Therefore, impacts associated with operational noise levels for Vendor A would be less than significant.

Vendor B

Based on Figure 4.5-4, Predicted Noise for Units 8 & 9 for Vendor B, noise levels from the operation of the proposed project would be approximately 60.5 dBA L_{eq} at the noise monitoring

location to the northeast (LT-1). However, this predicted project noise level would be further reduced at the actual residential property due to the existing wall by at least an additional 2 dBA to approximately 58.5 dBA L_{eq}. The existing daytime average ambient noise level at LT-1 is approximately 58.5 dBA L_{eq}, and the existing nighttime average ambient noise level is approximately 55.8 dBA L_{eq}. As shown in Table 4.5-7, the resultant combined noise level would be approximately 61.5 dBA L_{eq} during the daytime and approximately 60.4 dBA L_{eq} during the nighttime. Therefore, the project would not exceed 5 dBA over the existing daytime or nighttime ambient noise levels at the receptor to the northeast (LT-1).

Based on Figure 4.5-4, Predicted Noise for Units 8 & 9 for Vendor B*,* noise levels from the operation of the proposed project would be approximately 44.0 dBA L_{eq} at the noise monitoring location to the east (LT-2). The existing daytime average ambient noise level at LT-2 is approximately 57.3 dBA L_{eq}, and the existing nighttime average ambient noise level is approximately 54.0 dBA L_{eq}. As shown in Table 4.5-7, the resultant combined noise level would be approximately 57.5 dBA L_{eq} during the daytime and approximately 54.4 dBA L_{eq} during the nighttime. Therefore, the project would not exceed 5 dBA over the existing daytime or nighttime ambient noise levels at the receptor to the east (LT-2).

Based on Figure 4.5-3, operational noise levels for Vendor B would be approximately 64.0 dBA L_{eq} at the noise monitoring location on the beach (ST-1). The existing ambient noise level at LT-2 is approximately 56.2 dBA L_{eq}. As shown in Table 4.5-7, the resultant combined noise level would be approximately 64.7 dB Leq. Therefore, operational noise levels would remain below the 70 dBA CNEL threshold for beach use under the State's land use compatibility for community noise environments.

As shown in Table 4.5-7, operational noise levels from Vendor B would not exceed the thresholds established in local or state standards for receptors within El Segundo or on Dockweiler State Beach. In addition, project operations would not create a substantial permanent increase in ambient noise levels in the vicinity, which are generally considered noticeable once they increase by at least 5 dBA. Therefore, impacts associated with operational noise levels for Vendor B would be less than significant.

Vendor C

Based on Figure 4.5-5, Predicted Noise for Units 8 & 9 for Vendor C*,* noise levels from the operation of the proposed project would be approximately 56.0 dBA L_{eq} at the noise monitoring location to the northeast (LT-1). However, this predicted project noise level would be further reduced at the actual residential property due to the existing wall by at least an additional 2 dBA to approximately 54.0 dBA L_{eq}. The existing daytime average ambient noise level at LT-1 is approximately 58.5 dBA L_{eq}, and the existing nighttime average ambient noise level is approximately 55.8 dBA L_{eq}. As shown in Table 4.5-7, resultant noise level would be approximately 59.8 dBA L_{eq} during the daytime and approximately 58.0 dBA L_{eq} during the nighttime. Therefore, the project would not exceed 5 dBA over the existing daytime or nighttime ambient noise levels at the nearest receptor to the northeast (LT-1).

Based on Figure 4.5-5, Predicted Noise for Units 8 & 9 for Vendor C*,* noise levels from the operation of the proposed project would be approximately 39.0 dBA L_{eq} at the noise monitoring location to the east (LT-2). The existing daytime average ambient noise level at LT-2 is approximately 57.3 dBA L_{eq}, and the existing nighttime average ambient noise level is approximately 54.0 dBA L_{eq}. As shown in Table 4.5-7, resultant noise level would be approximately 57.4 dBA L_{eq} during the daytime and approximately 54.1 dBA L_{eq} during the nighttime. Therefore, the project would not exceed 5 dBA over the existing daytime or nighttime ambient noise levels at the receptor to the east (LT-2).

Based on Figure 4.5-5, operational noise levels for Vendor C would be approximately 59.0 dBA L_{eq} at the noise monitoring location on the beach (ST-1). Existing ambient noise level at LT-2 is approximately 56.2 dBA L_{eq}. As shown in Table 4.5-7, the resultant combined noise level would be approximately 60.8 dB Leq. Therefore, operational noise levels would remain below the 70 dBA CNEL threshold for beach use under the State's land use compatibility for community noise environments.

As shown in Table 4.5-7, operational noise levels from Vendor C would not exceed the thresholds established in local or state standards for receptors within El Segundo or on Dockweiler State Beach. In addition, project operations would not create a substantial permanent increase in ambient noise levels in the vicinity, which are generally considered noticeable once they increase by at least 5 dBA. Therefore, impacts associated with operational noise levels for Vendor C would be less than significant.

Table 4.5-7 Operational Noise Levels to Receptors

	LT-1	LT-2	ST-1
Existing	Daytime: 58.5 dBA L_{eq} Nighttime: 55.8 dBA L_{eq}	Daytime: 57.3 dBA L_{eq} Nighttime: 54.0 dBA L_{eq}	56.2 dBA L_{eq}
Threshold	*Daytime: 63.5 dBA L_{eq}* *Nighttime: 60.8 dBA L_{eq}*	*Daytime: 62.3 dBA L_{eq}* *Nighttime: 59.0 dBA L_{eq}*	*70.0 dBA CNEL*
Vendor A			
Modeled Noise Level	52.0 dBA L_{eq}	39.0 dBA L_{eq}	59.0 dBA L_{eq}
Existing Wall Reduction	2 dBA (50.0 dBA L_{eq})	Not Applicable	Not Applicable
Resultant Noise	Daytime: 59.1 dBA L_{eq} Nighttime: 56.8 dBA L_{eq}	Daytime: 57.4 dBA L_{eq} Nighttime: 54.1 dBA L_{eq}	60.8 dB L_{eq}
SIGNIFICANT IMPACT?	No	No	No
Vendor B			
Modeled Noise Level	60.5 dBA L_{eq}	44.0 dBA L_{eq}	64.0 dBA L_{eq}
Existing Wall Reduction	2 dBA (58.5 dBA L_{eq})	Not Applicable	Not Applicable
Resultant Noise	Daytime: 61.5 dBA L_{eq} Nighttime: 60.4 dBA L_{eq}	Daytime: 57.5 dBA L_{eq} Nighttime: 54.4 dBA L_{eq}	64.7 dB
SIGNIFICANT IMPACT?	No	No	No
Vendor C			
Modeled Noise Level	56.0 dBA L_{eq}	39.0 dBA L_{eq}	59.0 dBA L_{eq}
Noise Barrier Reduction	2 dBA (54.0 dBA L_{eq})	Not Applicable	Not Applicable
Resultant Noise	Daytime: 59.8 dBA L_{eq} Nighttime: 58.0 dBA L_{eq}	Daytime: 57.4 dBA L_{eq} Nighttime: 54.1 dBA L_{eq}	60.8 dB
SIGNIFICANT IMPACT?	No	No	No

Source: Michael Baker International, Inc. 2024.

Source: Google Earth Pro, August 2024

Michael Baker INTERNATIONAL

NOT TO SCALE

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SCATTERGOOD GENERATING STATION UNITS 1 AND 2
GREEN HYDROGEN-READY MODERNIZATION PROJECT

Predicted Noise for Units 8 and 9 for Vendor A

Figure 4.5-3

Source: Google Earth Pro, August 2024

Michael Baker INTERNATIONAL

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SCATTERGOOD GENERATING STATION UNITS 1 AND 2
GREEN HYDROGEN-READY MODERNIZATION PROJECT

Predicted Noise for Units 8 and 9 for Vendor B

Figure 4.5-4

Source: Google Earth Pro, August 2024

Michael Baker INTERNATIONAL

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SCATTERGOOD GENERATING STATION UNITS 1 AND 2
GREEN HYDROGEN-READY MODERNIZATION PROJECT

Predicted Noise for Units 8 and 9 for Vendor C

Figure 4.5-5

NOI-B Would the project generate excessive groundborne vibration or groundborne noise levels?

Short-Term Construction

Project construction can generate varying degrees of groundborne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of the construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver buildings. The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible vibration at moderate levels, to slight damage at the highest levels. Groundborne vibrations from construction activities rarely reach levels that damage structures.

The Caltrans Transportation and Construction Vibration Manual identifies various vibration damage criteria for different building classes. This evaluation uses the Caltrans architectural damage criterion for continuous vibrations at newer residential structures and modern industrial/commercial buildings of 0.5 inch-per-second (inch/second) PPV. Annoyance is assessed based on levels of perception, with a PPV of 0.01 inch/second being considered “barely perceptible,” 0.04 inch/second as “distinctly perceptible,” 0.1 inch/second as “strongly perceptible,” and 0.4 inch/second as “severe.” Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time.

Groundborne vibration generated from the construction equipment has been analyzed from the boundary of the construction activities to the nearest residential building to the northeast. Construction equipment would reach as close as 300 feet during the switchyard upgrade phase and has the potential to create highest degree of groundborne vibration compared to all other construction phases. During all other phases of the construction, heavy equipment is expected to operate at a greater distance from the nearest building adjacent to Scattergood. The typical vibration produced by construction equipment is illustrated in Table 4.5-8, Typical Vibration Levels for Construction Equipment.

As indicated in Table 4.5-8, vibration velocities from typical heavy construction equipment operations that would be used during the project construction range from 0.0001 to 0.0051 inch/second PPV at 300 feet from the source of activity. Therefore, construction groundborne vibration would not exceed the structural damage criterion (0.5 inch/second PPV), and the annoyance potential of vibration from construction activities would be substantially below the barely perceptible threshold. As such, vibration impacts would be less than significant.

Table 4.5-8 Typical Vibration Levels for Construction Equipment

Equipment	Approximate peak particle velocity at 25 feet (inches/second)	Approximate peak particle velocity at 300 feet (inches/second)
Loaded Trucks	0.076	0.0018
Large Bulldozers	0.089	0.0021
Small Bulldozer/Tractors	0.003	0.0001
Vibratory Rollers	0.210	0.0051

Notes: NA = Not Applicable.
Calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.1}$
where: PPV (equip) = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV (ref) = the reference vibration level in in/sec from Table 18. Vibration Source Amplitudes for Construction Equipment
D = the distance from the equipment to the receiver
Source: California Department of Transportation. 2020. Transportation and Construction Vibration Guidance Manual.

Long-Term Operation

The proposed project operations would not generate groundborne vibration that could be felt by surrounding uses. Thus, no vibration impact would occur during project operation.

4.5.5 Mitigation Measures

The proposed project's impacts were determined to be less than significant, and no mitigation measures are required.

