SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

VOLUME I: ~~DRAFT~~ FINAL SUBSEQUENT ENVIRONMENTAL IMPACT REPORT FOR THE SUNSHINE GAS PRODUCERS RENEWABLE ENERGY PROJECT

SCH No. 92041053

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TABLE OF CONTENTS

FIGURES

TABLES

VOLUME II: APPENDICES

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CHAPTER 1

INTRODUCTION AND EXECUTIVE SUMMARY

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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

1.1 INTRODUCTION

Sunshine Gas Producers, L.L.C. (SGP) is proposing to develop and operate a gas turbine electrical generation facility at the existing Sunshine Canyon Landfill (SCLF) in northern Los Angeles County, California. SGP is proposing to install five gas turbines that would utilize currently flared landfill gas (LFG) to generate power. No component of the currently proposed project would expand landfill capacity or increase the amount of waste that can be accepted on a daily, monthly or annual basis. Because the South Coast Air Quality Management District (SCAQMD) has primary approval authority over the proposed project, it is the lead agency under the California Environmental Quality Act (CEQA) and is responsible for preparing this ~~Draft~~ Final Subsequent Environmental Impact Report (SEIR).

SGP is a Michigan limited liability company, jointly owned by DTE Biomass Energy (DTE) and Landfill Energy Systems (LES) under the management of DTE Biomass Energy. Headquartered in Ann Arbor, Michigan, DTE Biomass Energy is a wholly owned subsidiary of DTE Energy. LES is headquartered in Wixom, Michigan, and is a wholly owned subsidiary of EIF Renewable Energy Holdings, LLC.

SGP has contracted with Republic Services, Inc. (formerly Browning-Ferris Industries of California, Inc. [BFI]), the owner and operator of SCLF, to obtain LFG from SCLF to operate five gas turbines. ~~BFI is owned by Allied Waste, Inc., and is a wholly owned subsidiary of parent company Republic Services Inc.~~ SGP and ~~BFI~~ Republic Services are separate corporate entities. A more detailed project location and project description for the proposed project are provided in Chapter 2 of this ~~Draft~~ Final SEIR. Throughout this document, references to "proposed project" or "Sunshine Gas Producers Renewable Energy Project" (SGPREP) are one and the same and are used interchangeably.

In spite of the fact that the proposed project does not in any way expand landfill capacity, LFG produced by the ~~landfill~~ SCLF will continue to increase in the future because of continued disposal of municipal wastes. Pursuant to SCAQMD Rule 1150.1 – Control of Gaseous Emissions from Municipal Solid Waste Landfills, LFG at SCLF must be collected and controlled. The collected LFG is currently flared in compliance with Rule 1150.1. Rather than flaring all LFG, the proposed project would combust LFG in gas turbines to produce electricity, up to the capacity of the turbines to burn LFG, thus providing a beneficial use of a renewable resource that would otherwise be wasted. The proposed project would also comply with Rule 1150.1. Further, the proposed project has the potential of displacing nonrenewable fossil fuel electrical generation, resulting in a net reduction of future criteria pollutant and greenhouse gas (GHG) emissions from nonrenewable projects. This ~~Draft~~ Final SEIR analyzes project-specific and cumulative impacts related to the SGPREP and does not include any environmental analysis specific to the landfill capacity or the amount of waste received by SCLF.

The Final SEIR provides additional information in response to comments and questions from the public. Staff has evaluated this additional information and has concluded it does not constitute significant new information requiring recirculation, but rather that the additional information clarifies or amplifies an adequate SEIR. Specifically, the additional information, including the changes described below does not show that:

1. A new significant environmental impact would result from the project.
2. A substantial increase in the severity of an environmental impact would result.
3. A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the significant environmental impacts of the project, but the project's proponents decline to adopt it.
4. The draft SEIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

The environmental topic areas clarified in this Final SEIR and described in more detail, subsequent to circulation of the Draft SEIR, are summarized below, and discussed in more detail throughout the Response to Comments document (included in Appendix J):

- As a result of the comments received, the project proponent worked with the turbine manufacturer and the manufacturer was able to guarantee lower carbon monoxide (CO) and nitrogen oxides (NO_x) emissions. This resulted in modified calculations and determination of less than significant CO impacts, and reduced NO_x emissions, although not to less than significance without mitigation. Mitigation measures A-1 and A-2 reduce construction NO_x emissions to less than significance.
- Based on comments received, additional evaluation of potential control technologies was conducted, as discussed in Attachment A of Appendix J.
- Comments identified additional sensitive receptor locations for consideration with regard to air quality and noise impacts, which resulted in additional localized air quality and noise modeling. There was no resulting change to impact significance determinations.
- The Cultural Resources Assessment was modified to include the small additional disturbance areas associated with the water pipeline installation and maintenance grading for a roadway associated with the SGPREP. Findings did not result in changes to significance determinations.
- Additional geotechnical surveys were conducted at the proposed project location, the results of which indicated that on-site soil would meet geological standards for use as fill in the construction of the SGPREP. The construction truck traffic duration has been reduced as a result, since the amount of imported materials has been substantially reduced.
- Additional cumulatively related projects were located within the two mile radius of the proposed project. The inclusion of these cumulatively related projects did not result in changes to any cumulative significance determinations.
- The odor discussion has been enhanced to include discussion of the Stipulated Third Amendment to the Order for Abatement at SCLF, and provide additional detail on odor impact assessment.

Additions to the text of the Draft SEIR in this Final SEIR are denoted using underlined text. Text that has been eliminated from the Draft SEIR in this Final SEIR is shown using ~~strike outs~~. Note that for ease of reading the Final SEIR, the Final SEIR does not include the Draft SEIR version of tables and figures that have been modified.

After release of the Final SEIR to the public, but before certification, the project proponent volunteered to include an additional measure to mitigate all GHG emissions from construction as quantified in this Final SEIR by contributing $36,000 to the SCAQMD's Rule 2702 – Greenhouse Gas Reduction Program, which is approximately double the amount of the Rule 2702 Participation Fee of $15 per metric ton. The project proponent will be required to pay the GHG mitigation fee to the SCAQMD before starting project construction. This mitigation measure does not constitute significant new information requiring recirculation of the SEIR because the new mitigation measure provides feasible mitigation to reduce the severity of an impact and the project proponent has agreed to adopt it (see CEQA Guidelines §15088.5(a)).

Based on the foregoing, and having reviewed the information contained in the Final SEIR and in the record of SCAQMD's proceedings, including the comments on the Draft SEIR and the responses thereto, and the above-described information, staff has concluded that this additional information does not constitute significant new information requiring recirculation, pursuant to CEQA Guidelines Section 15088.5 but rather that the additional information clarifies or amplifies an adequate SEIR.

1.2 PURPOSE/LEGAL REQUIREMENTS

CEQA Public Resources Code (PRC) §21000 *et seq*. requires that the environmental impacts of proposed projects be evaluated and that feasible methods to reduce, avoid or eliminate significant adverse impacts of these projects be identified and implemented. The lead agency is the public agency responsible for preparing any necessary CEQA documents and is typically the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment pursuant to PRC §21067. Consultation with the Los Angeles County determined that because the SCAQMD has the greatest responsibility for supervising or approving the SGPREP as a whole, the SCAQMD would be the most appropriate public agency to act as lead agency for the proposed project (CEQA Guidelines §15051(b)). The SCAQMD has the authority to issue discretionary approvals for this project, and specifically must conduct a new source review and issue a Permit to Construct (PTC) and a Permit to Operate (PTO) before the project can move forward. Because the SGPREP requires discretionary approvals from a public agency, it is subject to the requirements of CEQA (PRC § 21000 et seq.).

1.2.1 PRELIMINARY ANALYSIS AND PREVIOUS DOCUMENTS

As the lead agency for this project, the SCAQMD prepared and released, for a 30-day public review and comment period, a Notice of Preparation and Initial Study (NOP/IS) to identify potentially significant environmental impacts, and provide a preliminary analysis associated with the SGPREP (Appendix A). Similarly, the SCAQMD ~~has~~ prepared ~~this~~ a Draft SEIR to analyze potentially significant adverse environmental impacts from implementing the proposed project. The Draft SEIR was released for a 45-day public review and comment period starting on May 10, 2011 and ending on June 23, 2011. This Final SEIR incorporates minor changes to the project description and analyses; however, all modifications were evaluated and do not constitute significant new information as defined in §15088.5(a) of the CEQA Guidelines (California Administrative Code, Title 14, Division 6, Chapter 3). In accordance with §15121(a) of the CEQA Guidelines ~~(California Administrative Code, Title 14, Division 6, Chapter 3)~~, the purpose of an Environmental Impact Report (EIR) is to serve as an informational document that: "will inform public agency decision-makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project."

Previous CEQA documents prepared for SCLF, specifically the *Final Environmental Impact Report for the Sunshine Canyon Landfill Extension* (Los Angeles County 1991 and 1993; State Clearinghouse No. 89071210) and the *Final Subsequent Environmental Impact Report, Sunshine Canyon Landfill* (City of Los Angeles 1999; State Clearinghouse No. 92041053), included a component to control LFG from the decomposition of waste products solely by flaring captured LFG. While the potential for a LFG-to-energy (LFGTE) project was identified in the 1999 Final SEIR, because the proposed project would change the method of handling and controlling LFG previously analyzed, it is considered to be a modification to the previously approved CEQA documents. Therefore, this ~~Draft~~ Final SEIR has been prepared pursuant to CEQA Guidelines §15162 because changes are proposed in the previously approved project that may require revisions of the previous EIRs.

1.2.2 INCORPORATION BY REFERENCE

Pursuant to the State CEQA Guidelines, §15150, this ~~Draft~~ Final SEIR incorporates by reference all or portions of other documents that are a matter of public record. Those documents either relate to the proposed project or project site, or provide additional information concerning the environmental setting in which the project is proposed. Where all or a portion of another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of this ~~Draft~~ Final SEIR.

The information contained in this ~~Draft~~ Final SEIR is based, in part, on prior environmental documentation and related technical studies that include the project site and/or provide information addressing the general project area. These documents are incorporated herein by reference and are summarized below:

- The first is the *Final Environmental Impact Report for the Sunshine Canyon Landfill Extension* (Los Angeles County 1991 and 1993; State Clearinghouse No. 89071210), initially certified by the Los Angeles County ("the County") Board of Supervisors on February 19, 1991 ("the initial Final EIR"), and, after litigation, recertified with two Addenda and a document entitled *Additional Information and Analysis* (collectively "the 1993 Final EIR") on November 30, 1993.
- The 1993 Final EIR was supplemented by the *Final Subsequent Environmental Impact Report, Sunshine Canyon Landfill* (City of Los Angeles 1999; State Clearinghouse No. 92041053) June 1998, certified by the City of Los Angeles ("the City") on December 8, 1999 ("the 1999 Final SEIR") in connection with its adoption of a Zone Change and General Plan Amendment that approved landfilling in the City portion of SCLF ("the City Landfill"). The 1999 Final SEIR also incorporated revisions to the Mitigation, Monitoring and Reporting Summary (MMRS) approved in 1993 for the County portion of SCLF ("the County Landfill").
- A final addendum to the 1993 Final EIR and 1999 Final SEIR for the combined County and City portions of SCLF was drafted in 2004 in order to finalize modifications to the

Conditional Use Permit 00-194-(5) (CUP; collectively "the New CUP"; Los Angeles County 2007) and update conditions associated with the permit (City of Los Angeles 2004). The analyses presented in the 2004 Addendum to the 1993 Final EIR and 1999 Final SEIR ensured that conditions for the combined County and City portions of the SCLF project were consistent with conditions approved by the City of Los Angeles. The SCLF MMRS was updated in 2006 to incorporate the most stringent requirements of the City or County side CUP, the contents of which are presented in Appendix B.

1.3 SCOPE AND CONTENT

The NOP/IS for the proposed project was circulated for a 30-day comment period beginning on November 19 through December 18, 2009. The NOP/IS was circulated to neighboring jurisdictions, responsible agencies, other public agencies, and interested individuals in order to solicit input on the scope of the environmental analysis to be included in ~~this~~ the Draft SEIR. Comments were documented during a public scoping meeting held on December 9, 2009. Additionally, seven comment letters were received on the NOP/IS during the public comment period. Responses to comments from the letters and public scoping meeting are provided in Appendix C.

The information included in the NOP/IS formed the basis for and focus of the technical analyses in this ~~Draft~~ Final SEIR. The environmental topics evaluated in this ~~Draft~~ Final SEIR, including the rationale for their inclusion, are presented in Table 1-1. Environmental issues that were identified in the NOP/IS as potentially significant, and~~,~~ are, therefore, further addressed in Chapter 4 of this ~~Draft~~ Final SEIR include: air quality, noise, and mandatory findings of significance with respect to cumulative impacts. Energy, wastewater, cultural resources and geology are also addressed in this ~~Draft~~ Final SEIR for the reasons identified in Table 1-1.

The Draft SEIR for the proposed project was circulated for a 45-day comment period beginning on May 10 through June 23, 2011. As with the NOP/IS, the Draft SEIR was circulated to neighboring jurisdictions, responsible agencies, other public agencies, and interested individuals in order to solicit input on the scope of the environmental analysis to be included. Ten comment letters were received on the Draft SEIR during the public comment period. In response to a Notice of Intent to Issue a Permit to Construct for the Sunshine Gas Producers LLC Facility ID 139938 (NOI) for the proposed project issued in January 2012, a number of comment letters on the NOI were received by SCAQMD. Five of these comment letters on the NOI, received between February 14, 2012 and February 29, 2012, contained comments on the Draft SEIR. In spite of the fact that Draft SEIR-related comments in the five NOI letters were received well after the close of the public comment period on June 23, 2011 and the fact that lead agencies are not required to respond to comments received after the close of comments (Public Resources Code §21091(d)(2)(A)), responses to these late comments have been prepared and included in the Final SEIR. Responses to comments from the letters are provided in Appendix J of this Final SEIR.

TABLE 1-1

Evaluated Environmental Topics

Environmental Topic	Reason for Inclusion
Air Quality	The NOP/IS concluded that air quality impacts may be significant. Therefore, an air quality analysis is included.
Cultural Resources	The NOP/IS concluded impacts from cultural resources would be less than significant. However, the Native American Heritage Council prepared a comment letter requesting that cultural resources be considered. Therefore, a cultural resource analysis is included.
Energy	The NOP/IS concluded energy impacts would be less than significant. However, the NOP/IS stated that energy impacts would be further evaluated in the~~is~~ ~~Draft~~ SEIR due to the Southern California Edison (SCE) procedural requirements for the CEQA process. Therefore, an energy analysis is included.
Geology and Soils	The NOP/IS concluded that geology and soil impacts would be less than significant. A comment letter was received from the Los Angeles County Department of Public Works during the Initial Study comment period requesting that geotechnical issues discussed in the NOP/IS be addressed in the ~~Draft~~ SEIR. Therefore, geotechnical issues are addressed and compared to applicable significance criteria.
Hydrology and Water Quality	The NOP/IS concluded that impacts related to hydrology and water quality would be less than significant. However, the NOP/IS stated that wastewater would be discussed in the ~~Draft~~ SEIR to provide additional detail regarding condensate handling. Additionally, discussion of a potable water supply line was requested in the Los Angeles County Department of Public Health comment letter. Therefore, wastewater and water demand issues are addressed and compared to applicable significance criteria.
Noise	The NOP/IS concluded impacts from noise may be significant. Therefore, a noise analysis is included.

The NOP/IS concluded that the proposed project would not create significant adverse environmental impacts for the following topic areas; therefore, these topics are not evaluated in this ~~Draft~~ Final SEIR: aesthetics, agricultural resources, biological resources, hazards and hazardous materials, land use and planning, mineral resources, population and housing, public services, ~~and~~ recreation, solid and hazardous waste, and transportation.

1.4 RESPONSIBLE AGENCIES

CEQA Guideline §15381 defines a “responsible agency” as: “a public agency which proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration. For purposes of CEQA, responsible agencies include all public agencies other than the lead agency that have discretionary approval authority over the project.”

The following agencies have had permitting authority for aspects of the construction and operation of the past projects at SCLF, and have been given an opportunity to review and comment on the NOP/IS ~~and~~, Draft SEIR, and this Final SEIR; however, no new discretionary approvals are expected to be required from these agencies for the proposed project, so therefore, they are not responsible agencies for the currently proposed SGPREP:

- State Water Resources Control Board (SWRCB);
- Los Angeles Regional Water Quality Control Board (RWQCB);
- Los Angeles County Department of Public Health;
- Cal Recycle (formerly Integrated Waste Management Board);
- Los Angeles County Department of Public Works; and
- Los Angeles County Department of Regional Planning.