4.5.6 Level of Significance After Mitigation

The proposed project's impacts were determined to be less than significant without mitigation.

4.5.7 Cumulative Impacts

Cumulative impacts related to noise would occur if the proposed project in combination with other known future projects in the vicinity would generate substantial temporary or permanent increases in ambient noise levels or groundborne vibration in excess of established standards of local or other agencies. Most of the cumulative projects as described in Section 4.0.2.7 of the EIR would not generate substantial noise and are too distant from Scattergood to result in a combined noise impact during either project construction or operation. The only future project as described in Section 4.0.2.7 that has been identified within the vicinity that could contribute to a combined impact related to noise is the Hyperion 2035 program.

Short-Term Construction Noise Impacts

Since the proposed project would limit the generation of construction-related noise to between 7:00 a.m. and 6:00 p.m., Monday through Saturday, consistent with the El Segundo Municipal Code, and would not create noise in excess of 65 dBA during construction at any residential receptors in compliance with the El Segundo Noise Ordinance, it generally would not contribute to a significant cumulative impact when considered in combination with potential noise generated by the construction of the Hyperion Program. Furthermore, the Hyperion 2035 program is currently in the planning and approval stages, and construction activity at Hyperion Water Reclamation Plant is not anticipated to overlap in schedule with construction activity for the proposed project at Scattergood. Therefore, the proposed project would not make a cumulatively

considerable contribution to a combined significant effect related to short-term construction noise, and the impact would be less than significant.

Long-Term Operational Noise Impacts

Mobile Noise

As previously stated, the proposed project would not require additional personnel beyond those currently employed at Scattergood to support operations. As such, implementation of the proposed project would not result in an increase of traffic over the existing levels. Therefore, the project in combination with related projects would not make a cumulatively considerable contribution to a combined effect from mobile noise sources.

Stationary Noise

Operational activities associated with the proposed project and the Hyperion 2035 program would overlap in time, resulting in a combined effect related to noise generation. Most Hyperion 2035 program facilities are anticipated to be located within enclosed buildings, which would limit the propagation of noise. Based on the type of operations proposed under the Hyperion 2035 program and the shielding provided by the buildings, the noise level would not be expected to exceed 70 dBA in the near field (approximately 50 feet from the facilities). As discussed in Section 4.0.2.7 of the EIR, the exact scope, extent, and location of the proposed Hyperion 2035 program facilities is currently unknown. However, based on preliminary conceptual plans, the closest noise-generating facilities would be located approximately 1,000 feet north of the northern boundary of Scattergood and approximately 1,200 feet at the closest point from receptor location LT-1, the nearest residential noise receptor to the proposed project facilities. Noise emissions from the Hyperion 2035 program facilities would be attenuated by a factor of 6 dBA per doubling of distance, which would result in a noise level from the facilities of approximately 43 dBA at LT-1. The bluff located between the Hyperion 2035 program facilities and LT-1 would also provide some additional level of noise attenuation; however, this attenuation cannot be accurately ascertained and has not, therefore, been accounted for in this analysis. Based on the source noise levels and the distance from the sources, the combined operational noise from Hyperion and the proposed project is not anticipated to exceed the 5 dBA threshold over the existing daytime or nighttime ambient noise levels at LT-1, as stipulated in the El Segundo Municipal Code (see Table 4.5-9, Cumulative Noise Levels at LT-1). The other receptor locations (LT-2 and ST-1) would be more distant from the Hyperion 2035 program facilities, and the resultant noise would, therefore, be less than that at LT-1. Therefore, the proposed project would not make a cumulatively considerable contribution to a combined significant effect related to long-term operational noise, and the impact would be less than significant.

Table 4.5-9 Cumulative Noise Levels at LT-1

	LT-1
Existing	Daytime: 58.5 dBA L_{eq} Nighttime: 55.8 dBA L_{eq}
Threshold	*Daytime: 63.5 dBA L_{eq}* *Nighttime: 60.8 dBA L_{eq}*
Vendor A	
Scattergood Noise	50.0 dBA L_{eq}
Hyperion Noise	43.0 dBA L_{eq}
Resultant Noise	Daytime: 59.2 dBA L_{eq} Nighttime: 57.0 dBA L_{eq}
SIGNIFICANT IMPACT?	No
Vendor B	
Scattergood Noise	58.5 dBA L_{eq}
Hyperion Noise	43.0 dBA L_{eq}
Resultant Noise	Daytime: 61.6 dBA L_{eq} Nighttime: 60.4 dBA L_{eq}
SIGNIFICANT IMPACT?	No
Vendor C	
Scattergood Noise	54.0 dBA L_{eq}
Hyperion Noise	43.0 dBA L_{eq}
Resultant Noise	Daytime: 59.9 dBA L_{eq} Nighttime: 58.1 dBA L_{eq}
SIGNIFICANT IMPACT?	No

Source: Michael Baker International, Inc. 2024.

Vibration Impacts

As discussed above, typical heavy equipment used for the proposed project's construction would generate maximum vibration levels of 0.0051 inches/second PPV at 300 feet from the source activity, the closest receptor location. This vibration level would be substantially below the human perception level (0.01 inches/second PPV) and the level that would result in structural damage (0.5 inch/second PPV). Additionally, project operational activities would not generate substantial groundborne vibration that could be felt by surrounding uses, and no impact would occur. Therefore, the project would not make a cumulatively considerable contribution to a combined effect involving the operation of the Hyperion 2035 program facilities, and the impact would be less than significant.

SECTION 4.6
TRIBAL CULTURAL RESOURCES

As discussed in the Initial Study (Appendix A of this EIR) and summarized in Section 4.0.3, Effects Not Found To Be Significant, of this EIR, no historical resources currently listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources were identified within the project site. In addition, ethnographic research does not indicate any villages or named places within or near the project site. Therefore, the proposed project would not result in a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in a state or local register of historical resources, and no impact would occur.

Nonetheless, pursuant to Assembly Bill (AB) 52, LADWP has conducted consultation with California Native American tribes known to be ancestrally affiliated with the project area regarding specific knowledge of potential tribal cultural resources on or near the project site. A summary of the analysis of effects to currently unknown and unrecorded tribal cultural resources at the Scattergood property are addressed in this section of the EIR.

4.6.1 Environmental Setting

Prehistoric Context

As detailed in the project's Cultural and Paleontological Resources Identification Report included as Appendix B of the Initial Study (Appendix A of this EIR), prehistoric inhabitance of California potentially dates as far back as 11,000 years ago.

The first inhabitants were the game-hunting Paleoindians who were present at the close of the last Ice Age (approximately 11,000 before present [BP] through the early Holocene, approximately 7,600 BP). As the environment warmed and dried, Ice Age megafauna died out, and groups adapted to survive on coastal resources for food and tools. The use of marine resources resulted in shell middens containing flaked cobble tools, metates, manos, discoidals, and flexed burials, which indicate a semi-sedentary lifestyle.

During the middle Holocene (approximately 7,600–3,650 BP), conditions continued to warm and dry. Inhabitants practiced a mixed food procurement strategy with an emphasis on shellfish and hard seeds. This shift in subsistence is referred to as the Millingstone Horizon, which was characterized by ground stone artifacts (manos and metates) used for processing plant material and shellfish, flexed burial beneath rock or milling stone cairns, flaked core or cobble tools, dart points, cogstones, and other artifacts.

During the late Holocene, there was an increased dependence on mortar and pestle for food processing, a change to more complex and elaborate mortuary behaviors, and the introduction of the bow and arrow and ceramic technologies. Marine resource exploitation increased and diversified, while the climate fluctuated with periods of drought and cold moisture. These fluctuations resulted in dynamic regional cultural patterns with considerable local variation, and settlement strategies shifted toward permanent settlement.

Ethnohistoric and Early Historic Context

Spanish explorers first visited the coast of southern California in 1542, but European settlement did not begin in the area until 1769, when Gaspar de Portola led an exploratory mission intended to open up Alta California to settlement. On September 8, 1771, Franciscan friars established Mission San

Gabriel Arcángel, approximately 22 miles northeast of Scattergood. Scattergood was located within the area allotted to Mission San Gabriel, and the Franciscans called the local Native Americans Gabrielinos after the mission. For historical reasons, the term Gabrielino is typically used by anthropologists, archaeologists, and historians (as used in the project's Cultural and Paleontological Resources Identification Report), although today's descendant communities use the Native American terms Tongva or Kizh to describe themselves and their ancestors.

Gabrielino territory included the Los Angeles Basin, parts of the Santa Ana and Santa Monica Mountains, and San Clemente, San Nicolas, and Santa Catalina Islands. The Gabrielino spoke a dialect of the Cupan group of the Takic language family. Gabrielino villages were most common along the coast and along the region's major rivers, where villages of domed semipermanent structures centered around a temple and the home of the village chief were built. The closest of these villages to the project site, approximately 3.5 miles north, was the area around the mouth of Ballona Creek, which was densely populated and was the site of the village of Waachgna (also known as Guashna). Approximately 4.8 miles south along the coast was another important Gabrielino place, Onoovanga (also known as Engnovangna), the Place of Salt, which was a salt lake where the Gabrielino collected salt for personal use and trade. Other villages, the names of which are not recorded, may have also existed in the area. The resource procurement areas of these known and unknown villages likely included the vicinity of Scattergood. By the early 1800s, as introduced diseases led to population decline and Spanish use of the land for agriculture and grazing made the Gabrielinos' reliance on their traditional lifestyle increasingly untenable, the majority of California's coastal Native American populations had entered the mission system.

In 1821, Mexico won its independence from Spain. The new state was secular in nature and moved increasingly towards secularization of the mission and dispersal of the mission properties among politically connected elites. In 1822, Antonio Ygnacio Avila was given grazing rights over 22,458 acres, which encompassed the Scattergood site. In 1837, Mexican Governor Juan Alvarado granted the land, known as Rancho Sausal Redondo, to Avila. Native Americans continued to live on the land grant and made up much of the rancho's workforce. California's Native Americans sometimes preferred to live as vaqueros and laborers on the region's vast land grants in order to avoid living more directly under the mission system. In 1834, the missions were secularized and their lands divided up. Little of the missions' lands and wealth went to the Native Americans. More than 600 ranchos were granted between 1833 and 1846 as the Mexican government sought to solidify its authority over Alta California amid fears of intrusion by the United States.

California was seized by the United States during the Mexican-American War of 1846–1848. The discovery of gold in California led to a population boom in the 1850s and 1860s. The completion of the transcontinental Santa Fe Railroad in 1886 led to increased land speculation and development.

Project Site Development and Existing Conditions

As previously described, the Scattergood property was located within the boundary of the 1837 Rancho Sausal Redondo land grant. The only development noted on a map of the land grant is a corral near Centinela Creek, approximately 3.25 miles from the project site, but these maps were generated to establish land ownership and so generally do not show indigenous villages or other potential impediments to their creators' land cases.