Although no discretionary approvals are expected to be required, ministerial permits for the proposed project are expected to be required as discussed in Section 2.9.

No trustee agencies as defined by CEQA Guidelines §15386 have been identified with respect to the proposed project. However, notice of the proposed project has been sent to the Office of Planning and Research pursuant to PRC §21080.4 for distribution in the event trustee agencies are identified for the proposed project.

1.5 INTENDED USES OF THE ~~DRAFT~~ FINAL SEIR

This ~~Draft~~ Final SEIR is intended to be a decision-making tool that provides full disclosure of the environmental consequences associated with implementing the proposed project. Additionally, CEQA Guidelines §15124(d)(1) requires a public agency to identify the following specific types of intended uses:

- A list of the agencies that are expected to use the Final ~~Draft~~ SEIR in their decision-making (Section 1.4);
- A list of permits and other approvals required to implement the project (Table 2-1); and
- A list of related environmental review and consultation requirements required by federal, state, or local laws, regulations, or policies (Chapter 3).

To the extent that local public agencies (e.g., cities, county planning commissions) are responsible for making land use and planning decisions related to the proposed project, they may rely on this ~~Draft~~ Final SEIR during their decision-making processes.

1.6 AREAS OF CONTROVERSY

In accordance with CEQA Guidelines §15123(b)(2), the areas of controversy known to the lead agency, including issues raised by agencies and the public, shall be identified in the CEQA document. ~~"Controversy" is defined as a difference in opinion or a dispute. Although multiple comments have been received regarding the SGPREP, these comments call for additional clarification regarding project-related components and environmental analysis, and have not resulted in a difference in opinion or a dispute.~~

After public notification and review of the NOP/IS, the SCAQMD received seven comment letters identifying areas of analysis to be included in the Draft SEIR. In addition, during the public scoping meeting held on December 9, 2009, additional comments were received and documented. Issues raised in the comment letters and public scoping meeting are primarily related to potential impacts from the proposed project, but also included comments on the current environmental conditions in the vicinity of the proposed project not associated with the proposed project and are provided in Appendix C. Comments that are directly related to potential impacts from the proposed project are ~~addressed~~ summarized in the Draft SEIR in ~~(~~Table 1-1~~)~~, including potential cumulatively considerable impacts, and addressed in the appropriate chapters of the document. Additionally, responses to those comment letters and public scoping meeting comments are provided in Appendix C.

After public notification and review of the Draft SEIR, SCAQMD received ten comment letters during the public comment period; an additional five comment letters were received after the public comment period ended, as described previously in Section 1.3. Areas of controversy raised in the Draft SEIR comment letters are summarized in Table 1-2 along with summaries of the SCAQMD's responses. Specific responses to each comment identified in the comment letters on the Draft SEIR are included in Appendix J of this Final SEIR.

TABLE 1-2

Areas of Controversy

	Areas of Controversy Raised by the Public	**SCAQMD Response**
1.	Several stakeholders raised objections to the proposed SGPREP because replacing existing flares with gas turbines would result in an increase in operational criteria pollutants.	These comments were addressed in the following ways: a. In response to these comments, the project proponent worked with the turbine manufacturer and the manufacturer was able to guarantee lower carbon monoxide (CO) and nitrogen oxides (NO_x) emissions. This resulted in modified calculations and determination of less than significant CO impacts, and reduced NOx emissions, although not to less than significance without mitigation. Mitigation measures A-1 and A-2 reduce construction NOx emissions to less than significance (Section 4.2.3.4); b. $PM_{2.5}$ emissions from the operation of the proposed project are the only project-specific criteria pollutant emissions determined to have significant impacts (Subsection 4.2.3.4); c. Operational emissions of all criteria pollutants were determined to have less than significant impacts on a localized level (Subsection 4.2.3.5); d. Impacts to sensitive receptors were determined to be less than significant (Subsection 4.2.3.6); e. Emissions from the proposed project are substantially less than required by BACT for similar projects as discussed in a technology assessment which was performed to identify potential control technologies to provide additional emission reductions (Attachment A to Appendix J). Further, the use of gas turbines is specifically identified in SCAQMD Rule 1150.1 - Control of Gaseous Emissions from Municipal Solid Waste Landfills.
2.	The Draft SEIR did not identify all sensitive receptors in the vicinity of the proposed SGPREP.	Of the list of additional sensitive receptors submitted (Comment 6-2), all locations were either evaluated in the Final SEIR (Subsection 4.2.3.6) or some of the locations cited are not characterized as sensitive receptors. Further, according to the localized air quality impact analysis (Subsection 4.2.3.4), the proposed project would not affect ambient air quality concentrations at any sensitive receptor location.

TABLE 1-2 (concluded)

Areas of Controversy

	Areas of Controversy Raised by the Public	SCAQMD Response
3.	The Draft SEIR ignored existing and past odor complaints at the SCLF.	One of the purposes of CEQA is analyze the effects of a project on the existing setting. Odor from the SCLF is part of the existing setting (Subsection 3.2.1.5). The proposed SGPREP does not in any way affect the amount of wastes received by the landfill or the amount of LFG generation. The proposed project itself does not use or generate odorous compounds and, because it combusts LFG, contributes to controlling odors associated with LFG. Since the publication of the Draft SEIR, an amendment to the existing Abatement Order at the SCLF was issued by SCAQMD in December 2011 (called the Stipulated Third Amended Order of Abatement [STAOA]). The STAOA details the impact of the performance of the gas collection system at SCLF on odors from SCLF, and identifies required remediation measures. The STAOA does not limit LFG-destruction to flares versus the turbines proposed by the SGPREP, and therefore the proposed project would not conflict with the requirements of the STAOA.
4.	Comments were received objecting to the use of emission reduction credits to mitigate significant adverse impacts.	Application of emission reduction credits to offset emission increases from nonattainment and precursor pollutants is a federal requirement and, therefore, must be applied to the proposed project. The SCAQMD only allows the use of emission reduction credits to "mitigate" regional air quality impacts under CEQA. The proposed project would not result in an increase in SO_x, NO_x and VOCs in excess of SCAQMD regional significance thresholds because the proposed project would include offsets from the Priority Reserve (PR) to reduce regional emissions below significance thresholds. When performing a localized air quality analysis to determine if emissions from a project may affect pollutant concentrations at the sensitive receptor, emission reduction credits are not allowed to be used to reduce emissions. The localized impacts from all modeled criteria pollutant emissions are less than significant (4.2.3.5).This issue is responded to in detail in Response to Comment Nos. 4-2 and 4-3 in Appendix J.
5.	Additional analyses should be performed to identify ways to provide additional emission reduction impacts from operation of the proposed project.	In response to comments and at SCAQMD staff's request, a report was prepared that presents available technologies and their emission reduction potential (report included in Attachment A to Appendix J). Several similar projects, i.e., LFG to energy (LFGTE) projects, were identified and it was concluded that the Solar Turbines Mercury 50, a recuperated high efficiency turbine for LFG applications, has the lowest emissions for LFG turbines of all of the similar projects evaluated. The findings of this survey are also included in Response to Comment No. 4-3 in Appendix J.

1.7 EXECUTIVE SUMMARY – CHAPTER 2: PROJECT DESCRIPTION

Throughout this document, references to "proposed project" or "Sunshine Gas Producers Renewable Energy Project" (SGPREP) are one and the same and are used interchangeably. The proposed project would consist of the construction and operation of five gas turbine electricity generator sets, LFG compressors, gas treatment equipment, one SGPREP flare, and the SGP Substation (collectively defined as the "SGP Facility"). The proposed project also includes construction and operation of the SCE Switchyard, the SCE Subtransmission Line, a water supply pipeline and a telecom line from the landfill entrance to the proposed project site.

1.7.1 INTRODUCTION

SCLF is an existing Class III nonhazardous landfill facility that accepts municipal solid waste (MSW) and is not a generator of, or repository for, hazardous wastes. The landfill covers approximately 451 acres and is located partially within the City of Los Angeles and partially within Los Angeles County.

The proposed project is a change to a previously approved project that would utilize the LFG produced by the decomposing waste at SCLF to generate energy. LFG is currently collected at the landfill and combusted using industrial flares pursuant to SCAQMD Rule 1150.1. Rather than flaring the collected LFG, the proposed project would utilize recuperated single-cycle gas turbines that would be fueled with LFG that is recovered from SCLF, transferred to the SGP Facility and treated (filtered, dewatered, and compressed) prior to combustion. Thus, the proposed project would reduce the amount of flaring that would be required to control the increasing amount of LFG anticipated at the landfill. The facility would be equipped with five Solar Turbines Mercury 50 gas turbine electricity generator sets that have a total gross electricity generation capacity of 24.5 megawatts (MW), and a net output of 20 MW.

1.7.2 PROJECT OBJECTIVES

The objectives of the proposed project are as follows:

1. Continue to comply with SCAQMD Rule 1150.1 as LFG (primarily methane) volumes increase.
2. Maximize production of renewable energy utilizing LFG as a combustion fuel rather than simply flaring the LFG and wasting the energy content of LFG.
3. Maximize production of renewable energy provided to state utilities that can be used to meet the State of California's mandated Renewables Portfolio Standard (RPS).
4. Incentivize and encourage ~~LFG-to-energy~~LFGTE projects and other small scale renewable energy projects because such projects provide a stable source of renewable energy necessary to meet the goals of the RPS.
5. Provide a source of renewable energy as cost-effectively as possible.

1.7.3 PROJECT LOCATION

SCLF is surrounded by unincorporated areas of Los Angeles County to the north and west and the communities of Granada Hills and Sylmar to the south and east, respectively. The proposed project would be located completely within the boundaries of SCLF in the northern portion of the landfill, within an unincorporated area of Los Angeles County. Although the proposed project would be within the existing landfill footprint, it would be located outside of the lined area of the landfill that contains MSW and on soil that has been previously disturbed by work at the landfill. The proposed ~~project site~~SGP Facility would be located approximately 1.6 miles from residential communities located immediately south of SCLF, and 1.1 miles from residential trailers located to the west of the San Fernando Road entrance to the SCLF.

1.7.4 LAND USE AND ZONING

The current land use designation within the City's jurisdiction is "heavy industrial," with a zoning designation of M3-1-O (Heavy Industry). Within the County portion of the landfill, the land use designation is "Hillside Management, Non-Urban Hillside," and "Residential," and the corresponding zoning is A-2-2 (Heavy Agriculture, Two-Acre Minimum Lot Size).

In the County portion, an amended CUP is in effect, the details of which are described in Section 2.5, Site Background. The surrounding area is zoned "Open Space" in the city jurisdiction (i.e., areas to the south and east of the landfill) and "Hillside Management" and "Residential" in the county jurisdiction (i.e., areas to the north and west of the landfill).

1.7.5 SITE BACKGROUND

SCLF consists of the existing operating County Landfill and an inactive landfill on the City portion. SCLF is owned and operated by ~~BFI. BFI is owned by Allied Waste, Inc., and is a wholly owned subsidiary of parent company~~ Republic Services, Inc. (formerly BFI). Landfill operations formally commenced in the City portion of SCLF in 1958 and continued there until the expiration of a City zoning variance in 1991.

The current configuration of the SCLF is the result of a complex history of land use and zoning actions undertaken over the last 20 years by both the City and the County, with the ultimate objective being the merger of the two preexisting landfills in separate jurisdictions into one larger landfill that would be subject to the same, or similar, mitigation and operating requirements.

The analysis in this ~~Draft~~ Final SEIR relies upon the environmental analysis from previously approved EIRs for the initial development of SCLF, as referenced in Section 1.2.2.

1.7.6 PROPOSED PROJECT

The proposed project would involve the utilization of methane-rich LFG extracted from SCLF, which is currently flared, as fuel in new gas turbines to drive electricity generators. The proposed project would use Solar Turbines Mercury 50 gas turbine electricity generator sets that have a total gross electricity generation capacity of 24.5 MW, and a net output of 20 MW.

The proposed project would include the construction and operation of the following new equipment and structures: five recuperated single-~~-~~cycle gas turbine electricity generator sets, LFG compressors, gas treatment equipment, an enclosed flare ("SGPREP flare"), one substation ("SGP Substation"), one switchyard ("SCE Switchyard"), an extension of the existing SCE subtransmission line ("SCE Subtransmission Line"), two buildings, and a parking lot. Other than minor changes to controllers, programming, and connections to the existing ~~landfill gas~~LFG collection system, no major changes would be made to existing landfill equipment. The proposed project would also include the installation of a water supply pipeline and telecom line from the landfill entrance to the proposed project site.

To support the proposed SGP Facility construction and operations, SCE would construct a switchyard and subtransmission line. The SCE Switchyard would be equipped with one structure ~~with~~ containing three circuit breakers arranged in a ring-bus configuration with two incoming SCE lines, one subtransmission pole, and one feed to the SGP Facility and a metering room. The SCE Subtransmission Line would extend subtransmission lines from the existing subtransmission line to the proposed project and require the relocation of an internal BFI power pole, which is currently located in close proximity to SCLF Flare 8.

~~The proposed project would also include the installation of a water supply pipeline and telecom line from the landfill entrance to the proposed project site.~~

1.7.7 CONSTRUCTION OF PROPOSED PROJECT

Construction of the SGP Facility would likely occur over the course of approximately ~~27~~ 24 months through implementation of approximately six sequential phases of development. Activities would include ~~soil importation~~site preparation, hauling of clean soil from identified sources at SCLF for use at the proposed project site, earthmoving, foundation construction, equipment and septic system installation, piping and wiring, water supply pipeline and telecom line installation, and other miscellaneous work, such as painting and commissioning.

Construction of the SCE Switchyard would likely occur over the course of approximately two to three months and would run concurrently with the fifth phase of the SGP Facility construction. Activities would include site management, civil (e.g., foundations, underground conduit, ground grid), electrical (e.g., Mechanical-Electrical Equipment Room [MEER], switchracks, conductor, circuit breakers), testing (e.g., relays, energization), paving and fencing.

Construction of the SCE Subtransmission Line would likely occur over the course of approximately five months and would run concurrently starting with the second phase and ending with the fifth phase of the SGP Facility construction. Activities would include surveying, access road development, tubular steel pole (TSP) footing installation, pole framing/setting, material delivery, ~~tubular steel pole (TSP) footing installation,~~ conductor installation, ~~material delivery,~~ and restoration.

1.7.8 OPERATION OF PROPOSED PROJECT

Two to three SGP employees would be hired to ensure proper operation and maintenance of the SGP Facility. Potable drinking water (to be provided by installation of a water supply pipeline) and a restroom facility (consisting of a septic system) would be provided for these employees.

The proposed SCE Switchyard would be an unmanned, automated~~, low-profile,~~ 21 megavolt-ampere (MVA) switchyard. The SCE Subtransmission Line would also be unmanned and subject to infrequent maintenance.

1.7.9 PERMITS AND COMPLIANCE REQUIREMENTS

SGP requires environmental permits to construct and operate its SGP Facility, and the SGP Facility is also subject to environmental compliance requirements from a variety of federal, state, and local agencies. SGP has applied for and must obtain air quality permits related to the proposed project, which comprise most of the permits necessary for the proposed project.

1.8 EXECUTIVE SUMMARY – CHAPTER 3: ENVIRONMENTAL SETTING

1.8.1 INTRODUCTION

This chapter presents the existing environmental setting for the proposed project, which normally constitutes the baseline physical conditions by which a lead agency determines whether an impact is significant. This chapter also provides regulatory background for the environmental topic areas analyzed in this document. The environmental topics identified in Chapter 3 include both a regional and local setting.

1.8.2 AIR QUALITY

The proposed project would be located within the SCAQMD jurisdiction. Over the last decade and a half, air quality has substantially improved within the SCAQMD's jurisdiction. Nevertheless, several air quality standards continue to be frequently exceeded by a wide margin. For example, for the National Ambient Air Quality Standards (NAAQS) established for six criteria pollutants, the district is in attainment for four (sulfur oxides [SO_x], ~~nitrogen oxides [~~NO_x~~]~~, ~~carbon monoxide [~~CO~~]~~, and lead). The South Coast Air Basin ("the Basin") routinely exceeds the ambient air quality standards for ozone and particulate matter (PM).

Chapter 3 discusses the effects of meteorological conditions, temperature~~ and~~, rainfall, and wind flow patterns on the existing air quality conditions in the Basin, as well as ~~and~~ the regulatory background. ~~Potential impacts to e~~Existing air quality ~~due to the proposed project are~~is examined with respect to criteria pollutants, regional air quality, local air quality, toxic air contaminants (TACs), odors (including the Order for Abatement and associated amendments), and the regulatory background.

1.8.3 CULTURAL RESOURCES

The project site is located in a region~~al area~~ ~~where~~in which archaeological, paleontological, and Native American resources have been discovered. However, much of the project site and surrounding vicinity is disturbed by activities associated with an oil field to the south, as well as previous landfilling operations. No historic archaeological sites, heritage properties or extant historic standing structures were identified within the landfill property. However, a records search for the project area indicates that seven historic archaeological sites have been documented within a one-mile radius of SCLF. Two of the previously recorded sites are near the project area; resources at these sites have been recovered so they are not expected to be impacted by the proposed project.

SCLF is located in an area underlain by the late Miocene-early Pliocene Towsley Formation, consisting of coarse sandstone and conglomerate, shale, and siltstone. This unit is marine and is known to contain localized bone beds and vertebrate remains of Miocene age. Sparse fossil remains were encountered within SCLF. These remains were not considered noteworthy. However, additional undiscovered paleontological resources of scientific value may exist within the marine sedimentary rocks that underlie the canyon.

1.8.4 ENERGY

The major sources of energy in California come from intrastate, interstate, and foreign sources. Power plants in California provided approximately ~~73~~ 69 percent of electricity from in-state electricity demand in ~~2008~~2009. ~~Renewable~~ In 2010, renewable energy sources (excluding large hydroelectric sources) accounted for ~~10.6~~14 percent of California's total power.

With respect to SCLF operations, electricity is consumed on site to provide power for numerous environmental protection and control systems (e.g., LFG collection system, flare station), water pumps, site security, and building lighting, heating, and air conditioning. Power for on-site electrical uses is supplied from the Los Angeles Department of Water and Power (LADWP) and from SCE. Energy use at SCFL is approximately 1,000,000 kilowatt-hours per year (kWh/y) with a peak demand of approximately 176 kilowatts (kW).

California's Renewables Portfolio SB 1078 mandates that California increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources by 2017. Further, California's mandated RPS requires electrical utilities to achieve a 33 percent renewable energy target by 2020 (California Governor's Executive Order S-14-08), while Executive Order S-21-09 directs the California Air Resources Board (CARB) to adopt regulations increasing California's RPS to 33 percent by 2020.

Chapter 3 discusses the existing setting regarding demand, supply, and distribution of energy resources on a state and local basis, and is focused on electricity generation.

1.8.5 GEOLOGY AND SOILS

The project site lies within the western portion of the Transverse Ranges geomorphic province of California. This province consists of a distinct group of east-west trending ranges and valleys and encompasses approximately 325 miles. The site is located in the Ventura Basin that is underlain by the Topanga, Modelo, and Towsley Formations. On-site soils are moderately to highly permeable and moderately to poorly drained. Two landslides have been identified within SCLF. One of these areas is located within the vicinity of the proposed project in an area referred to as the north slope. Additional geotechnical surveys, as requested by the County of Los Angeles in comments on the Draft SEIR, were conducted since the publication of the Draft SEIR, concluded that the north slope is globally stable and meets the County of Los Angeles Department of Public Works' stability criteria. Several active and potentially active faults are located in the vicinity of the proposed project site. Because the project area is located in a region considered to be seismically active, seismic hazards that could potentially affect the proposed project include surface fault rupture, ground shaking, soil liquefaction and dynamic settlement, and landslides.

1.8.6 HYDROLOGY AND WATER QUALITY

The project area lies within the Los Angeles-San Gabriel Hydrologic Unit of the Los Angeles Region. This hydrologic unit encompasses most of Los Angeles County. The Los Angeles River, San Gabriel River, and Ballona Creek are the major drainage systems in this region and recharge large reserves of groundwater that underlie the San Fernando and San Gabriel Valleys and the Los Angeles Coastal Plain. The project site is located in the San Fernando Valley Groundwater Basin and Sylmar Subbasin. The majority of groundwater in this basin is currently of poor quality and does not meet drinking water standards. Primary pollutants contained in this basin include volatile organic compounds (VOCs) from industry, nitrates from septic tank systems, and pollutants from past agricultural activities.

Potable water is supplied to SCLF by the LADWP via an existing water distribution line. Water usage at SCLF is primarily for dust control and landscape irrigation. A small amount of potable water is used for employee drinking and sanitation needs. SCLF consumption demand is approximately ~~100~~200,000 gallons per day (gpd)~~ within the City and 100,000 gpd within the County~~. Existing availability of potable water is sufficient to meet current SCLF usage and consumption demands.

SCLF generates wastewater from operation and maintenance of its facility. A septic system collects sanitary waste in accordance with Los Angeles County Department of Public Health requirements. Sanitary waste is pumped out of the septic tank and taken off-site for disposal. The sources of industrial wastewater collected and treated at the SCLF are landfill leachate, gas condensate, spring (seep) water, and wash water. SCLF operates two water treatment facilities. All treated wastewater is reused on site for dust control and irrigation purposes and meets the provisions for on-site use of water in accordance with the site's Los Angeles RWQCB Waste Discharge Requirements (WDRs).

1.8.7 NOISE

The existing noise environments in the Los Angeles area vary considerably as a result of the variety of land uses and densities. The Interstate 5 (I-5) freeway is considered the dominant long-term noise source located to the east of the project site area. Additional noise sources in the vicinity of the project site include:

- Wood chopping associated with a firewood sale area located across the street from the landfill entrance (on San Fernando Road);
- Water treatment, pumping, and storage operations of the Los Angeles Reservoir located about 1.75 miles south of the project site; and
- Other industrial activities conducted along San Fernando Road approximately ¼ to ½ mile from the landfill entrance.

Noise is currently generated at the SCLF from incoming garbage trucks and resident vehicles disposing of their refuse, landfill earthmovers and bulldozers, other tractors, sorters and compactors to support operations, maintenance vehicles servicing the equipment, vehicles used in maintaining the existing inactive landfill, and employee vehicles accessing the site during scheduled hours of operation. This section provides ambient noise level monitoring data and regulatory background (Occupational Safety & Health Administration [OSHA], county and city requirements).

1.9 EXECUTIVE SUMMARY – CHAPTER 4: ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

1.9.1 INTRODUCTION

Chapter 4 assesses the potential environmental impacts of the construction and operation of the SGPREP. Table 1-~~2~~ 3 (located at the end of this chapter) summarizes the impacts of the proposed project.

1.9.2 AIR QUALITY

1.9.2.1 Environmental Impacts

Chapter 4 includes discussion of project-specific adverse air quality impacts associated with increased emissions of air contaminants (both criteria air pollutants and TACs) during the construction and operation phases of the proposed project. This includes discussion of regional and local impacts, as well as impacts to sensitive receptors and off-site workers. Odor impacts from the proposed project are also discussed. The SCAQMD makes significance determinations based on the maximum daily emissions during the construction period, which provides a "worst-case" short-term analysis of the construction emissions. Similarly, significance determinations for operational emissions are based on the maximum daily emissions during the operational phase.

Construction Emissions: The construction phase of the proposed project would not exceed the SCAQMD regional significance thresholds for CO, VOCs, SO_x, particulate matter less than 10 microns in diameter (PM_{10}), or particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). The proposed project would exceed SCAQMD significance thresholds for NO_x. Mitigation Measures A-1 and A-2 would mitigate NO_x emissions. Localized construction emissions for the proposed project would not exceed the SCAQMD localized significance thresholds (LSTs). Calculations of air emissions from construction are included in Appendix D-1.

Operational Emissions: The primary sources of operational emissions would be the five new gas turbines. Operational emissions quantification and modeling are discussed in Appendix E. Based on revised manufacturer guarantees, emissions would be less than reported in the Draft SEIR for CO and NO_x. As a result, CO emissions, which were formerly concluded to be significant have been reduced to less than the regional CO significance threshold and, therefore, are no longer concluded to be significant. The proposed project would result in an increase in ~~CO and~~ $PM_{2.5}$ emissions in excess of SCAQMD regional significance thresholds. The proposed project would not result in an increase in SO_x, NO_x and VOCs in excess of SCAQMD regional significance thresholds because the proposed project would include offsets from the Priority Reserve (PR) to reduce regional emissions below significance thresholds. Dispersion modeling showed that local ambient air quality would not be significantly impacted by the proposed project.

Health Risk Assessment: Based on the air quality ~~modeling~~ assessment and related assumptions, the cancer risks to residents and off-site workers from toxic air pollutants associated with operation of the proposed project ~~were~~ are estimated to be below the significance thresholds. In addition, the acute and chronic non-cancer adverse impacts to residents and off-site workers from toxic air pollutants would be below the significance thresholds.

Odor Impacts: Operation of the proposed project would not create objectionable odors affecting the surrounding community. The discussion was modified from that included in the Draft SEIR to address a public comment asserting that the odor impact analysis conclusions are in error. As stated throughout the document, the proposed project would replace one LFG destruction device (flares) with another (turbines), both of which must comply with regulatory requirements imposed by SCAQMD to reduce odors. This discussion refers readers to the additional odor discussion included in Chapter 5.

1.9.2.2 Mitigation Measures

Mitigation Measure A-1

Construction of the proposed project would achieve necessary mitigation for NO_x emissions through the use of engines meeting the California Tier 3 off-road compression ignition engine certification standards (Title 13, California Code of Regulations [CCR], Section 2423)~~, as feasible,~~ for the SGP Facility construction and equipment installation (i.e., the five turbines, compressors, siloxane removal system, regeneration gas flare, water supply pipeline, and telecom line). During the selection process for a construction contractor, additional credit will be given to those with Tier 3 engines. If not available, Tier 2 equipment shall be used.

Mitigation Measure A-2

Construction of the proposed project would achieve necessary mitigation for NO_x emissions through the purchase of Mobile Source Emission Reduction Credits (MSERCs) through an SCAQMD-approved offsets broker.

In addition to the mitigation measures described above, in response to comments submitted on the Draft SEIR, and at SCAQMD staff's request, a report was prepared that presents available technologies and their potential in providing further emission reductions during operation of the proposed project (report included in Attachment A to Appendix J). No technologies were identified that could further reduce operational emissions without creating other potentially significant adverse environmental impacts that would be outside the scope of the environmental analysis in this Final SEIR. In addition, application of several of the technologies was concluded to be infeasible, primarily because the exhaust temperature ranges from the gas turbines were incompatible with the temperature ranges for affective performance of the control technologies. Finally, for most of the technologies surveyed, to achieve a measurable change in the operational emission rate would require installing large-scale equipment that could not be accommodated on-site due to the space limitations imposed by topography. Therefore, no feasible mitigation measures were identified that could mitigate operational $PM_{2.5}$ emission impacts to less than significant levels.

1.9.2.3 Level of Significance Following Mitigation

The air quality impacts associated with construction of the proposed project would be less than significant following mitigation. Impacts from $PM_{2.5}$ emissions during operation of the proposed project would be significant and unavoidable.

1.9.3 CULTURAL RESOURCES

1.9.3.1 Environmental Impacts

Potential impacts to cultural resources could occur during construction of the proposed project. The majority of the proposed construction activity would occur in areas that have been previously disturbed. The area adjacent to the proposed project has been used for refuse disposal since the 1950s and prior to that time was the site of active oil exploration and extraction, with many abandoned well heads and drilling platforms still in existence. Previous records searches and on-site surveys indicate that there are two historical resource sites within the vicinity of proposed project water supply pipeline, which have previously been removed for curation. Construction of the proposed water supply pipeline and telecom line may encounter similar resources.

The proposed project incorporates the mitigation measures listed in the Archeological, Historical, and Paleontological sections of the SCLF MMRS. In addition, site disturbance activities associated with construction of the proposed project's water supply pipeline would require surveying the planned excavation areas prior to excavation. Results of surveying these areas would determine if further monitoring during excavation activities is required to protect cultural resources at the site.

Following public review of the Draft SEIR, a Revised Phase I Cultural Resources Assessment (CRA) was prepared by John Minch and Associates (JMA) in October 2011 to include the small additional disturbance areas associated with the water supply pipeline installation and maintenance grading for a roadway associated with the SGPREP (Appendix G of this Final SEIR). The Revised Phase I CRA included a Sacred Lands File Check (June 7, 2011), which confirmed previous findings that no sensitive Native American sites have been recorded within the proposed project area. Additionally, the Revised Phase I CRA included field reconnaissance of the proposed project area on August 26, 2011, which did not identify any prehistoric or historic resources.

1.9.3.2 Mitigation Measures

No significant impacts associated with cultural resources are expected from the proposed project. Mitigation measures from the existing MMRS (Measures 5.01, 5.02, 5.05, and 7.05) for the SCLF are currently in place to address potential impacts to cultural resources. Therefore, no additional mitigation measures are required.

1.9.3.3 Level of Significance Following Mitigation

The proposed project's impacts to cultural resources are expected to be less than significant.

1.9.4 ENERGY

1.9.4.1 Environmental Impacts

The proposed project would be connected to the SCE 66 kilovolt (kV) subtransmission system through the ~~SGP Facility~~SCE Switchyard that would be constructed for the proposed project. The proposed project would convert the existing LFG that is currently flared into a useful energy source through the construction of the SGP Facility on the SCLF site.

Construction Energy Use: Construction of the proposed project would use nonrenewable energy resources, primarily in the form of fuels for vehicles and equipment, and electrical energy (from the grid) for tools and lighting. The energy required would not result in a substantial use of regional energy sources, nor would it require new energy infrastructure to be constructed.

Operational Energy Use: Operation of the proposed project and its components would require a one-time increase in short-term consumption of energy (on startup), but would increase long-term generation of renewable electricity.

1.9.4.2 Mitigation Measures

No significant impacts associated with energy are expected from the proposed project, so no mitigation measures are required.

1.9.4.3 Level of Significance Following Mitigation

The proposed project's impacts to energy are expected to be less than significant.

1.9.5 GEOLOGY AND SOILS

1.9.5.1 Environmental Impacts

Seismic Activity: Although the proposed project site is located within a seismically active and earthquake-induced landslide area, it would be designed according to the ~~2007~~ 2010 California Building Code (CBC) earthquake design requirements (California Building Code Standards Commission ~~2007~~2010). The design of the facility would also include specifications necessary to ensure that the facility is built on soils that would be of appropriate engineering quality to reduce geologic hazards and reduce risk of loss, injury, or death involving strong seismic ground shaking, or seismic-related ground failure including landslides. Therefore, this impact would be less than significant.

Soil Erosion: Construction activities and sites with poor drainage designs have the potential to increase soil erosion. However, multiple regulatory mechanisms are already in place to reduce this impact to less than significant levels. Consequently, erosion is not a potential geologic hazard for the project site during post-construction conditions. Considering the existing regulatory mechanisms, this impact would be less than significant.

Soil Stability: The proposed project would be located within an area that has been previously graded due to landfill activities. Preliminary geotechnical evaluations of the north slope (approximately 500 feet west of the SGP Facility) identified potentially unstable soil. However, ~~Additionally,~~ field surveys conducted at the proposed project site since the publication of the Draft SEIR ~~have~~ concluded that the north slope is globally stable and would meet County of Los Angeles soil stability requirements. ~~Through the process of obtaining a comprehensive geotechnical report prepared specifically for the proposed project, the soils present would be evaluated to ensure that they meet relevant standards for the proposed project building design. Additionally, a~~As part of the facility permitting process, the building site and fill material would be required to be of appropriate engineering quality to reduce the risk of geologic hazards such as subsidence, collapse, or expansive soils, as described in the CBC (California Building Code Standards Commission 2010~~CBC 2007~~). Therefore, this impact would be less than significant.

Soil Compatibility with Septic System: The proposed project includes the installation of a septic system to manage wastewater discharge associated with the employee sanitary facilities. The project proponent is required to work with Los Angeles County Department of Public Health to ensure the proper design and installation of the septic system. Additionally, the building permit is conditional to the approval of the septic system design, which ensures that the proposed project would not be constructed until the septic system design meets the necessary design requirements, including the use of soils that adequately support the use of a septic system. Therefore, this impact would be less than significant.