The project site was occupied by coastal sand dunes, and the natural soils would have been impacted by aeolian erosion and deposition mixing events. The project site was undeveloped into the 20th century, and the closest natural source of freshwater was located approximately 3.25 miles north, where Centinela Creek and Ballona Creek meet at an estuary.

Over the course of the 20th century, housing and roads were developed east of Scattergood, and by 1923, West Grand Avenue was located adjacent to the project site. In 1954, LADWP acquired an approximately 53-acre industrial tract located along the coast between the Hyperion Water Reclamation Plant to the north and the Chevron El Segundo Refinery to the south. Units 1 and 2 were constructed in 1958 and 1959, and Unit 3 was completed in 1974. Units 4, 5, 6, and 7 were placed into operation in 2015, and Unit 3 was demolished in 2017-2018. As a result of this construction, the entire Scattergood property is built upon or paved and located on artificially flat areas composed of fill soils. As previously described, no historical resources listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources, were identified within Scattergood.

As described in the project's Cultural and Paleontological Resources Identification Report, a 2011 field survey indicated that the thin layer of Holocene deposits was stripped from Scattergood. The project area is mapped as urban land (fill) series sand and beach deposits. Fill soils typically have little to no sensitivity for significant or potentially significant archaeological resources because the soils are not within their primary context.

Proposed Project Construction

As discussed in Chapter 3, Project Description, of this EIR, construction of the proposed project would consist of three primary phases of work: site preparation, generation unit construction, and generation unit commissioning. Ground disturbing activities would occur during the first two phases.

Site preparation would include project mobilization, grading for and construction of the retaining walls, backfilling the site of the proposed combined-cycle generation system, upgrading the switchyard with breaker and disconnect modifications, and modifying the in-station wastewater discharge and stormwater collection systems. Backfilling the site would require approximately 120,000 cubic yards of material. In addition to the actual combined-cycle generation system and ancillary facilities construction within Scattergood, a wastewater line to Hyperion Water Reclamation Plant would be constructed within Vista Del Mar.

AB 52 Consultation

LADWP provided notification about the proposed project to tribes identified by the Native American Heritage Commission (NAHC) as being traditionally or culturally affiliated with the geographic region surrounding the project site and, therefore, possibly possessing knowledge about potential tribal cultural resources that could be affected by the project. In response to this notification, two tribes, the Gabrieleno Band of Mission Indians–Kizh Nation (Kizh Nation) and the Gabrielino Tongva Indians of California (Gabrielino Tongva), requested consultation with LADWP under AB 52 regarding potential impacts of the project. A consultation meeting with the Gabrielino Tongva occurred on March 31, 2023. The Gabrielino Tongva provided feedback on the draft cultural report, and their recommendations were taken into consideration and incorporated into the final report. The initial consultation meeting with the Kizh Nation occurred on May 18, 2023. After this meeting, the Kizh Nation provided information on their tribe and recommended mitigation measure language. A second consultation meeting with the Kizh Nation occurred on May 21, 2024, to discuss LADWP's proposed mitigation measures, as discussed below.

4.6.2 Regulatory Framework

The following describes the primary regulations related to tribal cultural resources.

Federal

Native American Graves Protection and Repatriation Act

The discovery of human remains is always a possibility during construction-related ground disturbances. The Native American Graves Protection and Repatriation Act was enacted on November 16, 1990. It states that the "ownership or control of Native American cultural items," which include human remains, funerary objects, sacred objects, and objects of cultural patrimony, that are "excavated or discovered on Federal or tribal lands" after the law went into effect, shall be held by the lineal descendants of the Native American (or Hawaiian) to whom the objects originally belonged. If the lineal descendants cannot be found, then their ownership is conferred to the "Indian" tribe or Native Hawaiian organization on whose land the objects or remains were discovered or that has the closest cultural affiliation.

State

Assembly Bill 52

AB 52 was approved on September 25, 2014. The act amended California Public Resources Code (PRC) Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. The primary intent of AB 52 is to involve California Native American Tribes early in the environmental review process and to establish a category of resources related to Native Americans, known as tribal cultural resources, that require consideration under CEQA. AB 52 requires CEQA lead agencies to notify any California Native American tribes who are traditionally or culturally affiliated with the project site's geographic area and have requested notification about proposed projects.

California Public Resources Code

PRC Section 21074(a)(1) and (2) defines tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe" that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. A tribal cultural resource is further defined by PRC Section 20174(b) as a cultural landscape that meets the criteria of subdivision (a) to the extent that the landscape is geographically defined in terms of the size and scope of the landscape. PRC Section 20174(c) provides that a historical resource described in PRC Section 21084.1, a unique archaeological resource as defined in PRC Section 21083.2(g), or a "nonunique archaeological resource" as defined in PRC Section 21083.2(h) may also be a tribal cultural resource if it conforms with the criteria of PRC Section 20174(a).

PRC Section 21080.3.1 requires that the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency of proposed projects within their geographic area of concern.[1]

[1] Public Resources Code. Section 21080.3.1(b) and (c).

PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources present; the significance of the project's impacts on such tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached.[2]

In addition to other CEQA provisions, the lead agency may certify an EIR or adopt a Mitigated Negative Declaration for a project with a significant impact on an identified tribal cultural resource only if a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or requested a consultation but failed to engage in the consultation process, or the consultation process occurred and was concluded as described above.[3]

PRC Section 21082.3(a) states that mitigation measures agreed upon in consultation shall be recommended for inclusion in the environmental document if determined to avoid or lessen impacts. PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Confidentiality does not apply to information that is or becomes publicly available, is already in lawful possession of the project applicant before the provision of the information by the California Native American tribe, is independently developed by the Applicant or the Applicant's agents, or is lawfully obtained by the Project applicant from a third party that is not the lead agency, a California Native American tribe, or another public agency.[4]

PRC Section 21084.2 declares that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant impact on the environment. PRC Section 21084.3 provides example mitigation measures that may be considered to avoid or minimize significant adverse impacts to any tribal cultural resource.

PRC Section 5097.98, as amended by AB 2641, provides procedures in the event human remains of Native American origin are discovered during project implementation. PRC Section 5097.98 requires that no further disturbances occur in the immediate vicinity of the discovery, that the discovery is adequately protected according to generally accepted cultural and archaeological standards, and that further activities take into account the possibility of multiple burials. PRC Section 5097.98 further requires the NAHC, upon notification by a County Coroner (pursuant to Health and Safety Code Section 7050.5(c)), designate and notify a Most Likely Descendant (MLD) regarding the discovery of Native American human remains. Once the MLD has been granted access to the site by the landowner and inspected the discovery, the MLD then has 48 hours to provide recommendations to the landowner for the treatment of the human remains and any associated grave goods. In the event that no descendant is identified, or the descendant fails to make a recommendation for disposition,

2 Public Resources Code. Section 21080.3.2(b).
3 Public Resources Code. Section 21082.3(d)(2) and (3).
4 Public Resources Code. Section 21082.3(c)(2)(B).

or if the land owner rejects the recommendation of the descendant, the landowner may, with appropriate dignity, reinter the remains and burial items on the property in a location that will not be subject to further disturbance.

PRC Section 5097.5 provides protection for tribal resources on public lands, where Section 5097.5(a) states, in part, that:

> *No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands.*

PRC Section 5097.99 prohibits acquisition or possession of Native American artifacts or human remains taken from a Native American grave or cairn after January 1, 1984, except in accordance with an agreement reached with the NAHC.

4.6.3 Thresholds of Significance

As discussed above, the Initial Study concluded that the proposed project would not result in a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in a state or local register of historical resources since no such resources exist at the Scattergood property.

With regard to other impacts considered for tribal cultural resources, in accordance with Appendix G of the CEQA Guidelines, the project would have a significant impact if it would cause a substantial adverse change in the significance of a tribal cultural resource, as outlined below in TCR-A.

4.6.4 Project Impacts

TCR-A ***Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.***

As discussed above, no tribal cultural resources, including sites, places, landscapes, or objects, were identified within the project site. This conclusion was based on a Sacred Lands File search conducted by the NAHC, archival research, a field survey of the project site and surrounding area, and consultation with Native American tribal representatives pursuant to AB 52. As of the publication date of this Draft EIR, LADWP has consulted with two tribes that requested consultation on the proposed project, the Gabrielino Tongva and Kizh Nation. Because no specific tribal cultural resources have been identified within the project site, including through AB 52 consultation, because of the aeolian sand dune formation that previously occupied the project site, and because of substantial previous subsurface disturbance within all areas proposed for project construction, the potential for the existence of tribal cultural resources is considered very low. Nonetheless, during the construction of the proposed project, unknown subsurface archaeological resources, including tribal cultural resources, could potentially be encountered during ground-disturbing activities.

Because the potential exists for unknown buried archaeological resources, Mitigation Measure (MM) MM-TCR-1, Cultural Resources Awareness Training, shall be implemented.

In the event previously unknown archaeological resources are encountered during construction activities, the proposed project would be subject to California PRC Section 21083.2(i) regarding provisions related to the accidental discovery of archaeological resources. These provisions include immediately halting construction work in the vicinity of the find and LADWP retaining a qualified archaeologist meeting Secretary of Interior standards to evaluate the significance of and determine appropriate treatment for the resource in accordance with the provisions of CEQA Guidelines Section 15064.5 and the National Historic Preservation Act. If the resource is determined to be potentially of Native American in origin, MM-TCR-2 would be required.

4.6.5 Mitigation Measures

The project would implement the following mitigation measures:

MM-TCR-1: Cultural Resources Awareness Training.

All field supervisors and all construction workers shall participate in cultural resources awareness training prior to the initiation of project construction on project sites that involve ground-disturbing activities. The training shall be conducted by LADWP Environmental Affairs personnel and shall include a description of the types of cultural resources (including tribal cultural resources and human remains) that could inadvertently be encountered during ground-disturbing activities, the sensitivity of the resources, the legal basis for protection of the resources, and the penalties for unauthorized collection of or knowingly damaging the resources. The training shall address the proper procedures in the event of an inadvertent discovery of a cultural resource, including the immediate halting of work in the area of the discovery, notification of appropriate individuals of the discovery, the establishment of appropriate protective buffer zones around the discovery, and the continued avoidance of the protected area until the resource has been evaluated by qualified individuals and an appropriate treatment plan has been developed and implemented. These procedures shall be documented in a cultural resources monitoring plan (CRMP) that shall establish, in the event of an inadvertent discovery of cultural resources, monitoring procedures (including applicable archaeological and/or tribal monitors), notification procedures, key staff, and preliminary treatment measures for potential discoveries. The CRMP shall be written to ensure compliance with appropriate state and federal laws. The training presentation and CRMP shall be available to additional supervisory or construction personnel who may join after project construction has begun.

MM-TCR-2: Inadvertent Discovery of a Tribal Cultural Resource.

In the event that a Native American resource is inadvertently discovered during project construction, the Native American tribe(s) that consulted on the proposed project pursuant to California Assembly Bill 52 shall be notified and be provided information about the find to allow for early input from the tribal representatives with regards to the potential significance and treatment of the resource.

If, as a result of the resource evaluation and tribal consultation process, the resource is considered to be a tribal cultural resource in accordance with California Public Resources Code Section 21074, determined to be eligible for inclusion in the California Register of Historic Resources or a local register of historical resources, or determined to be significant by LADWP (the CEQA lead agency), a tribal monitor from a consulting Native American tribe shall be procured to monitor all remaining ground-disturbing activities in the area of the resource as specified by the Environmental Project Manager.

The input of all consulting tribes shall be considered in the preparation of any required treatment plan for the resources prepared by the qualified archaeologist. Work in the area of the discovery may not resume until evaluation and treatment of the resource is completed and/or the resource is recovered and removed from the site. Construction activities may continue on other parts of the construction site while evaluation and treatment of the resource takes place.

4.6.6 Level of Significance After Mitigation

With compliance with PRC Section 21083.2(i) and implementation of MM-TCR-1 and MM-TCR-2, the project's impacts to tribal cultural resources would be less than significant.

4.6.7 Cumulative Impacts

Potential impacts to tribal cultural resources, should they occur, would be mitigated through the implementation of MM-TCR-1 and MM-TCR-2. No known tribal cultural resources, including sites, places, or landscapes, were identified within the project site. This conclusion was based on a Sacred Lands File search conducted by the NAHC, archival research, a field survey of the project site and surrounding area, and consultation with Native American tribal representatives pursuant to AB 52. Therefore, impacts to inadvertently discovered resources during project construction at Scattergood would be site-specific and isolated in nature, limited to the project construction footprint, and would not make a cumulatively considerable contribution to similar potentially adverse impacts resulting from other projects in the vicinity.

SECTION 4.7
WASTEWATER

Potential impacts related to the generation and discharge of wastewater were addressed in the Initial Study (Appendix A of this Draft EIR) under both the Hydrology and Water Quality and the Utilities and Service Systems sections of the Initial Study checklist. As discussed in the Initial Study and summarized in Section 4.0.3, Effects Not Found To Be Significant, of this EIR, most impacts under these sections were found to be less than significant. However, effects related to the transmission of industrial wastewater from Scattergood to Hyperion Water Reclamation Plant (WRP) after project implementation were identified in the Initial Study as potentially significant and are further discussed below.

4.7.1 Environmental Setting

Existing Operations

As discussed in Chapter 3, Project Description, of this EIR, industrial wastewater created through various processes related to power generation at Scattergood is currently temporarily stored in holding tanks and then released at highly diluted concentrations through the Units 1 and 2 submerged discharge outfall pipe that extends approximately 1,200 feet offshore. This wastewater consists of low-volume wastes, such as reverse osmosis reject water, blowdown water, and water from equipment drains, much of which is routed, as necessary, through an oil-water separator before discharge. During maximum operations of the existing generation units at Scattergood, approximately 460,000 gallons per day (GPD) of wastewater is generated, and approximately 225 million gallons per day (MGD) of ocean water is pumped through the Units 1 and 2 once-through cooling (OTC) system. At these quantities, the wastewater would represent approximately 0.2 percent by volume of the maximum daily discharge.

This wastewater discharge is regulated in accordance with the waste discharge requirements (WDRs) set forth in a National Pollutant Discharge Elimination System (NPDES) permit from the Los Angeles Regional Water Quality Control Board (LARWQCB).[1] The WDRs regulate the quantity and quality of the effluent from Scattergood at the outfall pipe discharge point to the ocean.

Proposed Project Operations

As discussed in Chapter 3, Project Description, of this EIR, the proposed project would implement a new collection, recycling, and off-site transmission system to address wastewater discharge.

Although Units 1 and 2 would be taken out of service concurrent with project implementation and no longer generate wastewater, the proposed project generation units would represent a new source of wastewater generation. After project implementation, it is estimated that approximately 555,000 GPD of industrial wastewater would be generated based on a conservative assumption of maximum operations of all generation units at Scattergood (both the remaining existing generation units and the proposed project combined-cycle generation system [CCGS]) with ambient temperatures in excess of 75°F.

[1] Los Angeles Department of Water and Power. 2016. Waste Discharge Requirements for the Los Angeles Department of Water and Power Scattergood Generating Station, Order R4-2016-0055, NPDES No. CA0000370, February 11, 2016.

As part of the proposed project, approximately 282,000 GPD of this wastewater would be recycled within Scattergood for reuse in the generation systems. The recycled water under the above described operating conditions would consist of the blowdown water (the periodic removal of process water from the operating systems to maintain water quality) from the Units 4 and 8 heat recovery steam generators. The proposed project recycling process would utilize existing wastewater holding tanks and water storage tanks but would require the reconfiguration of the existing wastewater collection pipelines within Scattergood. The remaining balance of wastewater that would be unsuitable for reuse (approximately 273,000 GPD) would be transmitted to the adjacent Hyperion WRP for treatment. This would be accomplished via a dedicated wastewater pipeline installed in Vista Del Mar as part of the proposed project. Table 4.7-1, Wastewater Generation and Discharge Volumes at Scattergood, shows the existing and proposed wastewater generation and discharge volumes at Scattergood.

Table 4.7-1 Wastewater Generation and Discharge Volumes at Scattergood

	Existing Operations	Proposed Operations
Generation Volume	460,000 GPD [a]	555,000 GPD
Discharge Volume		
Ocean-water Cooling Daily Volume	225 MGD	0 [b]
Recycled Onsite for Reuse	0	282,000 GPD
Transmitted to Hyperion WRP	0	273,000 GPD

Notes: GPD = gallons per day; MGD = million gallons per day; WRP = water reclamation plant
[a] Approximately 0.2 percent of the maximum daily discharge at outfall.
[b] After project implementation, there would no longer be wastewater discharged at outfall.

4.7.2 Regulatory Framework

City of Los Angeles Industrial Waste Control Ordinance

Section 64.30 of the Los Angeles Municipal Code (Industrial Waste Disposal) requires a permit for industrial facilities, such as Scattergood, to discharge wastewater into the City's Publicly Owned Treatment Works (POTW) for collection, treatment, and disposal. The permitting process is administered by the Industrial Waste Management Division (IWMD) of Los Angeles Sanitation and Environment. The permit is primarily intended to keep prohibited substances from entering the POTW, thereby preventing inadequately treated effluent from the POTW passing into receiving waters, land, or the atmosphere. Prohibited wastes include flammable, reactive, explosive, corrosive, toxic, infectious, noxious, solid, or radioactive substances. The permit specifies the conditions under which the industrial facility may discharge wastewater into the POTW system, including, depending on the type and volume of discharge, the pretreatment of wastewater and periodic sampling, monitoring, and reporting. The permit is also intended to preserve the hydraulic capacity of the POTW by controlling the volume of wastewater influent to the POTW.

Because Scattergood's industrial wastewater is currently discharged through the outfall pipe to the ocean, it is regulated through WDRs by order of the LARWQCB and not through an industrial wastewater permit from the IWMD. As previously discussed, the portions of the OTC system located outside the boundaries of Scattergood are subject to lease agreements from the California State Lands Commission for offshore portions and the California Department of Parks and Recreation for onshore portions. The State Lands Commission lease expires in 2029, approximately concurrent with the OTC Policy compliance date. Furthermore, both leases can be

terminated by the lessor agencies upon discontinuance of use of the OTC facilities for the purpose stated in the leases. In compliance with the OTC Policy, the intake structure shall no longer be operated after 2029. However, the decision regarding the intake and outfall structures after cessation of their use for OTC, including the potential continued use of the outfall structure for stormwater and/or wastewater discharge, is unknown at this time and would be subject to regulatory oversight and approval by State and federal agencies that would not have regulatory or approval authority over the proposed project. Therefore, the determination related to the final disposition of the intake and outfall structures will be addressed via a separate CEQA environmental review and permitting process.

Under the proposed project, wastewater would instead be discharged to Hyperion WRP via the dedicated wastewater pipeline in Vista Del Mar installed as part of the project. Therefore, the project would be subject to an industrial wastewater permit from the IWMD. Furthermore, based on the volume of wastewater potentially discharged by Scattergood on a daily basis, as well as other factors, Scattergood is classified under the permitting process as a Significant Industrial User, which is subject to more stringent requirements, including pretreatment standards for wastewater prior to discharge.

Federal Effluent Guidelines and Standards for Categorical Industrial Users

A Categorical Industrial User is a Significant Industrial User that is subject to federal discharge limits established by the U.S. Environmental Protection Agency for various types of industries. In accordance with the Code of Federal Regulations, Title 40, Chapter I, Subchapter N (40 Code of Federal Regulations [CFR]), the U.S. Environmental Protection Agency regulates discharges from Categorical Industrial Users under the NPDES. Part 423 of Subchapter N addresses wastewater discharges from steam electric powered generating point sources, including a CCGS, such as the proposed project. The code establishes effluent limitations based on the degree of effluent reduction attainable by best available technologies and pretreatment standards for pollutants often associated with electric generating station discharges, including metals, chlorine, total suspended solids, and total dissolved solids. The NPDES program, in relation to Scattergood, is delegated to the State of California through the State Water Resources Control Board and the LARWQCB, which is responsible for issuing discharge permits under 40 CFR specifying the applicable WDRs.

4.7.3 Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the project would have a significant impact related to wastewater if it would:

- ***WW-A*** *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;*
- ***WW-B*** *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;*
- ***WW-C*** *Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, the construction or relocation of which could cause significant environmental effects; or*

- ***WW-D*** *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.*

4.7.4 Project Impacts

WW-A Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

As discussed above, after project implementation, all industrial wastewater generated at Scattergood would be captured and either recycled for reuse in the power generation systems or transmitted via the wastewater pipeline installed under the project to Hyperion WRP for treatment. Since wastewater would not be openly discharged to the ground surface, the project would not have the potential to directly affect surface or groundwater quality. However, since all wastewater that would not be recycled would be transmitted to Hyperion WRP, the potential exists for any regulated pollutants contained in the Scattergood wastewater to contaminate the wastewater treatment system and subsequently be discharged from Hyperion WRP to receiving waters.

Industrial wastewater discharges would come from several sources at Scattergood after project implementation. Under most operating conditions, these include generation unit equipment drains, wet surface air cooler blowdown water, and reverse osmosis system reject water. In addition, during certain operating conditions, sources of wastewater discharge would also include heat recovery steam generator blowdown and the air-cooled condenser pre-humidification systems. All of these discharges are classified as low-volume waste and are subject to effluent limitation guidelines specified in 40 CFR Section 423.13 for various pollutant concentrations based on the application of the best available technology economically achievable.