1.9.5.2 Mitigation Measures

No significant impacts associated with geology and soils are expected from the proposed project. Mitigation measures from the existing MMRS (Measures 1.02, 1.06, 1.07, 1.11, and 1.13) for the SCLF are currently in place to address potential impacts to geology and soils. Therefore, no additional mitigation measures are required.

1.9.5.3 Level of Significance Following Mitigation

The proposed project impacts for geology and soils are expected to be less than significant.

1.9.6 HYDROLOGY AND WATER QUALITY

1.9.6.1 Environmental Impacts

Industrial Wastewater: It is conservatively estimated that approximately 8,500 gallons of condensate wastewater would be generated each day ~~from the~~ during operation of the SGP Facility~~'s LFG treatment process~~, and an additional 500 to 1,000 gallons of wash water would be generated on a quarterly basis as part of equipment cleaning and maintenance. The 8,500 gpd would include the existing 5,000 gpd currently generated at SCLF and an additional 3,500 gpd generated in treatment of LFG, as the moisture content requirement for the proposed turbines is much lower than that for the existing flares. The wastewater would be captured and included in the SCLF wastewater management system, which has sufficient capacity to handle the additional wastewater from the SGP Facility. SCLF currently manages wastewater in accordance with the SCLF site's WDR, Order No. R4-2008-0088, which has been amended by R4-2011-0052, issued by the Los Angeles RWQCB. All treated wastewater is reused on site for dust control and irrigation purposes and meets the provisions for on-site use of water provided in the WDR. The WDR does not limit quantity of treated wastewater that can be reused for dust control and irrigation.

~~SCLF operates the wastewater treatment facilities to ensure that the water quality meets the Los Angeles RWQCB requirements for beneficial reuse, in this case for application to land for dust suppression and irrigation.~~ Effluent from the proposed project's septic system would not be commingled with the industrial wastewater generated from the SGP Facility. A separate septic treatment system would be established to treat the sanitary waste in accordance with Los Angeles County Department of Public Health requirements. Wastewater produced from the proposed project would be appropriately managed and treated on site in accordance with relevant industrial wastewater requirements; therefore, wastewater impacts would be less than significant.

Water Demand: The proposed project would employ two to three full-time employees generating additional water demand of approximately 40 to 60 gpd. ~~The LADWP projected water demands through the year 2030 are based on an expected increase in commercial employment within the service area of 0.8 percent annually. Because the projections include growth in employment and account for the needs of additional water resources to support this growth, the water supply needed to support the additional two to three additional employees for the proposed project is accounted for. Additionally, t~~The proposed project would use far less (40-60 gpd) than the threshold of 262,820 gpd of potable water. Therefore, impacts to water resources would be less than significant.

1.9.6.2 Mitigation Measures

No significant impacts associated with hydrology and water quality are expected from the proposed project. Mitigation measures from the existing MMRS (Measures 2.03, 2.14, and 3.12) for the SCLF are currently in place to address potential impacts to hydrology and water quality. Therefore, no additional mitigation measures are required.

1.9.6.3 Level of Significance Following Mitigation

The hydrology and water quality impacts associated with the proposed project would be less than significant.

1.9.7 NOISE

1.9.7.1 Environmental Impacts

A variety of detailed noise modeling calculations that compare current ambient noise levels to noise levels that would be generated by the proposed project show that operation of the proposed project would not generate significant noise impacts to the adjacent surrounding residential community, the commercial areas, or the administrative building and refuse collection area.

Also, the temporary construction activities necessary to develop the renewable energy project are shown to be below all construction noise level thresholds for all six phases of development.

All comparative noise values are shown to be well below the required environmental thresholds as specified within the County and City of Los Angeles Noise Ordinances. Noise levels in the outdoor work environment at the refuse collection area would be well below the acceptable ~~Occupational Safety & Health Administration (~~OSHA~~)~~ Eight-hour Time Weighted Averaged (TWA) noise threshold limit of 90 decibels, using A-weighted measurement (dBA) and, therefore, would not require a Hearing Conservation Plan.

Modifications were made to this section to provide additional detail on nighttime noise impacts. These modifications did not result in changes to significance determinations.

1.9.7.2 Mitigation Measures

The proposed project would not result in significant impacts to noise, so no mitigation measures are required.

1.9.7.3 Level of Significance Following Mitigation

Noise impacts associated with construction and operation of the proposed project would be less than significant.

1.10 EXECUTIVE SUMMARY – CHAPTER 5: CUMULATIVE IMPACTS

1.10.1 INTRODUCTION

CEQA Guideline §15130(a) requires an EIR to discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in §15065(a)(3). The analysis of cumulative impacts in Chapter 5 focuses on the impacts of implementation of the SGPREP concurrent with past, present, and probable future projects producing related impacts.

1.10.2 POTENTIALLY RELATED PROJECTS

A number of projects are proposed for development in the vicinity of the SGPREP. The discussion in Chapter 5 of the Draft SEIR identifies projects that are reasonably expected to proceed in the foreseeable future (i.e., project information has been submitted to a public agency), however, only two projects had sufficient information to include in the cumulative impacts discussion. ~~While eight~~ In response to comments received on the Draft SEIR that there were other potentially related projects in the area, another survey was performed that identified another eight potentially related projects were identified. Of the total of sixteen projects that were identified within a two-mile radius of the proposed SGPREP, seven projects were found to have insufficient environmental impact information available. The remaining ~~only two~~ nine projects were found to be related projects for consideration in the cumulative impacts analysis. The~~se~~ nine projects ~~are~~include:

- SCLF: Activities associated with combining the City and County landfills in order to increase the capacity to approximately 90 million tons without appreciably expanding the total footprint of the separate operations in the City and County; ~~and~~
- South Santa Clarita Sphere of Influence Amendment, Annexation, and Prezone: Annexation of approximately 595 acres currently located in the unincorporated portion of Los Angeles County to establish the probable ultimate southern boundary and urban service area of the City of Santa Clarita;
- SCE Subtransmission Line ~~relocation~~ Relocation (SLR) ~~project~~Project: Relocation of the existing 66kV subtransmission line (currently runs through the center of SCLF) to the perimeter of the disturbed area in the north of the SCLF;
- LADWP Barron Ridge Renewable Transmission Project (BRRTP): Subtransmission line installation in Los Angeles and Kern Counties to transmit electricity from renewable energy sources in remote areas;
- LADWP Sylmar Ground Return System Replacement Project: Replacement of 31 miles of overhead power lines, underground cables and sub-sea cables that run from the Sylmar Converter Station to the Pacific Ocean;
- Aliso Canyon Turbine Replacement Project: Replacement of an existing gas turbine-driven compressor station with three variable frequency drive compression trains installed in a new compressor station, which includes modifications to existing subtransmission line within SCLF;
- Gate King Industrial Park Project: Subdivision of 584 acres on 25 parcels into 60 lots for an industrial/commercial park, water tanks and permanent open space;
- Caltrans I-5 and SR-14 Direct High Occupancy Vehicle (HOV) Connector: Building an elevated, two-lane HOV lane connector between the HOV lanes of I-5 and SR-14, for a distance of approximately thirteen miles; and
- Potential future development of additional LFGTE projects at the Sunshine Canyon Landfill.

1.10.3 AIR QUALITY

~~The SCLF project consists of the activities associated with combining the City and County landfills in order to increase the capacity to approximately 90 million tons without appreciably expanding the total footprint of the separate operations in the City and County. The proposed SCE SLR project consists of the relocation of the existing 66 kV subtransmission line, which currently runs through the center of SCLF, to a location that runs along the perimeter of the disturbed area of the landfill within the County boundary.~~

~~The other five projects identified within two miles of the proposed site were found to have insufficient environmental impact information available. One project, the South Santa Clarita Annexation project, was not included as a related project because there is no proposed development associated with it, and no significant impacts were identified in the City of Santa Clarita's 2009 draft SEIR for the proposed annexation.~~

1.10.3.1

~~1.10.3.1.1~~ Environmental Impacts

The region of analysis for cumulative effects on air quality from criteria pollutants is the Basin, which is in SCAQMD jurisdiction. The Basin is currently in nonattainment for ozone, PM_{10} and $PM_{2.5}$. These pollutant nonattainment conditions within the region are considered cumulatively significant. The geographic scope considered for cumulative GHG impacts includes regional, statewide, and national considerations, as well as contribution to global climate change.

1.10.3.1.~~2~~1 Criteria Pollutant Impacts

Construction emissions for the proposed project would exceed the significance thresholds established by the SCAQMD for NO_x; however, with the implementation of Mitigation Measure A-1 (Tier 3 engines for SGP Plant Construction, as feasible) and A-2 (MSERCs for NO_x emissions in excess of the SCAQMD threshold of significance), the project-specific impact from construction would be less than significant with mitigation. Because the proposed project would be less than significant following mitigation, it is not considered to have significant adverse cumulative construction air quality impacts.

Through compliance with SCAQMD Regulation XIII (New Source Review) the implementation of Best Available Control Technology (BACT) and the utilization of PR offsets, the project-specific impacts to air quality from operational NO_x, VOC, CO, and SO_x emissions would be less than significant. Project-specific impacts from ~~CO and~~ $PM_{2.5}$ are not subject to offset requirements and therefore PR offsets would not be applied to reduce impacts to less than significant. As a result, project-specific operational air quality impacts from ~~CO and~~ $PM_{2.5}$ would be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1). Therefore, the proposed project ~~is considered to~~would have significant adverse cumulative air quality impacts from operational ~~CO and~~ $PM_{2.5}$ emissions.

1.10.3.1.2 Toxic Air Contaminant Impacts

The impacts from TACs are localized impacts; however, impacts from TAC emissions ~~at SCLF and the proposed SCE SLR~~from related projects could overlap with proposed project emissions. The project-specific TAC impacts were found to be less than significant. A conservative estimate of cumulative TAC impacts from the proposed project and SCLF found cumulative impacts to be less than significant. ~~The SCE SLR~~None of the related projects ~~would~~ would generate ~~no~~significant TAC emissions during operation.

1.10.3.1.3 Odors

Impacts from odors associated with the operation of the proposed project were found to be less than significant; however, as discussed throughout this Final SEIR, SCLF has received many notices of violation (NOVs) as a result of odor complaints from the surrounding community. As a result of these complaints and violations, SCAQMD issued an Order for Abatement in 2010, which has most recently been amended in December 2011 (called the Stipulated Third Amended Order of Abatement [STAOA]). The 2011 STAOA was not published prior to publication of the

Draft SEIR. The STAOA details the impact of the performance of the gas collection system at SCLF on odors from SCLF, and identifies required remediation measures, such as: installing additional LFG collection wells; additional surface LFG monitoring; an additional physical or computer modeling study; hiring corrective action managers at SCLF; hiring an independent environmental consultant to monitor odors and other environmental parameters; installing a new flare; and conducting additional environmental monitoring. As indicated above and in Chapter 4, odor impacts from the proposed project would not exceed the applicable project-specific odor impact significance thresholds, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not contribute to significant adverse cumulative odor impacts. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative odor impacts presented in the Draft SEIR.

1.10.3.1.~~3~~4 Greenhouse Gas ~~Impacts~~Emissions and Global Climate Change

This section provides the environmental and federal, state, and local regulatory settings for global climate change and GHG emissions, in addition to cumulative impacts associated with the proposed project.

GHG emissions would be generated by off-road equipment and on-road vehicles during the construction phase of the project. Operational GHG emissions would be generated primarily from the combustion of ~~gas~~ LFG recovered from SCLF. In addition, potable water use and solid waste generation during operation of the proposed project would result in GHG emissions.

The significance of impacts is based on the extent to which the proposed project may increase, or reduce, GHG emissions as compared to the existing environmental setting. Compared to the existing environmental setting (i.e., baseline conditions), the proposed project would increase GHG emissions and would exceed the SCAQMD significance threshold. Therefore, the cumulative increase of GHG emissions from the proposed project is considered to be significant.

1.10.3.2 Mitigation Measures

Significant adverse project-specific construction criteria pollutant emissions impacts would be mitigated through the use of Tier 3 engines for the SGP Facility construction equipment, as ~~feasible~~available, and ~~. NO$_x$ construction emissions in excess of the SCAQMD threshold of significance would be mitigated~~ through purchasing MSERCs (mitigation Measures A-1 and A-2, respectively).

Consequently, project-specific air quality impacts from construction for criteria pollutant emissions are ~~were~~ concluded to be less than significant. Further, cumulative impacts from construction ~~were~~ are concluded to be less than significant, so cumulative construction impact mitigation measures are not required.

Operational emissions of ~~CO and~~ $PM_{2.5}$ ~~were~~ are concluded to be significant. Potential mitigation measures for ~~CO and~~ $PM_{2.5}$ ~~were~~ are evaluated, and ~~only one mitigation measure was identified for CO, but it was not considered feasible for the proposed project. N~~ no ~~other~~ feasible mitigation measures ~~were~~ are identified. Therefore, operational ~~CO and~~ $PM_{2.5}$ emissions remain significant.

The proposed project would cause significant cumulative impacts from GHG emissions.

The mitigation recommended for this project is 1) the use of LFG from the decomposition of waste materials deposited in the landfill to generate the fuel used in the project, ~~and~~ 2) the use of this renewable fuel to generate electricity that can be used instead of fossil-fuel generated electricity, and 3) pay $36,000 to the SCAQMD's Rule 2702 – Greenhouse Gas Reduction Program, to mitigate all construction GHG emissions quantified in this Final SEIR. GHGs from the proposed project would include: turbine GHG emissions (identical to SCLF flares due to equivalent methane destruction efficiency), water supply, on-site waste (i.e., waste generated by on-site workers), and construction GHG emissions~~,~~. The GHG emissions resulting from construction of the project have been mitigated to zero ~~amortized over a 30-year project span~~.

This project would also offset GHG emissions, as it would replace some higher GHG intensity energy with energy produced from renewable resources (i.e., LFG). In addition, the use of the biogenic methane for electricity, rather than flaring, would reduce reliance on fossil-fuel generated electricity. The offset GHG emissions that would result from the replacement of higher GHG intensity energy cannot be quantified due to 1) the uncertainty of the GHG intensity of the energy being replaced, and 2) the uncertainty of how much of the project's energy is being used to accommodate growth in the region, and will therefore be new energy rather than replacement energy.

1.10.3.3 Level of Significance Following Mitigation

Cumulative environmental impacts from construction criteria pollutants and operational NO_x, CO, SO_x, VOCs, and PM_{10} would not be significant after mitigation. The cumulative impacts from ~~CO and~~ $PM_{2.5}$ emissions are considered to be significant and unavoidable. GHG emissions from the proposed project would contribute to a significant cumulative impact after mitigation.

1.10.4 CULTURAL RESOURCES

No significant adverse cultural resources impacts were identified for the proposed project or any of the related projects. Project-specific impacts from the proposed project and all related projects ~~were~~ are less than significant; therefore, they are not cumulatively considerable. For this reason~~,~~ ~~and because of the distance between the related projects,~~ there would be no overlap of potential cultural resources impacts. As a result, cumulative impacts to cultural resources would not be significant.

1.10.4.1 Environmental Impacts

The geographic scope considered for potential cumulative impacts to cultural resources includes the related projects. Implementation of the applicable measures in the SCLF MMRS would ensure that the project-specific impacts to cultural resources would be less than significant, and no other projects are expected to impact cultural resources in the same area. Project-specific construction impacts to cultural resources would not be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1). Therefore, the construction of the proposed project is not considered to have significant adverse cumulative impacts to cultural resources. Once the proposed project becomes operational, no further ground disturbing activities would occur that have the potential to adversely affect cultural resources. Therefore, long-term cumulative impacts would not be significant.

1.10.4.2 Mitigation Measures

Because cumulative impacts ~~were~~ are concluded to be less than significant, cumulative impact mitigation measures are not required.

1.10.4.3 Level of Significance Following Mitigation

The cumulative impacts on cultural resources are considered to be less than significant.

1.10.5 ENERGY

No significant adverse energy impacts ~~were~~ are identified for the proposed project or any of the related projects. Project-specific impacts from the proposed project and all related projects ~~were~~ are less than significant; therefore, they are not cumulatively considerable. As a result, cumulative impacts to energy would not be significant.