The types of wastewater discharges described above for the proposed project are similar to those that are currently regulated under the WDRs for the OTC discharges related to existing operations at Scattergood. These OTC discharges are also subject, in accordance with the WDRs, to the effluent limitation guidelines specified in 40 CFR Section 423.13. This demonstrated ability to comply with the effluent limitation guidelines, which would be required by both the City's industrial wastewater permit and the NPDES permit issued by the LARWQCB for the proposed project, ensures that the wastewater transmitted to Hyperion WRP from Scattergood would be subject to applicable pretreatment standards, as well as any sampling, monitoring, and reporting requirements, and would not contain prohibited wastes. Therefore, impacts related to violations of water quality or waste discharge requirements or to the degradation of surface or groundwater quality would be less than significant.

WW-B Would the project substantially alter the existing drainage pattern of the site or area in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

WW-C Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, the construction or relocation of which could cause significant environmental effects?

WW-D Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The proposed project would not substantially alter the existing drainage pattern at Scattergood or create new sources of surface runoff that would affect existing drainage systems.

Domestic wastewater from Scattergood (approximately 3,000 GPD) is currently transmitted to Hyperion through an existing sewer line in Vista Del Mar. This would not change under the proposed project. Based on a Sewer Capacity Availability Review conducted by Los Angeles Sanitation and Environment, this existing sewer line does not have available capacity to accommodate the volume of industrial wastewater proposed to be transmitted to Hyperion WRP under the project. However, as discussed above, a dedicated wastewater pipeline would be installed in Vista Del Mar under the proposed project to transmit the wastewater from Scattergood. Therefore, the project would not exceed the capacity of existing or planned municipal stormwater drainage systems.

In relation to the capacity of Hyperion WRP itself, it is estimated that Scattergood would discharge approximately 273,000 GPD of industrial wastewater during maximum operating conditions. This discharge volume would remain relatively constant under all conditions regardless of the ambient operating temperature, which influences the amount of water required to operate the generation units, because the discharge is defined by the limits on recycling for generation reuse of certain types of wastewater streams.

Hyperion WRP has a total treatment capacity of approximately 450 MGD and a current average influent of approximately 275 MGD on dry weather days.[2] The additional 273,000 GPD of wastewater transmitted from Scattergood would represent approximately 0.16 percent of the remaining available treatment capacity at Hyperion WRP (175 MGD) and, therefore, would not contribute to an exceedance of capacity. Should Hyperion WRP be unable to temporarily accept wastewater from Scattergood because of unforeseen operational issues, Scattergood has the ability to detain up to 1.5 million gallons in existing wastewater storage tanks, which represents over 5 days of storage capacity based on the maximum rate of wastewater generation.

In the unlikely event the recycled water tanks at Scattergood were temporarily unavailable due to unforeseen circumstances, it is estimated that a maximum of approximately 555,000 GPD of wastewater would need to be discharged because no wastewater would be recycled for generation unit reuse. These discharge volumes related to the unavailability of the recycled water tanks are anticipated to occur very infrequently, and they would represent approximately 0.32 percent of the remaining available treatment capacity at Hyperion WRP and, therefore, would not contribute to an exceedance of capacity.

In addition to the above daily maximum wastewater discharge volumes, it is projected that the proposed project CCGS, as well as other generation units at Scattergood, would operate less frequently compared to existing operations, primarily to meet peaks in the requirement for electrical power during high demand days that exceed renewable energy production and energy storage capacity and during relatively short-term periods when the renewable generation resources and/or transmission assets become unavailable due to emergency circumstances. In this regard, the annual discharges of wastewater from Scattergood would be maintained at a comparatively low level.

These maximum volumes of wastewater discharge would be taken into account for the sizing of the dedicated wastewater pipeline that would be installed in Vista Del Mar. Based on the quantities described above, the Scattergood wastewater discharges would not exceed the capacity of

[2] Los Angeles Sanitation and Environment. Hyperion Water Reclamation Plant Treatment Process. Available at: https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-cw/s-lsh-wwd-cw-p/s-lsh-wwd-cw-p-hwrp/s-lsh-wwd-cw-p-hwrp-tp?_adf.ctrl-state=to5ibwz8o_5&_afrLoop=3575760936964004#.

treatment facilities. LADWP would comply with all provisions of the final industrial wastewater permit issued by the IWMD to preserve the hydraulic capacity of Hyperion WRP. Therefore, the impact related to exceedances in the capacity of existing wastewater treatment systems would be less than significant.

4.7.5 Mitigation Measures

The proposed project's impacts were determined to be less than significant, and no mitigation measures are required.

4.7.6 Level of Significance After Mitigation

The proposed project's impacts were determined to be less than significant without mitigation.

4.7.7 Cumulative Impacts

A significant cumulative impact related to the proposed project wastewater quality and quantity would be based on a determination that the project's incremental contribution to the combined effects of related projects in the vicinity or region is cumulatively considerable.

Since wastewater would not be openly discharged to the ground surface, the project would not have the potential to directly affect surface or groundwater quality, and therefore would make no contribution to a combined effect with other projects.

In addition, since the project would comply with all provisions of the City's industrial wastewater permit and the LARWQCB's WDRs, which have been demonstrated to be achievable under current operations at Scattergood, there would be no potential for regulated pollutants contained in the Scattergood wastewater to contaminate the wastewater treatment system and subsequently be discharged from Hyperion WRP to receiving waters. Therefore, the project would make no contribution to a combined effect with other projects.

Because the project would construct and operate a dedicated wastewater pipeline to transmit wastewater to Hyperion WRP, the project would not have the potential to exceed the capacity of existing or planned municipal stormwater drainage systems, and therefore would make no contribution to a combined effect with other projects.

Although the project would contribute additional wastewater to Hyperion WRP under normal operating conditions at Scattergood, the additional wastewater would represent a maximum of approximately 0.15 percent of the remaining available treatment capacity at Hyperion WRP during dry weather conditions. In the unlikely event the recycled water tanks at Scattergood were temporarily unavailable due to unforeseen circumstances, the additional wastewater transmitted to Hyperion WRP would represent a maximum of approximately 0.32 percent of the remaining available treatment capacity.

Therefore, based on these low percentages of wastewater influent from Scattergood relative to the remaining available treatment capacity of Hyperion WRP, the proposed project would not make a cumulatively considerable contribution to a wider combined effect with other projects related to wastewater quality and quantity.

CHAPTER 5
ALTERNATIVES TO THE PROPOSED PROJECT

5.1 Introduction

In accordance with the California Environmental Quality Act (CEQA) Guidelines, alternatives to the proposed project have been considered to foster informed decision-making regarding potential environmental impacts of the project and possible means to address those consequences. According to CEQA Guidelines Section 15126.6(a), an Environmental Impact Report (EIR) should consider a range of reasonable alternatives to the proposed project that would attain the objectives of the project and would avoid or substantially lessen any significant effects of the project. The CEQA Guidelines state that an EIR need not consider every conceivable alternative or consider alternatives whose effects cannot be reasonably ascertained. Further, an EIR need not consider alternatives whose implementation is remote or speculative or those that are considered infeasible. The alternatives analysis must also include a No Project Alternative per Section 15126.6(e) of the CEQA Guidelines to determine the consequences of not implementing the project versus implementing an alternative to the project. Through the identification, evaluation, and comparison of alternatives, the advantages and disadvantages of each alternative compared with the proposed project can be determined.

5.2 Project Objectives

The objectives of the proposed project, which establish the basis for identifying potential project alternatives, are as follows:

- Provide resilience to maintain the reliability of the LADWP electrical power system to help meet peaks in demand that exceed available renewable generation resources and energy storage capacity as well as during infrequent and relatively short-term, but major, interruptions in the primary carbon-free generation and/or transmission system caused by emergency circumstances.

- Establish a generation source that is always available, dispatchable, and local relative to the LADWP service area.

- Provide generation capacity to support grid stability and energy demand in the Scattergood service area, which includes Los Angeles International Airport, Hyperion Water Reclamation Plant, and the western districts of the City of Los Angeles (City).

- Reduce the emissions of greenhouse gases (GHGs) from power generation consistent with the LADWP transition to a carbon-free electrical power system.

For further discussion about the project objectives, see Section 3.4 of this EIR.

5.3 Alternatives Development Process

In order to fulfill the project objectives, several alternatives to the proposed project have been considered. The range of alternatives has been refined to determine those that should be eliminated from further consideration and those alternatives that should be carried forward for further analysis. A discussion of the alternatives that were considered but ultimately dismissed from further analysis and the reasons for their elimination are provided in Section 5.5 below.

Section 5.6 summarizes the four alternatives that have been carried forward for further analysis relative to potential environmental impacts.

5.4 Summary of Project Impacts

Based on the environmental analysis conducted for the proposed project contained in Chapter 4, Environmental Impact Analysis, of this EIR, the proposed project was found to cause a temporary but nonetheless significant and unavoidable impact to air quality during generator commissioning activity as well as during generator operations for the equipment from one of the three vendors analyzed.

Additionally, the proposed project would result in several potentially significant environmental impacts that would be reduced to a less than significant level with the implementation of mitigation measures, including the following:

- **Air Quality** – Construction-related impacts associated with reactive organic gases (ROG) and nitrogen oxides (NO_X) would be require the use of Tier 4 final engines for construction equipment greater than 80 horsepower.
- **Biological Resources –** Construction-related impacts to nesting birds at Scattergood would require pre-construction nesting bird surreys and continued monitoring, as necessary, during construction.
- **Geology and Soils** – Construction-related impacts to paleontological resources during ground disturbance in undisturbed geological contexts would require paleontological monitoring.
- **Hazards and Hazardous Materials** – Construction-related impacts associated with reasonably foreseeable upset and accident conditions would require the preparation and adherence to a Soil/Sediment Management Plan and a Waste Management Plan.
- **Tribal Cultural Resources** – Construction-related impacts associated with the inadvertent discovery of buried archaeological resources determined to be potentially Native American in origin would require training, tribal consultation, and potential site monitoring.

The EIR identifies less than significant impacts for aesthetics, biological resources, cultural resources, energy, GHG emissions, hydrology and water quality, noise, and utilities and service systems.

No impacts were identified for agricultural and forestry resources, land use and planning, mineral resources, population and housing, public services, recreation, transportation, and wildfire.

5.5 Alternatives Considered but Dismissed from Detailed Analysis

Section 15126.6(c) of the CEQA Guidelines requires that an EIR identify alternatives that were considered by the lead agency but were dismissed from further consideration and briefly explain the reasons underlying the lead agency's determination. Among factors that may be used to eliminate alternatives from detailed consideration in the EIR are infeasibility, failure to meet the project objectives, and/or inability to avoid or lessen significant environmental impacts. The following alternatives were eliminated from further consideration in the EIR.