1.10.5.1 Environmental Impacts

The geographic scope considered for potential cumulative energy impacts includes the related projects. Energy impacts from the proposed project would be primarily beneficial as a source of renewable energy; however, construction and startup of the proposed project would require short-term use of some existing energy sources. The construction energy impacts of the SCLF ~~were~~ are deemed less than significant. The energy requirements of the proposed SCE SLR project would not be expected to result in significant adverse impacts. The construction energy impacts of other nearby projects are unknown, but this fact alone is not sufficient to constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable according to CEQA Guidelines §15064 (h)(4). Therefore, the proposed project is not considered to have significant adverse cumulative energy impacts from construction activities.

1.10.5.2 Mitigation Measures

Because cumulative impacts ~~were~~ are concluded to be less than significant, cumulative impact mitigation measures are not required.

1.10.5.3 Level of Significance Following Mitigation

The cumulative impacts on energy resources are considered to be less than significant.

1.10.6 GEOLOGY AND SOILS

No significant adverse geology and soils impacts ~~were~~ are identified for the proposed project or any of the related projects. Project-specific impacts from the proposed project and all related projects ~~were~~ are less than significant; therefore, they are not cumulatively considerable. As a result, cumulative impacts to geology and soils would not be significant.

1.10.6.1 Environmental Impacts

The geographic scope considered for potential cumulative geology and soils impacts includes the related projects. Implementation of the applicable measures in the SCLF MMRS would result in less than significant project-specific impacts to geology and soils. None of the related projects identified significant adverse geology and soils impacts.~~The related projects would also be expected to implement applicable measures of the MMRS during both construction and operations as they are both located within the boundaries of SCLF~~. Therefore, the related projects would not be cumulatively considerable as defined by CEQA Guidelines Section 15064(h)(1). Consequently, the project is not considered to have significant adverse cumulative geology or soils impacts from construction.

Seismic activity, soil stability, and soil erosion impacts from the proposed project ~~were~~ are~~all~~ found to be less than significant. The proposed septic system would require authorization from the RWQCB and Los Angeles County Department of Public Health and would not have significant impacts. The operational geology and soils impacts of the most closely overlapping project, the City/County Landfill, ~~were~~ are deemed less than significant after the application of mitigation measures. Consequently, the project is not considered to have significant adverse cumulative geology or soils impacts from operation.

1.10.6.2 Mitigation Measures

Cumulative impacts ~~were~~ are concluded to be less than significant; therefore, cumulative impact mitigation measures are not required.

1.10.6.3 Level of Significance Following Mitigation

The cumulative impacts to geology and soil are considered to be less than significant.

1.10.7 HYDROLOGY AND WATER QUALITY

The geographic scope considered for potential cumulative hydrology and water quality impacts includes the related projects. No significant adverse hydrology and water quality impacts ~~were~~ are identified for the proposed project or any of the related projects. Because project-specific impacts from the proposed project ~~and all related projects were~~are less than significant, they are therefore not cumulatively considerable. As a result, cumulative impacts to hydrology and water quality would not be significant.

1.10.7.1 Environmental Impacts

1.10.7.1.1 Wastewater Impacts

Because the wastewater produced as part of the proposed project's operations would be appropriately managed and treated on site in accordance with relevant wastewater discharge requirements, this impact is considered less than significant. The project-specific wastewater impacts would be less than significant, and therefore would not be cumulatively considerable as defined by CEQA Guidelines Section 15064(h)(1). The operational wastewater impacts of the City/County Landfill ~~were~~ are deemed less than significant due to the fact that the landfill will continue to reclaim and recycle the majority of its wastewater on site. The ~~proposed SCE SLR~~related projects would not result in significant wastewater impacts. Consequently, the proposed project is not considered to have significant adverse cumulative wastewater impacts from operation relative to related projects.

1.10.7.1.2 Water Demand Impacts

The project-specific water demand impacts can be met by existing water supply sources and are less than significant. Therefore, water demand impacts are not cumulatively considerable as defined by CEQA Guidelines Section 15064(h)(1). Consequently, the project is not considered to have significant adverse cumulative water demand impacts from operation.

1.10.7.2 Mitigation Measures

Because cumulative impacts ~~were~~ are concluded to be less than significant, cumulative impact mitigation measures are not required.

1.10.7.3 Level of Significance Following Mitigation

The cumulative impacts on hydrology and water quality are considered to be less than significant.

1.10.8 NOISE

The geographic scope considered for potential cumulative noise impacts includes the related projects identified in Section 5.2.2. No significant adverse noise impacts ~~were~~ are identified for the proposed project~~ or any of the related projects~~. Because project-specific impacts from the proposed project ~~and all related projects were~~are less than significant, they are therefore not cumulatively considerable. As a result, cumulative impacts to ~~geology and soils~~noise would not be significant.

1.10.8.1 Environmental Impacts

The noise modeling considered noise generated from construction and operations along with ambient background noise, which includes the SCLF operations. ~~The SCE SLR project~~All related projects, with the exception of the Sylmar Ground Return System Replacement project would have less than significant noise impacts. In the project's IS, the LADWP found that the Sylmar Ground Return System Replacement project construction could have potentially significant noise impacts; however, a draft EIR has not yet been published, so a final determination of significance has not been made. ~~noise impacts would be comparable to the SCE transmission line construction noise impacts evaluated, which were found to be less than significant.~~ The modeling showed that construction and operational noise impacts from the proposed project would be well below the County and City noise criteria, and impacts due to noise from both construction or operations would be less than significant. The project is not considered to have significant adverse cumulative noise impacts.

1.10.8.2 Mitigation Measures

Because cumulative impacts ~~were~~ are concluded to be less than significant, cumulative impact mitigation measures are not required.

1.10.8.3 Level of Significance Following Mitigation

The cumulative noise impacts are considered to be less than significant.

1.11 EXECUTIVE SUMMARY – CHAPTER 6: PROJECT ALTERNATIVES

1.11.1 INTRODUCTION

Chapter 6 of this ~~Draft~~ Final SEIR identifies and compares the relative merits of a range of reasonable alternatives to the proposed project as required by the CEQA guidelines. According to the CEQA Guidelines, alternatives should include realistic measures to attain the basic objectives of the proposed project and provide a means for evaluating the comparative merits of each alternative. In addition, though the range of alternatives must be sufficient to permit a reasoned choice, they need not include every conceivable project alternative (CEQA Guidelines, §15126.6(a)). The key issue is whether the selection and discussion of alternatives foster informed decision-making and public participation.

1.11.2 ALTERNATIVES REJECTED AS INFEASIBLE

In accordance with CEQA Guidelines §15126.6(c), a CEQA document should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reason underlying the lead agency's determination. Section 15126.6(c) also states that among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are 1) failure to meet most of the basic project objectives, 2) infeasibility, or 3) inability to avoid significant environmental impacts. An alternative was considered to transport the LFG via pipeline for use off site instead of using the gas to generate electricity on site. This alternative would pose several technical challenges that may not be achievable, including the need to drill from the landfill under Interstate 5, which would require substantial permit approvals and very large construction equipment and construction activities. Similarly, ~~Alternative 2~~a second alternative considered would require the pipeline to cross the existing Los Angeles aqueduct supply channel without interrupting the water supply, which would also impose substantial permitting and construction impacts. Therefore, this alternative was considered infeasible due to the technical difficulties posed by the construction of the pipeline under and over existing infrastructure.

1.11.3 DESCRIPTION OF PROJECT ALTERNATIVES

Alternatives analyses were conducted for the following alternatives to the proposed project:

- Alternative 1 – No Project Alternative
- Alternative 2 – Reduced Project Size Alternative
- Alternative 3 – Alternative Plant Location
- Alternative 4 – Alternate Configuration of Subtransmission Lines

CEQA Guidelines §15126.6(e)(1)-(3) requires evaluation of a “No Project Alternative” which is Alternative 1 in Chapter 6. The No Project Alternative would not include the project components described in Chapter 2. However, Alternative 1 would result in continued flaring of the LFG.

Under Alternative 2, three turbines would be installed instead of the proposed five turbines. The reduced number of turbines would result in lower electricity generation proportional to the decrease in turbines.

Under Alternative 3, the turbines would be located within the SCLF boundaries on the ridge at SCLF Flare 8.

Under Alternative 4, the proposed SCE Subtransmission Line could connect the proposed project site through an extension of the existing 66 kV subtransmission line. This alternative would utilize power poles that would be installed as part of a separate project that is currently under environmental review for SCLF, but has not been approved at the time of this ~~Draft~~ Final SEIR.

1.11.4 ENVIRONMENTAL IMPACTS FROM PROJECT ALTERNATIVES

The No Project Alternative (Alternative 1) would eliminate the proposed project’s potentially significant impacts related to air quality during construction, which would be mitigated to less than significant levels. Alternative 1 would generate slightly lower GHG emissions compared to the proposed project, but GHG emission impacts from Alternative 1 would also exceed the GHG significance threshold. Potential impacts would be less than the proposed project for cultural resources, energy, geology/soils, hydrology/water quality, and noise. Although the No Project Alternative is technically feasible, it would fail to meet three of the five objectives of the proposed project.

The Reduced Project Size Alternative (Alternative 2) would result in lower, but significant impacts to air quality during construction compared to the proposed project. It would also result in significant impacts from cumulative GHG emissions that would be slightly lower than (based on fewer construction GHG emissions, although the construction GHG mitigation measure would likely apply to Alternative 2 as well), but nearly identical to, those of the proposed project. Alternative 2 would result in lower production of renewable energy than the proposed project. Alternative 2 would have impacts similar to the proposed project for cultural resources, geology/soils, and hydrology/water quality, and lower impacts for energy and noise. Alternative

2 would achieve a portion of the five project objectives, but to a lesser degree than the proposed project.

The Alternate Plant Location Alternative (Alternative 3) would have impacts similar to the proposed project for air quality, cultural resources, energy, geology/soils, hydrology/water quality, and noise. Alternative 3 would increase air quality impacts during construction. However, the relocation would create a new significant impact to geology and soils due to potential soil erosion associated with the new site location. This alternative would produce an amount of renewable energy similar to that of the proposed project and would achieve all five objectives of the proposed project.

The Alternate Configuration of Subtransmission Lines Alternative (Alternative 4) would reduce construction emissions during Phase V due to the elimination of the SCE Subtransmission Line. With Alternative 4, air quality impacts would still be significant but could be mitigated to less than significant through implementing Mitigation Measures A-1 and A-2. Due to the elimination of the SCE Subtransmission Line, impacts to cultural resources, geology/soils, and noise from construction would also be slightly reduced compared to the proposed project and would be less than significant. Other impacts would be similar to those of the proposed project. This alternative would produce an amount of renewable energy similar to that of the proposed project and would achieve all five objectives of the proposed project.

Following review of each project alternative, the environmentally superior alternative is considered to be Alternative 2, the Reduced Project Size Alternative. However, Alternative 2 would produce fewer benefits than would the proposed project with regards to LFG control and electricity generation.

1.12 EXECUTIVE SUMMARY – CHAPTERS 7 AND 8: REFERENCES, ACRONYMS AND GLOSSARY

Information on references cited (including organizations and persons consulted) and the acronyms and glossary are presented in Chapters 7 and 8, respectively.

TABLE 1-~~2~~3

Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measure	Residual Impact
Air Quality		
The construction emissions for NO_x would exceed the SCAQMD CEQA significance thresholds and would be significant.	Use equipment meeting California Tier 3 standards for diesel engines for the SGP Facility construction phases as feasible and procure MSERC from an SCAQMD approved broker.	Construction emissions are expected to be less than significant for NO_x with mitigation.
The construction emissions for VOC, CO, PM_{10}, $PM_{2.5}$, and SO_x would not exceed SCAQMD CEQA significance thresholds and would be less than significant.	None required.	Construction emissions are expected to be less than significant for VOC, CO, PM_{10}, $PM_{2.5}$, and SO_x.
Construction impacts for NO_2, CO, PM_{10}, and $PM_{2.5}$ would not exceed applicable local significance thresholds.	None required.	Localized construction concentrations of NO_2, CO, PM_{10}, and $PM_{2.5}$ are expected to be less than significant.
Operational emissions of VOC, NO_x, CO, SO_x, and PM_{10} would be less than significant.	None required. SCAQMD would allocate PR offsets to SGPREP as an Essential Public Service.	Mass daily emissions of VOC, NO_x, CO, SO_x, and PM_{10} are expected to be less than significant.
Operational emissions of ~~CO, and~~ $PM_{2.5}$ would be significant.	None feasible.	Mass daily emissions of ~~CO and~~ $PM_{2.5}$ are expected to be significant and unavoidable.
The cancer risk due to the operation of the proposed project is expected to be less than the significance criterion of 10 per million, so project impacts would be less than significant.	None required.	Cancer risk impacts are expected to be less than significant.
The proposed project's impacts associated with exposure to non-carcinogenic compounds are expected to be less than significant. The chronic hazard index and the acute hazard index would both be below 1.0.	None required.	Non-carcinogenic health impacts are expected to be less than significant.
Cultural Resources		
With the surveying of excavation areas prior to initial earth excavation, no significant impacts on cultural resources are expected from the construction of the proposed project.	None required.	Cultural resource impacts are expected to be less than significant.
Energy		
No significant energy resource impacts are expected from the construction or operation of the proposed project, as the proposed project utilizes LFG as a renewable energy source.	None required.	Energy impacts are expected to be less than significant.

TABLE 1-~~2~~ 3 (concluded)

Summary of Environmental Impacts, Mitigation Measures and Residual Impacts

Impact	Mitigation Measure	Residual Impact
Geology and Soil		
Through implementation of design requirements and regulatory requirements, no significant adverse geology and soil impacts are expected from the construction or operation of the proposed project.	None required.	Geology and soil impacts are expected to be less than significant.
Hydrology and Water Quality		
The increase of wastewater generated by the proposed project would be appropriately managed and treated on site and therefore this impact is expected to be less than significant.	None required.	Wastewater impacts are expected to be less than significant.
The increase in water demand associated with the proposed project has been accounted for in existing growth projections so no significant adverse impacts on water demand are expected.	None required.	Water demand impacts are expected to be less than significant.
Noise		
Operation of the proposed project would not generate significant noise impacts to the surrounding areas.	None required.	Operational noise impacts are expected to be less than significant.
Construction activities necessary to develop the proposed project are expected to be below all construction noise level thresholds.	None required.	Construction noise impacts are expected to be less than significant.
Cumulative Impacts		
The proposed project $PM_{2.5}$ ~~and CO~~ emissions would exceed the SCAQMD threshold of significance.	None feasible.	Project contribution to $PM_{2.5}$ ~~and CO~~ emissions is expected to be cumulatively significant.
The proposed project GHG emissions would exceed the SCAQMD threshold of significance.	Use LFG from the decomposition of waste materials deposited in the landfill to generate the fuel used in the project, ~~and~~ use this renewable fuel to generate electricity instead of fossil fuels, and pay $36,000 to the SCAQMD's Rule 2702 - Greenhouse Gas Reduction Program.	Project contribution to GHG emissions is expected to be cumulatively significant.

CHAPTER 2

PROJECT DESCRIPTION

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2.0 PROJECT DESCRIPTION

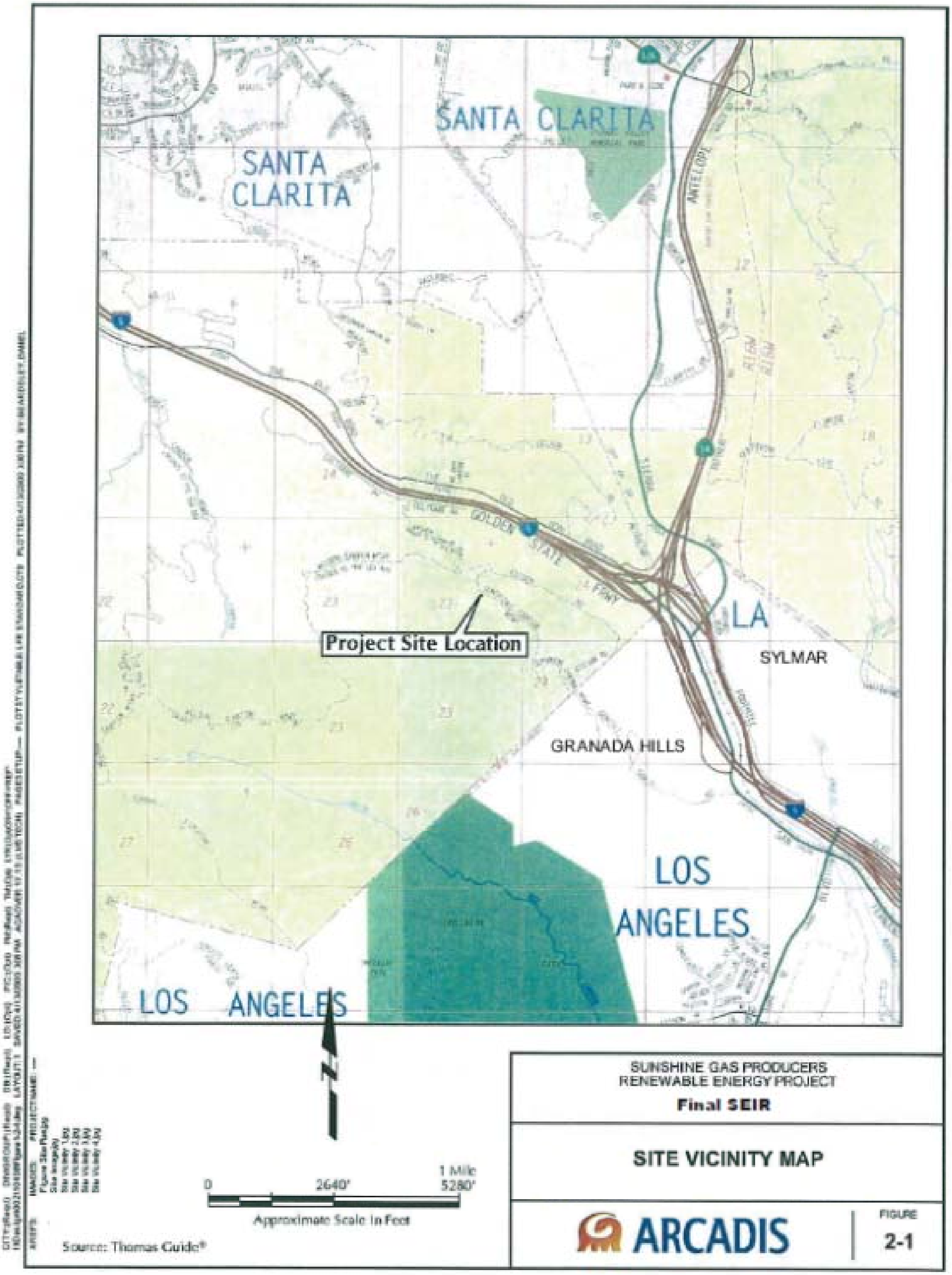
CEQA Guidelines §15124 requires an EIR to include a description of the location and boundaries of the proposed project, a statement of objectives sought by the proposed project, a general description of the project's technical, economic, and environmental characteristics, and a statement briefly describing the intended uses of the EIR. This chapter includes an introduction, project objectives, project location, land use and zoning for the SCLF and surrounding areas, site background, construction and operational characteristics of the proposed project, and permits and approvals. Throughout this document, references to "proposed project" or "Sunshine Gas Producers Renewable Energy Project" are one and the same and are used interchangeably. The proposed project would consist of the construction and operation of five gas turbine electricity generator sets, LFG compressors, gas treatment equipment, one SGPREP flare, and the SGP Substation (collectively defined as the "SGP Facility"). The proposed project also includes construction and operation of the SCE Switchyard, the SCE Subtransmission Line, a water supply pipeline, and a telecom line from the landfill entrance to the proposed project site.

2.1 INTRODUCTION

SCLF is an existing Class III nonhazardous landfill facility that accepts municipal solid waste and is not a generator of, or repository for, hazardous wastes. The landfill covers approximately 451 acres and is located partially within the City of Los Angeles and partially within Los Angeles County (Figure 2-1 – Site Vicinity Map). The maximum daily tonnage of all materials permitted to be received at the facility including municipal solid waste for disposal and materials received for beneficial reuse and recycling is 12,100 tons per day. The closing date for the landfill is estimated for December 2037. However, the landfill permitted capacity is based on volume; therefore, the closing date could be later if daily disposal rates are lower than the permit limits. No component of the currently proposed project includes expanding the landfill capacity or increasing the amount of waste that can be accepted on a daily, monthly, or annual basis. The proposed project is a change to a previously approved project that would utilize the LFG produced by the decomposing waste at the landfill to generate electrical energy using turbines.

SCAQMD Rule 1150.1 requires the installation of a LFG control system sufficient to draw LFG toward the gas collection devices without overdraw that would adversely affect the system. This rule is designed to limit LFG emissions from landfills in order to prevent a public nuisance and possible detriment to public health caused by exposure to such emissions. Sample probes are required to monitor off-site migration. Periodic monitoring of the LFG is required to prevent the average concentration of total organic compounds over a certain area on the surface of the landfill from exceeding 25 parts per million (ppm). Additionally, the maximum concentration of methane, measured at any point on the surface of the landfill, may not exceed 500 ppm.

To meet these requirements, LFG is currently collected at the landfill and combusted using three industrial flares pursuant to SCAQMD Rule 1150.1. Flaring is a high-temperature oxidation process used to burn combustible components, mostly hydrocarbons (such as methane), of waste gases from industrial operations. During combustion, gaseous hydrocarbons react with atmospheric oxygen to form carbon dioxide (CO_2) and water.



SUNSHINE GAS PRODUCERS RENEWABLE ENERGY PROJECT

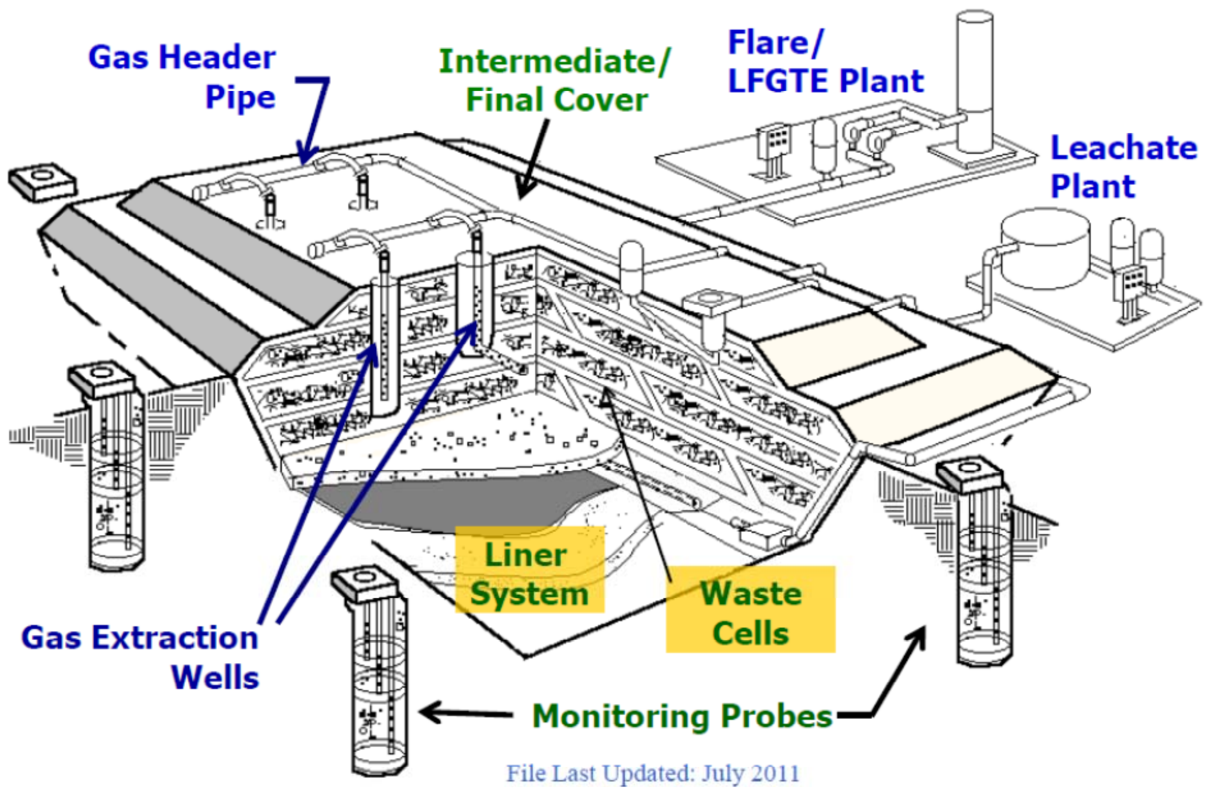
Final SEIR

SITE VICINITY MAP

ARCADIS

FIGURE 2-1

Rather than flaring the collected LFG, the proposed project would use recuperated single-cycle gas turbines that would be fueled with LFG that is recovered from SCLF, transferred to the SGP Facility, and treated (filtered, dewatered, and compressed) prior to combustion. Because the landfill will be producing an increasing amount of LFG as it continues to collect waste and its contents decompose, the proposed project would reduce the amount of flaring that would be required to control the increasing amount of LFG anticipated at the landfill. The proposed facility would be equipped with five Solar Turbines Mercury 50 gas turbine electricity generator sets that have a total gross electricity generation capacity of 24.5 MW, and a net output of 20 MW. Figure 2-2 provides a general overview of an LFG collection and energy generation process that is representative of the proposed project.



Source: United States Environmental Protection Agency (U.S. EPA). Landfill Methane Outreach Program. "An Overview of Landfill Gas Energy in the United States." http://www.epa.gov/lmop/documents/pdfs/overview.pdf (U.S. EPA ~~2010a~~2011)

FIGURE 2-2
Collection System Diagram

Because the proposed project would use LFG as a renewable resource to produce electricity, it would be consistent with California's renewable energy regulations. Senate Bill (SB) 1078 mandated that California increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources by 2017. SB 107 accelerated the mandate by requiring California to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources by 2010. Executive Order S-14-08 set a target of 33 percent renewable energy by 2020, and Executive Order S-21-09 directed the ~~California Air Resources Board (~~CARB~~)~~ to adopt regulations increasing California's RPS to 33 percent by 2020. On April 12, 2011, Governor Brown signed into law SBX-12, which requires 33 percent of the state's energy to come from renewable resources.

2.2 PROJECT OBJECTIVES

CEQA Guidelines §15124(b) requires the project description to include a statement of objectives sought by the proposed project, including the underlying purpose of the proposed project. Compatibility with project objectives is one criterion for selecting a range of reasonable project alternatives and provides a standard against which to measure project alternatives. The project objectives identified below have been developed in compliance with CEQA Guidelines §15124(b). The project objectives are as follows:

1. Continue to comply with SCAQMD Rule 1150.1 as LFG (primarily methane) volumes increase.
2. Maximize production of renewable energy utilizing LFG as a combustion fuel rather than simply flaring the LFG and wasting the energy content of LFG.
3. Maximize production of renewable energy provided to state utilities that can be used to meet the State of California's mandated RPS.
4. Incentivize and encourage ~~LFG-to-energy~~LFGTE projects and other small scale renewable energy projects because such projects provide a stable source of renewable energy necessary to meet the goals of the RPS.
5. Provide a source of renewable energy as cost-effectively as possible.

2.3 PROJECT LOCATION

The project site is located completely within the boundaries of SCLF, which is surrounded by unincorporated areas of Los Angeles County to the north and west and the communities of Granada Hills and Sylmar to the south and east, respectively (Figure 2-1). The landfill is approximately 0.75 mile southwest of the intersection of the Golden State Freeway (Interstate 5) and Antelope Valley Freeway (State Road 14) multi-level freeway interchange. The entrance to the landfill is situated 0.75 mile northwest of the intersection of Balboa Boulevard and San Fernando Road in the City of Los Angeles, at 14747 San Fernando Road.

More specifically, the proposed project would be located in the northern portion of the landfill within an unincorporated area of Los Angeles County. The ~~renewable energy facility ("SGP Facility")~~ would be located on property leased from Republic Services (formerly Browning-Ferris Industries of California, Inc.), the operators of the landfill, on the northern end of the property. This area is located approximately 1.6 miles from residential communities located immediately south of the landfill, and 1.1 miles from residential trailers located to the east of the San Fernando Road entrance to the SCLF. The proposed water supply pipeline and telecommunications line would start at the SCLF entrance on San Fernando Road, which is located approximately 26 meters (approximately 85 feet) to the west of the trailers. The proposed project would be completely within the existing landfill footprint and outside of the lined area of the landfill that contains MSW (Figure 2-3), on soil that has been previously disturbed by work at the landfill**.** The SGP Facility/SCE Switchyard area would be approximately one acre in size. Additionally, the construction area for the SCE Subtransmission

Lines would extend approximately 2,100 feet in length for the power line from the substation up to the existing power pole on the ridge to the southeast. Assuming a 10-foot disturbance area on either side of the lines, and a 50-foot disturbance area around each pole, this area would have an approximately ~~one~~1.1-acre footprint. Therefore, the total footprint of the proposed project would be ~~two~~ 2.1 acres.

2.4 LAND USE AND ZONING

The current land use designation within the City's jurisdiction is "heavy industrial," with a zoning designation of M3-1-O (Heavy Industry). Within the County portion of the landfill, the land use designation is "Hillside Management, Non-Urban Hillside," and "Residential," and the corresponding zoning is A-2-2 (Heavy Agriculture, Two-Acre Minimum Lot Size).

In the County portion, an amended CUP is in effect, the details of which are described in Section 2.5. The surrounding area is zoned "Open Space" in the city jurisdiction (i.e., areas to the south and east of the landfill) and "Hillside Management" and "Residential" in the County jurisdiction (i.e., areas to the north and west of the landfill).

2.5 SITE BACKGROUND

The proposed project lies within the SCLF north of the boundary between Los Angeles County and the City of Los Angeles. The current configuration of SCLF consists of the existing operating County and City Landfill and an inactive landfill on the City portion of the proposed project site. SCLF is owned and operated by BFI. BFI is owned by Allied Waste, Inc., and is a wholly owned subsidiary of parent company Republic Services Inc. Landfill operations formally commenced in the City portion of SCLF in 1958 and continued there until the expiration of a City zoning variance in 1991.

The current configuration of the landfill is the result of a complex history of land use and zoning actions undertaken over the last 20 years by both the City and the County, with the ultimate objective being the merger of the two preexisting landfills in separate jurisdictions into one larger landfill that would be subject to the same, or similar, mitigation and operating requirements.