5.5.1 Alternative In-Basin Clean Energy Generation

As part of LADWP's SLTRP, alternative sources of in-basin distributed clean energy generation, such as customer rooftop solar and other distributed solar deployment, are integral in achieving a carbon-free energy system. The Los Angeles 100% Renewable Energy Study (LA100) forecasts that approximately 3 to 4 gigawatts of rooftop solar would be installed by 2045 based on aerial surveys and computer simulations of potential rooftop photovoltaic (PV) systems built throughout the City. The development of alternative clean energy generation is already being implemented by LADWP through multiple solar PV programs to generate carbon-free, renewable energy for its power grid. LADWP's Solar Incentive Program, Net Energy Metering Program, Utility Built Solar, Community Solar Program, and Solar Rooftops Program enable the installation of PV solar systems at City facilities and customers' rooftops throughout the City to help LADWP meet its renewable energy goals and reduce overall GHG emissions. The Shared Solar Program allows customers who do not have suitable rooftops for traditional residential PV systems to subscribe and purchase a portion of energy produced. Additionally, the Feed-in-Tariff Program allows LADWP to purchase the output of local renewable energy projects directly from developers. This local distributed renewable generation can be rapidly developed and also limits the need for new transmission lines.[1]

Although the development of distributed local solar generation is technically feasible and represents a means of achieving some objectives similar to those of the proposed project, because of its intermittent and variable nature, it would not represent an always available, dispatchable source of electrical energy that could provide reliability and resilience under all circumstances. Furthermore, distributed energy does not represent an effectively feasible alternative to the proposed project because its implementation has already been accounted for in the assessment of the need for the project. Distributed local solar generation is complementary to the proposed project and will continue as planned whether or not the project is implemented. Therefore, this alternative has been dismissed from further consideration.

5.5.2 Increase Demand Side Management Programs

LADWP also proposes increasing demand side management programs in the SLTRP, including energy efficiency to reduce total energy consumption and demand response to reduce peak demand for energy. Though demand side management programs would help reduce GHG emissions through the reduction in overall energy demand, they would not meet the other project objectives. Specifically, demand side management programs would not help maintain a reliable electrical power system to meet peaks in demand or major interruptions caused by emergency circumstances because such programs target basic demand reduction and rely on customer behavior. Even if the demand-response goals from the SLTRP are met or exceeded, the resulting resources would not supply firm generation capacity in the Los Angeles basin. As such, demand response is a valuable conservation strategy, but it is not a reliable source of firm dispatchable generation necessary during outages of LADWP's primary carbon-free generation and/or transmission system. Aggressive demand-side management has been accounted for in the need for the proposed project and is currently being implemented by LADWP. Demand side management is complementary to the proposed project and will continue as planned whether or not the project is implemented. Therefore, this alternative has been dismissed from further consideration.

[1] Los Angeles Department of Water and Power. 2022. 2022 Power Strategic Long-Term Resource Plan.

5.5.3 New and Upgraded Transmission Lines

As LADWP increases its inventory of imported renewable energy resources, new and upgraded transmission lines are necessary to increase the accessibility to these resources. Due to the challenges associated with wildfires, high winds, and earthquakes, LADWP is expanding its transmission capacity but also maintaining sufficient in-basin firm generation capacity to respond to extended transmission outages. However, while transmission capacity enables LADWP to deliver renewable energy to its end-users, it does not address LADWP's generation needs to meet peaks in demand or interruptions in the delivery of out-of-basin renewable energy. New and upgraded transmission lines have already been accounted for in the SLTRP as a necessary step for LADWP to maintain a reliable system less dependent on combustion generation. These improvements will continue as planned whether or not the proposed project is implemented. Therefore, this alternative has been dismissed from further consideration.

5.5.4 Retrofit Unit 1 and/or Unit 2

Scattergood Units 1 and 2 are natural-gas fired steam-boiler generators that were placed into operation in 1958 and 1959, respectively. These boilers produce steam to drive a turbine which in turn drives a generator to produce electricity. The units employ an ocean-water once-through cooling (OTC) system to condense exhaust steam; the condensate is then returned to the boilers in a continuous loop. Under this alternative, Unit 1 and/or Unit 2 would be left in place but modified to help achieve the reductions in air pollutant emissions, fuel consumption, and GHG emissions that would be attained by the proposed project. However, the feasibility of a retrofit is considered low as Units 1 and 2 are decades-old generators with dated technology that cannot be converted to a CCGS, as is proposed under the project, and would require demolition of large portions of, if not essentially the entire, units. Construction activities would potentially last several years longer than the construction of the proposed project, due to the complexity of the effort, and would cause an unacceptable reduction of the capacity and reliability of the LADWP electrical power system. Furthermore, since the OTC system would be removed from service at the end of 2029, a cooling system similar to the proposed project (i.e., an air cooled condenser [ACC]) would be required to keep the units operable; however, an ACC would be infeasible due to the legacy design of the existing conventional boiler units. Therefore, this alternative has been dismissed from further consideration.

5.5.5 Develop Proposed Project at Alternative Location

Under this alternative, the proposed CCGS, as described in the project description, would not be constructed at Scattergood, but at another location. Analysis of alternative locations is intended to determine if development of the project at a different location could reduce the significant impacts associated with development at the proposed project site, which would be based on issues related to the character of the site and its surroundings.

When considering possible alternative locations to the proposed project, acquisition of a new property for this purpose, while technically feasible, may be cost-prohibitive and extremely difficult in comparison to use of the proposed project site, which is located within the Scattergood service area on property owned and controlled by LADWP. Property acquisition for a generator site itself as well as right-of-way acquisition for new or expanded transmission facilities would need to undergo extensive entitlement and permitting processes that would be costly and possibly infeasible. Therefore, it would be reasonable to instead consider constructing the proposed project at an LADWP in-basin generating station other than Scattergood. LADWP owns and operates three generating stations in the Los Angeles basin in addition to Scattergood: Harbor Generating Station, Haynes Generating Station, and Valley Generating Station.

Assuming the proposed project CCGS could be developed at one of these existing generating stations, this alternative would meet some of the project objectives. However, it would not fulfill the objective of providing generation capacity to support grid stability and energy demand in the Scattergood service area. The other LADWP in-basin generating stations are generally fully developed sites, and future plans at these stations include the implementation of projects consistent with the SLTRP goal of carbon-free energy, including energy storage facilities. Furthermore, relocating the proposed project would not avoid or lessen any of the identified significant environmental impacts because all characteristics of the project as well as all site conditions would remain essentially the same. This would include similar regional air quality impacts because the other stations are also located within the South Coast Air Basin. Therefore, this alternative has been dismissed from further consideration.

5.6 Alternatives Development

The alternatives discussed in this section were developed to provide a range of reasonable options to the proposed project that might avoid the significant impacts identified in this EIR while fulfilling the objectives of the project.

The alternatives to the proposed project discussed below include one that proposes that no project be implemented (Alternative 1); two that develop or acquire energy from other sources to replace the generation capacity of Scattergood Units 1 and 2: Energy Storage (Alternative 2) and Green Hydrogen Powered Fuel Cells (Alternative 3); and one that would eliminate a proposed project vendor option that results in significant and unavoidable air quality impacts (Alternative 4).

The discussion that follows for each alternative provides a brief description of the alternative; its purpose; a determination of whether the alternative is feasible; a determination of whether the objectives of the project are met; and an analysis of whether the alternative would reduce any significant impacts created by the proposed project and if the alternative would create any additional impacts not created by the proposed project.

5.6.1 Alternative 1: No Project

As discussed above, an evaluation of a No Project Alternative is required under CEQA Guidelines Section 15126.6(e). Under this alternative, the proposed project would not be implemented nor would any alternative to the project. The existing Scattergood Units 1 and 2 generating capacity would not be replaced with a rapid-response CCGS constructed within the Scattergood property boundaries. However, Scattergood Units 1 and 2 would still be removed from service at the end of 2029 to comply with the OTC Policy.

Feasibility

The No Project Alternative is a technically feasible alternative to the proposed project since it requires essentially no action. However, the consequence of no action would be the loss of generation capacity at Scattergood when Units 1 and 2 are retired at the end of the 2029, as required under the OTC Policy.

Meets Project Objectives

Though Scattergood Units 1 and 2 would be removed from service resulting in a reduction of GHG emissions, this alternative would meet none of the other objectives identified for the project. As no new generation source would be established, this alternative would not meet the project objective of establishing an always available, dispatchable in-basin generation system. This alternative would not provide generation capacity to support grid stability or energy demand in the

local LADWP service area. The reduced generation capacity at Scattergood would lessen the resilience of the LADWP electrical power system in violation of reliability standards and would limit the ability to respond to peaks in demand and to major interruptions in service from the primary LADWP generation and/or transmission system, which would result in outages of the grid within the City, particularly affecting the western districts that Scattergood serves.

Reduce Significant Impacts of the Proposed Project

Under the No Project Alternative, Scattergood Units 1 and 2 would be removed from service, and no short-term air quality impacts related to project commissioning or long-term air quality impacts related to project operations would occur. Without the construction of the proposed project, potential construction-related impacts to paleontological resources and unknown buried tribal cultural resources would not occur. Additionally, an accident release and emergency response plan associated with excavation and removal of hazardous materials from the project site during project construction would not be needed.

Conclusion

As discussed above, the No Project Alternative would not implement the proposed project. However, Units 1 and 2 would still be removed from service at the end of 2029 to comply with the OTC Policy. Although this alternative is technically feasible since it requires no action, the No Project Alternative would result in a loss of generation capacity at Scattergood. This would result in the elimination of short-term, construction-related impacts associated with air quality, paleontological resources, tribal cultural resources, and hazards as well as a reduction in air pollutant emissions from project operations. However, the No Project Alternative would not meet the project objectives for establishing a resilient, reliable, always available and dispatchable generation source for the LADWP electrical power system local to the Scattergood area, which may lead to outages in the area.

5.6.2 Alternative 2: Energy Storage

Under Alternative 2, the proposed CCGS, as described in the project description, would not be constructed. Instead, LADWP would implement a grid-scale battery energy storage system (BESS) to store energy during periods of excess generation to be discharged later during periods of high demand.[2]

Feasibility

The BESS would include a battery system or battery modules, which are low voltage battery cells arranged in racks to convert chemical energy into electrical energy, a storage enclosure to allow for thermal control of the system, and a battery and energy management system which ensures the battery's optimal and safe operation. The BESS would also include a power conversion system, which includes a bidirectional inverter to convert electrical current as the battery is charged and discharged, and multiple safety monitoring systems such as fire suppression, smoke detection, and temperature control systems to prevent fire and hazardous incidents.[3]

There are multiple battery technologies employed with BESS that offer differing energy densities, charge and discharge efficiencies, life spans, and eco-friendliness of devices. These batteries include lithium-ion, lead-acid, redox flow, and sodium-based technologies. Energy density is the

[2] National Renewable Energy Laboratory. 2019. Greening the Grid – Grid Integration Toolkit: Grid-Scale Battery Storage – Frequently Asked Questions. September.

[3] ABB S.p.A. 2021. White Paper on the Utility Scale Battery Energy Storage System (BESS) BESS Design IEC – 4.0 MWH System Design. September.

amount of energy that can be stored in a single system per unit volume; lithium-ion batteries have higher energy density and can store up to five times more energy than lead storage batteries. Lithium-ion batteries also have the highest charge and discharge efficiency (95 percent) and the longest life span (10-15 years). However, this would be less than the estimated 30-year lifespan of the proposed project CCGS.

A BESS can offer value-stacking opportunities which enable a higher overall battery utilization as it provides for multiple services such as operating as a fast response and reserve for unpredictable variations in demand or generation system failures, helping reduce loading on transmission and distribution systems during peak times, and providing reliable capacity to meet peak system demand. A BESS is most effective to help balance the grid and meet short peaks in demand. However, this results in additional cycling (charging and discharging) of the battery and may degrade and shorten the lifetime of the battery. A BESS can only provide a limited duration of any set of services before it runs out of charge, which means batteries must prioritize the services they provide. A typical BESS with 1 megawatt (MW) of power capacity rated at 4 megawatt hours (MWh) of usable energy capacity means that the battery, if discharged at its total possible instantaneous power capacity, would have an operational duration of four hours before its energy capacity is fully depleted.[4,5]

The proposed project, located on approximately 3 acres, would have a gross generation capacity up to 346 MW and would produce up to 1,384 MWh of energy in 4 hours. Typically, a BESS produces approximately 45 MWh per 1 acre in 4 hours.[6,7] Therefore, a comparable BESS with a similar generation capacity would require approximately 31 acres of land. Scattergood is approximately 52.5 acres and includes six operating generation units. Approximately 10 acres of property at Scattergood is available for the potential development of a BESS, including the 3-acre proposed project site and an approximately 7-acre relatively flat parcel south of Grand Avenue.

Because of the space limitations at Scattergood, a BESS system of equivalent short-term capacity (up to 4 hours) as the proposed project would require approximately 20 acres of additional real estate outside of Scattergood but within the Scattergood service area. This may include the potential for numerous separate locations that all must be interconnected to the LADWP transmission system. Furthermore, as mentioned above, the BESS would have a discharge duration of approximately 4 hours. Therefore, while it may be effective to meet daily peaks in demand that exceed available renewable generation resources, it would not provide adequate energy to maintain system reliability during longer-duration interruptions in the generation and/or transmission system caused by emergency circumstances.

Meets Project Objectives

Assuming sufficient real estate within the vicinity of Scattergood was available that could provide connection to the LADWP transmission system, Alternative 2 would meet some of the proposed project objectives. Specifically, a BESS could provide resilience to the LADWP electrical power system for short durations during peak demand periods by storing excess energy generated from renewable generation sources, and it would be local to support grid stability and energy demand in the Scattergood service area during these peaks. The BESS would reduce GHG emissions by storing energy generated by renewable resources and would be consistent with the LADWP transition to a carbon-free electrical power system. However, the BESS would not be an always

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4 Edina. Battery Energy Storage System: The Ultimate Guide. Available at: https://www.edina.eu/power/battery-energy-storage-system-bess.

5 National Renewable Energy Laboratory. 2019. Greening the Grid – Grid Integration Toolkit: Grid-Scale Battery Storage – Frequently Asked Questions. September.

6 AES. 2024. Pawnee Solar Project FAQ.

7 Convergent. 2024. Landowner Partnerships. Available at: https://www.convergentep.com/landowners/.

available and readily dispatchable energy source for longer periods of time related to major disruptions in service because the BESS would discharge and then require time to recharge to its full capacity. The time required to recharge may be lengthy, and the system would not be available to meet energy demand during a prolonged outage period.

Reduce Significant Impacts of the Proposed Project

Under Alternative 2, air quality impacts associated with the combustion of fuel during commissioning and operations would be eliminated.

Create Additional Environmental Impacts

Implementation of a BESS system of comparable capacity as the proposed project would require a substantially larger amount of acreage, including potentially land for additional transmission lines, which would increase the footprint of construction impacts compared to the proposed project, including potential impacts related to paleontological and tribal cultural resources as well as other environmental resources that cannot be reasonably ascertained at this time, depending on site characteristics.

Conclusion

As discussed above, Alternative 2 would install a BESS in lieu of the proposed project. Though Alternative 2 would be technically feasible and reduce some environmental impacts, the BESS would not be anticipated to provide a comparable generation capacity as the proposed project CCGS for durations greater than 4 hours. In addition, substantially more real estate would be required to implement this alternative, which may be cost-prohibitive and cause substantial delays in implementation of the project. The BESS would meet some of the project objectives. However, it would not provide a readily dispatchable, longer duration energy source during periods of critical demand when major interruptions to service occur.

Furthermore, energy storage is already accounted for and is a major component in LADWP's SLTRP. LADWP anticipates implementing local energy storage coupled with the CCGS at Scattergood to ensure reliability and resiliency, while also reducing GHG emissions. It would be employed as a first source of energy before the proposed CCGS to meet the short-term peaks in demand.

While Alternative 2 would meet some of the project objectives, the large footprint required to implement a BESS of comparable capacity would not eliminate or substantially reduce many impacts of the proposed project and may create other impacts that are not reasonably ascertainable at this time.

5.6.3 Alternative 3: Green Hydrogen Powered Fuel Cells

Under Alternative 3, the proposed CCGS, as described in the project description, would not be constructed. Instead, a green hydrogen fuel cell system would be implemented.

Feasibility

In a green hydrogen fuel cell, hydrogen fuel can be used to generate electricity through an electrochemical reaction instead of combustion. Fuel cells work like batteries, operating silently, emitting little to no air pollutants, and with extremely high reliability. However, unlike batteries, they do not run down or require recharging, assuming a constant source of hydrogen, which would

be supplied using similar infrastructure that would support the proposed project.[8] The fuel cell utilizes electrodes (a negative anode which receives hydrogen and a positive cathode which receives oxygen) and an electrolyte membrane to split protons and electrons. The positively charged protons pass through the electrolyte membrane to the cathode and the negatively charged electrons are forced through a circuit, generating an electric current. Once the electrons pass through the circuit and combine with the protons and oxygen from the air, water and heat are produced.[9]

Commercial fuel cells can be classified into high, intermediate, and low temperature fuel cells based on the electrolyte chemistry, operational temperature range, fuel type, and waste products. High and intermediate temperature fuel cells such as solid oxide fuel cells, molten carbonate fuel cells, and phosphoric acid fuel cells are designed for constant electric loads, or baseload. They take more time to ramp up from shutdown and can be easily damaged and fail with frequent thermal cycling. By contrast, low temperature fuel cells such as alkaline fuel cells and proton exchange membrane fuel cells rely on a catalyst, instead of heat, to activate the electrochemical reactions. This means they can start very quickly and endure more frequent shut-off cycles.

However, these fuel cells generally require high-purity hydrogen, which is not always available. Unlike the proposed CCGS which allows for a wide range of hydrogen fuel concentrations to be used for operational configurations, fuel cells have limited fuel flexibility and are constrained with requiring additional purification equipment and operations and maintenance. Typical lifespans for fuel cell stacks range from 4 to 10 years, depending on the type of fuel cell and operating scenario, compared to the 30-year lifespan of a CCGS. The entire fuel cell stack must be replaced once it reaches the end of its design life, resulting in higher costs to replace and additional scheduled outages for Scattergood.

Fuel cells can be scalable and joined with one another to form stacks aboveground and combined to form larger systems that provide electricity directly to the grid. However, fuel cells have not to date been demonstrated at sufficiently large scales to replicate the proposed project generation capacity. The largest deployed fuel-cell power plant in the world is opened in Korea in October 2021 and operates at 79 MW, constituting approximately 23 percent of the proposed project's capacity.[10] The type of fuel cell and stack equipment required for a system at Scattergood is not currently available, and it would take more than 10 years to manufacture enough fuel-cell stacks to fulfill the up to 346 MW project capacity.

A 10 MW stationary fuel cell system would require approximately 1 acre of land.[11] The proposed project would have a gross generation capacity of up to 346 MW located on approximately 3 acres. Thus, a comparable stationary hydrogen fuel cell system with a similar generation capacity would require approximately 35 acres of land. As previously discussed, Scattergood is approximately 52.5 acres and includes six operating generation units. Therefore, there would not be sufficient land available to implement a stationary hydrogen fuel cell system of comparable capacity at Scattergood. Similar to the BESS Alternative, additional real estate outside of Scattergood but within the Scattergood service area would be required. This may include the potential for numerous separate locations that all must interconnect to the LADWP transmission system.

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8 U.S. Office of Energy Efficiency & Renewable Energy. 2024. Hydrogen and Fuel Cell Technologies Office: Fuel Cells. Available at: https://www.energy.gov/eere/fuelcells/fuel-cells.

9 Fuel Cell & Hydrogen Energy Association. Fuel Cell Basics. Available at: https://www.fchea.org/fuelcells.

10 Cochran, Jaquelin, and Paul Denholm, eds. 2021. The Los Angeles 100% Renewable Energy Study. Golden, CO: National Renewable Energy Laboratory. NREL/TP-6A20-79444. March.

11 Fuel Cell & Hydrogen Energy Association. Stationary Power. Available at: https://www.fchea.org/stationary.

Meets Project Objectives

Alternative 3 would install green hydrogen powered fuel cells instead of the CCGS, which would meet the project objectives, assuming sufficient real estate within the vicinity of Scattergood was available that could provide interconnection to the LADWP transmission system. The fuel cells could provide resilience to the LADWP electrical power system by using hydrogen fuel to generate energy locally to support grid stability and energy demand in the Scattergood service area. Fuel cells would be consistent with LADWP's transition to a carbon-free electrical power system as the systems would only produce electricity, water, and heat.

Reduce Significant Impacts of the Proposed Project

Under Alternative 3, air quality impacts associated with the combustion of fuel during commissioning and operations would be eliminated because the only resulting emission of Alternative 3 would be water.

Create Additional Environmental Impacts

Implementation of a hydrogen fuel cell system of comparable capacity would require a substantially larger amount of acreage, including potentially land for additional transmission lines. This would increase the footprint of construction impacts compared to the proposed project, such as potential impacts related to paleontological and tribal cultural resources as well as other environmental resources that cannot be reasonably ascertained at this time, depending on site characteristics.

Conclusion

As discussed above, Alternative 3 would install a green hydrogen fuel cell system at Scattergood. Even though Alternative 3 would meet the project objectives and reduce environmental impacts associated with commissioning and operational air pollutant emissions, it is an unproven technology at the scale required to replace the proposed project generation capacity and may take over 10 years to implement. In addition, substantially more real estate would be required to implement this alternative, which may be cost-prohibitive and cause further delays in implementation of the project. A fuel cell system would also have limited hydrogen fuel flexibility and would have a substantially shorter lifespan than the proposed project.