In the mid-1980s, while the original City Landfill was operating, BFI began planning to extend landfill operations into the adjoining County portion of SCLF. In 1986, BFI applied to the County for a CUP and other related entitlements (i.e., Compound Plan Amendment, Sub-Plan Amendment, and Oak Tree Permit), and the County began preparation of an EIR. In February 1991, the Board of Supervisors certified the EIR as a Final EIR ("the initial Final EIR"), granted several land use approvals, issued requisite project permits, and approved the project. This project, known as the "County Landfill," accommodated disposal of an average of 6,000 tons of refuse per day (exclusive of inert/exempt materials), six days per week (with a 6,600-ton daily

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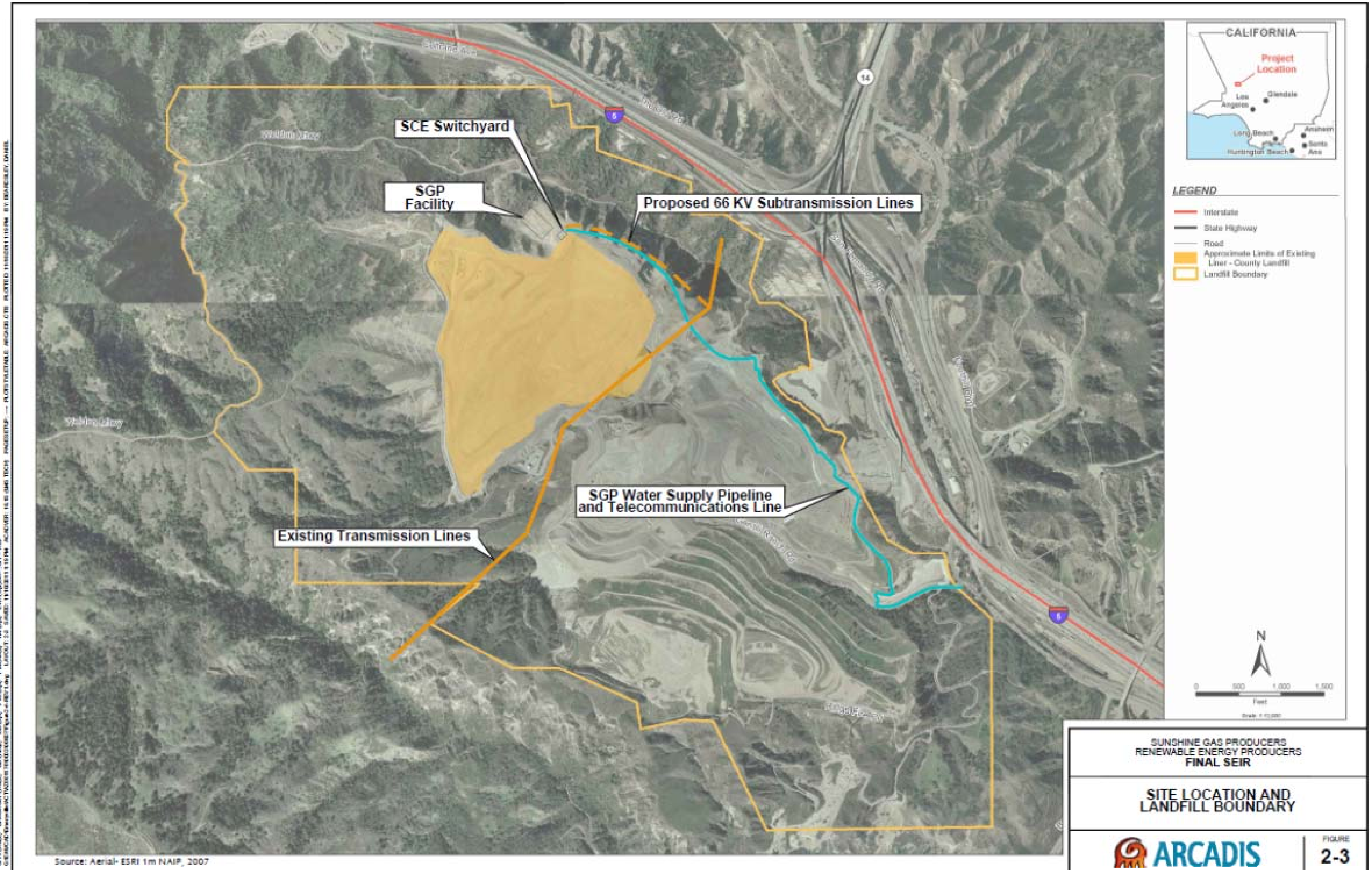
SCE Switchyard
SGP Facility
Proposed 66 KV Subtransmission Lines
SGP Water Supply Pipeline and Telecommunications Line
Existing Transmission Lines
CALIFORNIA
Project Location
LEGEND
Interstate
State Highway
Road
Approximate Limits of Existing Liner - County Landfill
Landfill Boundary
N
Feet
Source: Aerial- ESRI 1m NAIP, 2007
SUNSHINE GAS PRODUCERS
RENEWABLE ENERGY PRODUCERS
FINAL SEIR
SITE LOCATION AND LANDFILL BOUNDARY
ARCADIS
FIGURE 2-3

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maximum), for a total of approximately 17 million tons of landfill capacity over the landfill's site life. The County Landfill footprint was approximately 215 acres. Disposal was permitted on multiple working face areas that were limited to two to three acres each.

The County envisioned that landfilling would eventually cross back into the City portion of SCLF and that City and County operations would be combined into a single landfill. Accordingly, in Condition 10b of the CUP, the Board of Supervisors directed BFI to pursue an application to the City of Los Angeles to allow further landfilling within the City portion to avert the destruction of oak trees and other significant ecological resources in the County portion. Combining the City and County landfills would increase the capacity to approximately 100 million tons without appreciably expanding the total footprint of the separate operations in the City and County. In the initial Final EIR, the combined City/County operation was analyzed as an alternative landfill design. The initial Final EIR noted that in order to be executed, the alternative design required issuance of complementary entitlements by the City.

Both the City of Los Angeles and the North Valley Coalition (NVC), a group of residents located south of the City Landfill, challenged the County Landfill approval and initial Final EIR certification in court. In 1992, the court required preparation of additional CEQA documentation. Two Addenda to the 1991 Final EIR and a document entitled *Additional Information and Analysis* were prepared. In November 1993, the County recertified the Final EIR as supplemented by these documents[1] and the County Landfill project was granted final approval ("the 1993 Final EIR"). The NVC also challenged the recertified 1993 Final EIR in court, but this challenge was unsuccessful and the 1993 Final EIR was upheld.

In 1991, while litigation was underway in connection with the County's initial Final EIR, in accordance with Condition 10b of the County CUP, BFI filed project applications with the City for the entitlements necessary to develop the City portion of a joint City/County landfill, including a City General Plan Amendment and Zone Change.

Although the 1993 Final EIR had already analyzed a combined City/County landfill design, the earlier design was somewhat larger than that contemplated in BFI's applications to the City. In addition, the City requested certain other refinements in the design and operation of the proposed project that were not contemplated in the 1993 Final EIR. Thus, the City determined that a ~~Subsequent EIR (~~SEIR~~)~~ would be required under CEQA to more specifically address these changes.[2]

As a result of the lawsuits by the City and the NVC challenging the 1991 County approvals and the 1993 Final EIR, there was substantial delay in processing of the City approvals. In July 1997, six years after project applications were filed with the City, the Draft Subsequent Environmental Impact Report ("1997 Draft SEIR"),[3] which incorporated by reference the 1993 Final EIR, was issued. The Final Subsequent Environmental Impact Report ("1999 Final SEIR"), incorporating the 1997 Draft SEIR and responding to several hundred individual comments, was then issued in

1 Los Angeles County. *Final Environmental Impact Report, Sunshine Canyon Landfill Extension,* State Clearinghouse Number 89071210 (November 1993).

2 The City's Environmental Study Advisory Committee determined in 1991 that the following environmental topical areas should be fully addressed in the SEIR. They included: earth, air quality, biological, noise, land use, risk of upset, transportation/circulation/access, public services, energy conservation, water conservation, service systems, equestrian issues and cultural resources.

3 City of Los Angeles. *Draft Subsequent Environmental Impact Report, Sunshine Canyon Landfill,* State Clearinghouse Number 92041053 (July 1997).

June 1998 (City of Los Angeles 1999). After nine public hearings before various City planning bodies, including a City Hearing Examiner, the Planning Commission, the City Council Planning and Land Use Management (PLUM) Committee, and the full City Council, the City certified the SEIR for the combined City/County Landfill Project and issued the City entitlements necessary to carry out the project on December 8, 1999. In doing so, the City adopted the 1999 Final SEIR's conclusion that all impacts of the project, except for the regional cumulative air quality impact, were less than significant after mitigation. As to the air quality impact, the City found the impact could not be feasibly mitigated below a level of significance, and it adopted a Statement of Overriding Considerations in compliance with CEQA (Los Angeles County 2006).

In December 1999, the City granted the necessary City entitlements for the City/County Landfill: a General Plan Amendment and a Zone Change (Sunshine Canyon Extension Project). In January 2000, the NVC filed a lawsuit regarding the project approvals rendered by the City, including the City's certification of the 1999 Final SEIR. The NVC alleged numerous deficiencies in the 1999 Final SEIR and alleged that the project was inconsistent with the City's General Plan and zoning. In December 2000, the Los Angeles Superior Court upheld the project approvals in all respects, and that decision was upheld by the California Court of Appeal. The decision of the Court of Appeal was not appealed to the State Supreme Court and therefore is final. Accordingly, the 1999 City approvals remain in full force and effect.[4] A final addendum to the 1993 Final EIR and 1999 Final SEIR for Sunshine Canyon Combined Landfill was drafted in 2004 in order to finalize modifications to the CUP and update conditions associated with the permit, the analyses presented in the 2004 Addendum to the 1993 Final EIR and 1999 Final SEIR ensured that the City/County Landfill project was consistent with conditions approved by the City of Los Angeles.

To facilitate the development of the combined landfill contemplated in 1993 by the County and to ensure consistency between County and City approvals for the City/County Landfill described in the 1999 Final SEIR, BFI returned to the County to obtain certain revisions to the 1993 CUP, which were embodied in the New CUP (Los Angeles County 2007). In several areas, these revisions increased the mitigation obligations contained in the 1993 County CUP. This final action resulted in the issuance of a revised ~~Mitigation, Monitoring and Reporting Plan~~ Summary ~~(~~MMRS~~P)~~ for the landfill.

Currently, all of the governmental permits necessary for development of the Sunshine Canyon Extension Project are in place, including:

- 404 Department of the Army Permit from the U.S. Army Corp of Engineers, No. 2003-00408-A0A, dated February 26, 2004;
- Conditional Water Quality Certification 401 Permit from the RWQCB, file No. 03-001, dated February 6, 2004;

4 In addition, a solid waste facilities permit (SWFP) has been issued by the City Environmental Affairs Department on May 21, 2003, as approved by the California Integrated Waste Management Board, for landfilling within the City portion of Sunshine Canyon; the City approved an Oak Tree removal permit on April 7, 2004; and Waste Discharge Requirements have been approved by the Regional Water Quality Control Board for that landfilling.

- WDRs from the Los Angeles RWQCB, file No. 58-76, Order No. R4-~~2007-0023~~2008-0088, dated ~~April 11, 2007~~ October 9, 2008, and amended by R4-2011-0052, dated March 3, 2011;
- Industrial Wastewater Permit No. W-464583 from the City of Los Angeles, Department of Public Works, Bureau of Sanitation, effective March 1, 2011 (Note: SCLF is classified as a zero-discharge facility and intends to terminate this permit in 2011);
- General Permit No. CAS000001 to Regulate Storm Water Discharges Associated with Industrial Activities from the SWRCB, Order No. 97-03-DWQ;
- Oak Tree Removal Permit from the City, approved on April 7, 2004;
- 1603 Streambed Alteration Agreement with the California Department of Fish and Game, No. R5-2003-0005, dated March 11, 2004;
- Fugitive Dust Emissions Control Plan for Sunshine Canyon Facility ID Number 049111 per the SCAQMD Rule 403; and
- Building and grading permits from the City.

As described in the 1999 Final SEIR and approved by the City, the combined City/County Landfill will accommodate a total disposal capacity of approximately 90 million tons, consisting of 55 million tons in the City and 35 million tons in the County.[5] Because of setback requirements and a change in the location of a sedimentation basin and related drainage issues, the design provides less capacity than the 100-million ton landfill envisioned in the initial Final EIR**.** The County portion of the Project included the 17-million-ton County Landfill currently in operation and the 18-million-ton increment in the 42-acre bridge area, both of which were authorized by the 1993 County CUP. The 42-acre bridge area also accommodates approximately 22 million tons of landfill capacity on the City side.

The City/County Landfill Project allows for disposal in the combined City and County areas of an average of 11,000 tons per day, six days per week, of Class III solid waste (with a 12,100 ton daily maximum), and 6,600 tons per week of inert/exempt materials, which would result in approximately a 25-year operational site life. The landfill footprint encompasses approximately 451 acres: 194 acres in the City (including part of the inactive City Landfill) and 257 acres in the County (including the 215-acre footprint of the operational County Landfill and the 1993-authorized 42-acre bridge area). The Project also provides for a maximum 10-acre working face area (i.e., the area where waste is being deposited). The analysis in this ~~Draft~~ Final SEIR relies upon the environmental analysis from previously approved environmental impact reports for the initial development of SCLF listed below:

- *Final Environmental Impact Report for the Sunshine Canyon Landfill Extension* (State Clearinghouse No. 89071210):
    - Initially certified by Los Angeles County Board of Supervisors on February 19, 1991 (“the initial Final EIR).

[5] See City [Q] Conditions B.2.a and B.2.b. As of December 2009, approximately ten million tons of capacity has been utilized in the City/County Landfill (BFI 2010).

- After litigation, recertified with two addenda and a document entitled *Additional Information and Analysis* (collectively "the 1993 Final EIR") on November 30, 1993.

- The Final EIR was supplemented by the *Final Subsequent Environmental Impact Report, Sunshine Canyon Landfill* (State Clearinghouse No. 92041053) June 1998, which:
  - Was certified by the City of Los Angeles on December 8, 1999 ("the 1999 Final SEIR") in connection with its adoption of a Zone Change and General Plan Amendment that approved landfilling in the City Landfill.
  - Authorized several revisions to the County CUP, including the deletion, modification, and renumbering of certain conditions, as well as the addition of conditions (collectively, "the New CUP").
  - Incorporated revisions to the MMRS approved in 1993 for the County Landfill (the SCLF MMRS was recently updated in 2006 to incorporate the most stringent requirements of either the City or County side CUP, the contents of which are presented in Appendix B**)**.

The previously completed environmental review documents ~~will be~~are relied upon to provide background information on environmental conditions within the footprint of the existing SCLF that would remain unaffected by the construction and/or operation of the proposed project. These documents are available for public review from the SCAQMD as part of the administrative record of this action.

This ~~Draft~~ Final SEIR also relies on the 1999 Final SEIR for SCLF because it included ~~LFG-to-energy~~LFGTE options to control the LFG from the landfill, as stated below:

> When economically viable, the project proponent will pursue the marketing of the LFG in the form of a gas-to-energy system…As a result and if implemented, a gas-to-energy system could reduce the proposed project's requirement for commercial electrical power and/or significantly reduce the cost of the power from a service provider. Eventually, this system could operate to reverse the status of a power consumer (landfill) to a renewable energy provider.[6]

The 2006 SCLF MMRS also included the following mitigation measure to collect and sell the captured LFG:

> **MMRS 6.07**: Flaring systems shall be sited as required by the SCAQMD and constructed using BACT. The flames shall be totally contained within the stack. Flame arrestors shall be provided to the satisfaction of the SCAQMD and the County Forester and Fire Warden.
>
> The permittee will convert gas, as it is recovered, to a renewable energy resource and to the extent technically and economically feasible.

Thus, this ~~Draft~~ Final SEIR for the currently proposed project is a subsequent CEQA document to the 1999 Final SEIR prepared for SCLF that was certified in December 1999. This ~~Draft~~Final SEIR has been prepared to address potential adverse environmental impacts associated with the

[6] Section 4.15 of the 1997 Draft SEIR (page 4-435).

SGPREP, which is considered to be a modification to the previously approved project, pursuant to CEQA Guidelines §15162, i.e., implementation of Mitigation Measure MMRS 6.07.