5.6.4 Alternative 4: Eliminate Vendor B

Under Alternative 4, the proposed CCGS, as described in the project description, would be constructed; however, either equipment proposed by Vendor A or Vendor C would be selected, as the equipment proposed by Vendor B would have significant and unavoidable peak daily emissions for volatile organic compounds (VOCs) during operations related to the combustion generator startup and shutdown, even during operations with a hydrogen fuel mix.

Feasibility

Alternative 4 would be technically feasible to complete as it is essentially the proposed project with the limitation of which vendor could be selected for project implementation.

Meets Project Objectives

As this alternative is an option under the proposed project, this alternative would meet all of the project objectives. The CCGS would provide resilience to maintain the reliability of the LADWP electrical power system; establish a dispatchable, always available, local generation source; provide the proposed generation capacity to support grid stability and energy demand within the

Scattergood service area; and reduce GHG emissions consistent with LADWP's transition to a carbon-free electrical power system.

Reduce Significant Impacts of the Proposed Project

With the exception of operational air quality impacts associated with Vendor B, the environmental analysis provided in the EIR would be the same for Alternative 4. The equipment supplied by Vendor A or Vendor C would be selected, both of which had less than significant air pollutant emissions associated with project operations. However, no changes in significant and unavoidable impacts to commissioning of the CCGS, or potential impacts to paleontological resources, hazards and hazardous materials, or tribal cultural resources during construction would occur under Alternative 4.

Create Additional Environmental Impacts

No additional environmental impacts than what have been otherwise disclosed in the EIR and summarized in Section 5.4 above would occur.

Conclusion

As discussed above, Alternative 4 would select the CCGS equipment from either Vendor A or Vendor C and not the equipment proposed by Vendor B due to the significant and unavoidable peak daily VOC emissions produced during operations. This alternative is technically feasible and meets all of the project objectives as it is essentially the proposed project with the limitation of which vendor can be selected for project implementation. This alternative would reduce operational air quality impacts associated with peak VOC emissions, while all other environmental impacts would be the same as the proposed project.

5.7 Environmentally Superior Alternative

In accordance with CEQA Guidelines Section 15126.6, an EIR shall identify an environmentally superior alternative among the feasible alternatives, including the proposed project. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. In comparison to the feasible alternatives that would achieve the objectives of the proposed project, Alternative 4: Eliminate Vendor B has been determined to be the environmentally superior alternative because it would result in the least impact to the physical environment that can be reasonably ascertained. Table 5-1 provides a summary of the alternatives to the proposed project.

Table 5-1 Summary of Alternatives

Alternative	Description	Feasibility	Meet the Project Objectives	Avoid/Reduce Significant Impacts of the Proposed Project	Create Additional Impacts
Alternative 1: No Project	No implementation of the proposed project or any alternative to the project. Units 1 and 2 would be removed from service at the end of 2029 to comply with the OTC Policy.	Technically feasible, but would result in the loss of generation capacity associated with Units 1 and 2 at the end of 2029.	• Would meet GHG emissions reduction. • Would not provide resilience to maintain the reliability of the electrical power system. • Would not establish an always available, dispatchable in-basin generation system. • Would not provide generation capacity to support grid stability or energy demand in Scattergood area.	• Would reduce construction-related impacts associated with air quality, paleontological resources, tribal cultural resources, and hazardous materials. • Would reduce long-term operational impacts associated with air quality.	• No additional impacts.
Alternative 2: Energy Storage	Implementation of a grid-scale BESS in Scattergood service area.	Technically feasible, but Scattergood would not have enough space to accommodate a BESS with a comparable generation capacity. Therefore, it would be cost-prohibitive related to land acquisition and cause delays in implementation of the project.	• Would meet some project objectives with the exception that it would not be an always available and readily dispatchable energy source during long periods of critical energy demand due to its need to recharge once the energy has been expended.	• Would eliminate air quality impacts associated with commissioning and operations.	• Would increase the footprint of construction, which may increase impacts (paleontological and tribal cultural resources as well as other resources that cannot be reasonably ascertained) as a comparable generation system would require a substantially larger amount of acreage and potentially additional transmission lines.

Table 5-1 Summary of Alternatives

Alternative	Description	Feasibility	Meet the Project Objectives	Avoid/Reduce Significant Impacts of the Proposed Project	Create Additional Impacts
Alternative 3: Green Hydrogen Powered Fuel Cells	Implementation of a green hydrogen powered fuel cell system in Scattergood service area.	Currently technology is unproven at scale. Scattergood would not have enough space to accommodate fuel cells with a comparable generation capacity. Therefore, it would be cost-prohibitive related to land acquisition and cause delays in implementation of the project.	• Would meet the project objectives, assuming sufficient real estate within the vicinity of Scattergood was available that could interconnect to the LADWP transmission system.	• Would eliminate air quality impacts associated with commissioning and operational fuel combustion.	• Would increase the footprint of construction, which may increase impacts (paleontological and tribal cultural resources as well as other resources that cannot be reasonably ascertained) as a comparable generation system would require a substantially larger amount of acreage and potentially additional transmission lines.
Alternative 4: Eliminate Vendor B	The proposed CCGS would be constructed with equipment supplied by Vendor A or Vendor C.	Technically feasible.	• Would meet all of the project objectives.	• Would reduce operational air quality impacts associated with peak VOC emissions.	• No additional impacts.

CHAPTER 6
OTHER CEQA CONSIDERATIONS

6.1 Significant and Unavoidable Impacts of the Proposed Project

California Environmental Quality Act (CEQA) Guidelines Section 15126.2(c) requires an identification of any significant environmental effects that cannot be avoided if a project is implemented. These include impacts that can be mitigated but cannot be reduced to a less than significant level. An analysis of environmental impacts caused by the proposed project has been conducted and is contained in Chapter 4 of this Draft Environmental Impact Report (EIR). According to the environmental impact analysis, the proposed project would result in a significant and unavoidable impact related to air quality during generator commissioning activity (prior to generation unit connection to the grid) and operations for one of the three vendors. Specifically, emissions during the commissioning phase of the proposed project are anticipated to exceed the significance thresholds for volatile organic compounds (VOCs), carbon monoxide (CO), and nitrogen oxides (NO_x). The commissioning phase consists of testing and tuning the equipment and combustor to obtain peak performance and optimally install the selective catalytic reduction(and oxidation catalyst. Until the tuning and equipment installations are completed during the commissioning phase, emissions will temporarily be high compared to normal operation. Therefore, because the commissioning activities inherently consist of uncontrolled emissions that cannot be limited and no feasible, effective mitigation is available, air quality impacts associated with commissioning are considered significant and unavoidable.

In addition, the equipment proposed by Vendor B would result in significant and unavoidable peak daily emissions for VOCs during project operations associated with generation unit startup and shutdown. However, if adopted in lieu of the proposed project, Alternative 4, which is discussed in Chapter 5 of this EIR, would eliminate Vendor B from consideration and thereby eliminate this impact.

6.2 Significant Irreversible Environmental Changes

CEQA Guidelines Section 15126.2(d) requires that an EIR analyze the extent to which the proposed project's primary and secondary effects would impact the environment and commit nonrenewable resources to uses that future generations would not be able to reverse. This section discusses the commitments of resources required by the proposed project in general terms. All of these effects have been discussed in greater detail in previous sections of this EIR.

The proposed project satisfies several objectives that serve to reduce the amount of natural resources committed over the long term. The proposed project would be constructed within the existing Scattergood Generating Station, so no new land would be required for project implementation. The project would also not require extension of roadways and associated infrastructure.

The new rapid-response combined-cycle generation system (CCGS) would also be substantially more efficient to operate than the existing Scattergood Units 1 and 2, which are conventional natural-gas-fired steam-boiler generators that will be removed from service. The CCGS system would allow LADWP to begin the conversion from natural gas to green hydrogen as the City of Los Angeles transitions to a carbon-free electrical energy system. The CCGS would substantially increase fuel efficiency, thereby also reducing the emission of air pollutants and greenhouse gases relative to the amount of energy produced. As concluded in the Initial Study, the project would not result in wasteful, inefficient, and unnecessary consumption of energy resources.

As also discussed in this EIR, potable water is currently used at Scattergood primarily for makeup water to compensate for losses associated with reverse osmosis/demineralization, blowdown, evaporation, and other processes. Although the Units 1 and 2 steam boilers, which use large volumes of makeup water, would be removed from service concurrent with the implementation of the proposed project, the proposed CCGS would also require large volumes of makeup water. However, while the majority of the process water at Scattergood under current operations is potable water, under the proposed project, the use of recycled water would be substantially increased through the reuse of industrial process water from internal sources. Therefore, after the proposed project implementation, consumption of potable water for all functions at Scattergood would not increase compared to current operations. In addition, because the proposed project CCGS is anticipated to be operated less frequently compared to existing operations, the consumption of water and the use of products such as aqueous ammonia would be reduced proportionally on an annual basis. As such, the project would not result in use of nonrenewable water resources.

6.3 Growth-Inducing Impacts

CEQA Guidelines Section 15126.2(e) requires an EIR to discuss the ways a proposed project could foster economic or population growth or the construction of additional housing, directly or indirectly, in the surrounding environment. Growth-inducing impacts include the removal of obstacles to population growth (e.g., the expansion of a wastewater treatment plant allowing more development in a service area) and the development and construction of new service facilities that could significantly affect the environment individually or cumulatively. In addition, pursuant to CEQA, growth must not be assumed as beneficial, detrimental, or of little significance to the environment. Growth can be induced by direct growth associated with a project and indirect growth created by demand not satisfied by a project or the creation of surplus infrastructure not utilized by a project.

The proposed project would not provide additional housing or services. It would not require the hiring of additional personnel to operate Scattergood. The project construction workers would be hired primarily from the existing labor pool in Southern California. Therefore, the project would not directly induce growth during construction or operation.

The proposed project would provide reliable, dispatchable, local, and efficient electrical power while achieving a reduction greenhouse gas emissions associated with generation of electricity at Scattergood. It would not provide surplus infrastructure but would replace the generation capacity of existing Scattergood Units 1 and 2, which will be removed from service to comply with the statewide OTC policy. Scattergood has been identified as the most immediate and instrumental location in relation to the requirement for firm generation capacity due to the electrification of Los Angeles International Airport, the implementation of increased wastewater treatment capabilities at the City's Hyperion Water Reclamation Plant, and anticipated increase in demand in the western areas of the City that Scattergood serves largely caused by electrification of various functions currently powered by the combustion of fossil fuels (e.g., cooking, space heating, water heating, and the transportation sector). Therefore, the project would not indirectly induce population growth in the area because it would replace existing generation capacity and is responsive to already anticipated increases in the need for electrical power. No significant growth-inducing impacts are foreseen from the proposed project, and no mitigation measures are required.

CHAPTER 7
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CHAPTER 8
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No references were used.

2.0 INTRODUCTION

No references were used.

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6.0 OTHER CEQA CONSIDERATIONS

No references were used.

7.0 LIST OF PREPARERS

No references were used.