2.6 PROPOSED PROJECT

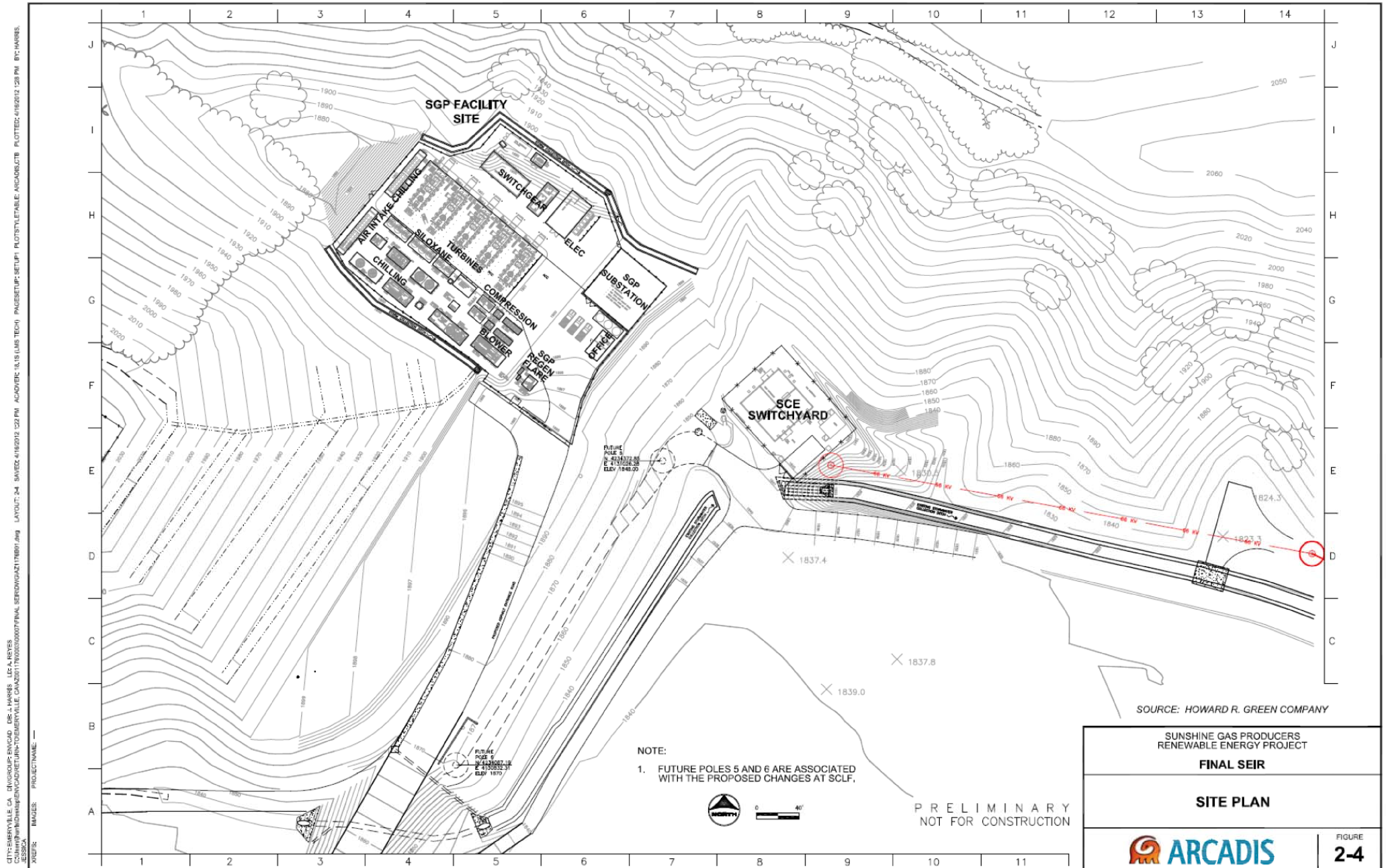
The proposed project would involve the utilization of methane-rich LFG extracted from the landfill, which is currently flared, as fuel in new gas turbines to drive electricity generators. The proposed project would include the following new equipment: five recuperated single cycle gas turbine electricity generator sets, LFG compressors, gas treatment equipment, an enclosed flare ("SGPREP flare"), one substation ("SGP Substation"), one switchyard ("SCE Switchyard"), an extension of the existing SCE subtransmission line ("SCE Subtransmission Line"), two buildings, ~~and~~ a parking lot, a water supply pipeline and a telecommunications line (Figure 2-4).

The proposed project would be equipped with five Solar Turbines Mercury 50 gas turbine electricity generator sets that have a total gross electricity generation capacity of 24.5 MW, and a net output of 20 MW. The gas turbines would be fueled with LFG that is recovered from SCLF, transferred to the SGP Facility and treated (filtered, dewatered, and compressed) prior to combustion. The footprint of the SGP Facility is approximately 220 feet by 160 feet, with a maximum stack height of approximately 40 feet. The gas treatment process would include a siloxane removal system that would be regenerated on site and a new enclosed SGPREP flare to control the regenerated waste gas from the siloxane removal system (Figure 2-4). The siloxane removal system uses two to four media columns with one in operation while the others are regenerating or available for use. The media filters the siloxanes from the gas stream. At regular intervals, the online media column is changed to regeneration mode and another media bed becomes the online column and is used to filter the LFG. The media is regenerated by blowing heated air through the media. The filtered siloxanes and other compounds desorb from the filter media and are carried into the regeneration air to the regeneration flare for destruction. The siloxane removal system is necessary to reduce the deposition of silicon dioxide in the combustion stage of the equipment, which would otherwise build up in the combustion system and ultimately reduce the efficiency of the ~~LFG-to-energy~~LFGTE plant. The new SGPREP flare would be completely enclosed and no flame would be visible. LFG would be supplied to the new SGP compression and treatment equipment by a new pipe that is connected to the existing LFG collection system header installed for the County portion of the landfill. Prior to startup of the proposed project, LFG from the City and County LFG collection systems, which currently is collected separately and sent to each of the three flares, would be connected such that all LFG collected would be routed to the common gas header to be treated and compressed at the proposed project facility. The treated and compressed LFG would be piped to the gas turbine generator sets for combustion.[7] When the electrical generation facility is operating, the existing flares would normally be off as the current LFG volumes are below the maximum capacity of the turbines. However, the existing flares would be required to be operated and maintained by SCLF in the event that it is necessary to shut down the turbines for maintenance, during unplanned shutdowns, or when future collected LFG volumes exceed the fuel requirements of the turbines. It is likely that one or more of the ~~landfill~~ SCLF flares may operate during operation of the

[7] All landfill gas will be diverted to turbines except during periodic maintenance until turbines have reached their full operational capacity. However, the landfill retains the requirement to maintain compliance with permit conditions related to the flares.

proposed project, as the landfill has requirements to maintain compliance with existing permit conditions, including AQMD 1150.1, which may necessitate continuous low level operation of the flares. This requirement would ensure that the flares would be operational when the quantity of LFG collected exceeds the capacity of the proposed project.[8]

[8] To ensure that total LFG combustion at SCLF (flares and proposed turbines) does not exceed total LFG combustion analyzed in the 1999 Final SEIR (20,835 standard cubic feet per minute (scfm) at an assumed LFG methane content of 40 percent), as part of the current Title V permit renewal process for SCLF, a new Title V Facility-wide Condition will be included as a condition of the Title V permit. The new permit condition would not allow total LFG combustion at SCLF (flares and proposed turbines) to exceed 16,100 scfm based on a 50 percent methane concentration, which is equivalent to 20,835 scfm at an assumed LFG methane content of 40 percent. Due to the fluctuating nature of methane content in LFG the SGPREP Title V condition is given in MMBTU/Hr and equates to a flow rate of approximately 10,170 scfm of gas at 40% methane, which is the average methane content of LFG at SCLF, which is approximately equal to 8,500 scfm of gas at 50% methane identified in the Draft SEIR, plus or minus one percent methane.


SGP FACILITY SITE
SWITCHGEAR
AIR INTAKE CHILLING
SILOXANE
TURBINES
ELEC
CHILLING
COMPRESSION
SGP SUBSTATION
BLOWER
SGP REGEN FLARE
OFFICE
SCE SWITCHYARD
FUTURE POLE 5
FUTURE POLE 6
1837.4
1837.8
1839.0
SOURCE: HOWARD R. GREEN COMPANY
NOTE:
1. FUTURE POLES 5 AND 6 ARE ASSOCIATED WITH THE PROPOSED CHANGES AT SCLF.
NORTH
PRELIMINARY
NOT FOR CONSTRUCTION
SUNSHINE GAS PRODUCERS RENEWABLE ENERGY PROJECT
FINAL SEIR
SITE PLAN
ARCADIS
FIGURE 2-4

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The proposed project includes the construction and operation of a new SCE installed and owned 66 kV switching station ("SCE Switchyard") and a SGP installed and owned 66/13.8 kV SGP Substation. The proposed SGP Substation will increase the voltage from the 13.8 kV generated by the turbines to the 66 kV of the SCE subtransmission system. The new SCE 66 kV SCE Switchyard and 66 kV SCE Subtransmission Line (Figure 2-5) are required, pursuant to SCE's Wholesale Distribution Access Tariff, to interconnect the project to SCE's subtransmission system and for SCE to transmit the project's output from the point of interconnection to the bulk power system that is controlled by the California Independent System Operator.

The SCE Switchyard would be constructed on an approximately 0.15-acre site to the southeast of the turbines (Figure 2-4). The SCE Switchyard would be approximately 115 feet by 115 feet and surrounded by an eight-foot high (minimum) barbed wire perimeter fence. The tallest structure would be ~~30~~40 feet high within the SCE Switchyard~~, except at the center where a three-foot extension would be installed to attach the incoming 66 kV lines~~. The SCE Switchyard would be equipped with one 66 kV structure with three circuit breakers arranged in a ring-bus configuration, with two incoming SCE 66 kV lines and one 66 kV feed to the SGP Facility. The 66 kV service would be equipped with revenue metering equipment and billing meters. The SCE Switchyard would also have a MEER to house all controls, switches, electrical system protection equipment, batteries, and the station AC and DC distribution panels.

For safety and security purposes, night lighting would be provided for the proposed project. New lighting sources at the proposed SCE Switchyard would consist of high-pressure sodium, low-intensity lights. These lights ~~are to~~would be located in the switchracks and in areas of the yard where operating and maintenance activities are conducted. These activities typically occur during the day, but occasionally must take place during evening hours for work to address emergencies or to maintain required maintenance schedules.

Maintenance lights would be controlled by a manual switch and would normally be in the "off" position. The lights would be directed downward and away from the perimeter to reduce glare outside the facility.

The proposed project would also include the extension of the existing SCE 66 kV subtransmission line to be installed by SCE approximately 2,100 feet to the southeast of the ~~project site~~SGP Facility site and the relocation of an internal BFI power pole which is currently located at SCLF Flare 8 (Figure 2-5).

The proposed project includes the installation of a water supply pipeline from the landfill entrance to the proposed project site. The water supply pipeline would provide potable water for two to three full-time employees and for miscellaneous maintenance activities. The water supply pipeline would be served from an existing LADWP meter. A telecom line would be installed parallel to the water supply pipeline from the existing phone system at the landfill entrance. The telecom line would provide phone and data service for the proposed project. The construction of the water supply pipeline and telecom line would include a linear trench and fill approach that would run along the alignment shown on Figure 2-~~6~~3.

The water supply pipeline would be approximately 7,200 feet in length from the landfill entrance to the proposed project site. The water supply pipeline would be constructed from two-inch diameter high-density polyethylene (HDPE) pipe. In case a booster pump needs to be installed in the system to overcome the static head due to the estimated 510-foot elevation rise, it has also been included as part of this analysis.

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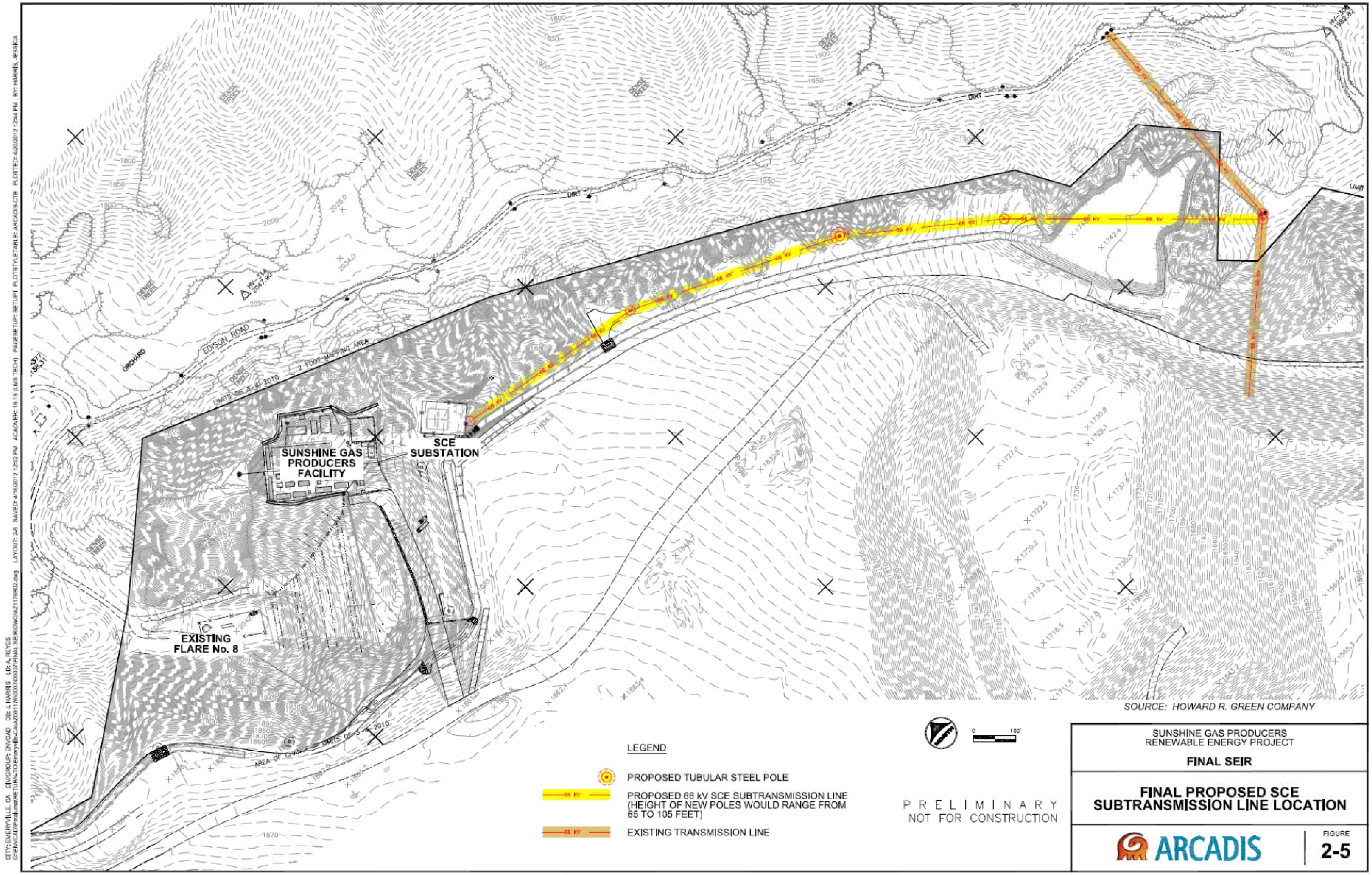
SUNSHINE GAS PRODUCERS FACILITY
SCE SUBSTATION
EXISTING FLARE No. 8
EDISON ROAD
DIRT
SOURCE: HOWARD R. GREEN COMPANY
LEGEND
PROPOSED TUBULAR STEEL POLE
PROPOSED 66 kV SCE SUBTRANSMISSION LINE (HEIGHT OF NEW POLES WOULD RANGE FROM 65 TO 105 FEET)
EXISTING TRANSMISSION LINE
PRELIMINARY
NOT FOR CONSTRUCTION
SUNSHINE GAS PRODUCERS RENEWABLE ENERGY PROJECT
FINAL SEIR
FINAL PROPOSED SCE SUBTRANSMISSION LINE LOCATION
ARCADIS
FIGURE
2-5

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The telecom line would be approximately 7,200 feet in length from the landfill entrance to the proposed project site. The telecom line would be constructed either as multi-pair copper wire and or multi-pair fiber optic cable and would use the same trench as the water supply pipeline. ~~Alternatively, a portion of the telecom line may be installed on the new TSPs installed by SCE for the subtransmission line.~~

Lastly, the project would generate approximately ~~8~~3,500 additional gallons of condensate ~~and wash water~~ per day. This water would be treated and beneficially reused on site for dust suppression to help the landfill meet its ongoing dust suppression requirements which are part of the environmental mitigation and monitoring program for the previously approved landfill expansion.

2.7 CONSTRUCTION OF PROPOSED PROJECT

2.7.1 SGP FACILITY CONSTRUCTION

Construction of the SGP Facility would likely occur over the course of approximately ~~27~~ 24 months through implementation of approximately six phases of development.[9]

Each phase would last between one and ~~11~~ five months, as described below:

- Phase I would be implemented over the first ~~11~~ three to four months and would entail replacement of surface water drainage ditches with buried piping, and constructing/maintaining temporary roads for continued service needs by the landfill. Dump trucks would haul the removed road asphalt and concrete ditch materials for recycling/disposal (asphalt debris), as well as deliver bedding/fill material for the buried piping. Flatbed trucks would be used to deliver pipe segments to the project site.~~delivery of imported soil to construct a level area for equipment pads and buildings. Approximately 72,500 cubic yards of soil would be delivered during Phase I of construction.~~ As discussed below, during Phase II, soil would be transferred by haul trucks from elsewhere within the landfill, rather than importing additional soil.
- Phase II would begin after Phase I is completed and would be implemented over the next ~~eight~~ five months of construction. Phase II would entail delivering large earth moving equipment that would be used for excavation, site preparation, and civil construction. Haul trucks would be used to transfer approximately 120,000 cubic yards of clean soil from identified sources at SCLF for use at the proposed project site, thus, eliminating approximately 115,000 cubic yards of soil transport haul truck trips over the course of construction Phases I and II.~~Site preparation may require approximately 42,500 cubic yards of soil to be delivered during Phase II of the construction schedule.~~
- Phase III would begin after completion of Phase II and would be implemented over the next one to two months. Phase III would entail laying foundations, underground piping, and would also include delivery of various construction materials.
- Phase IV would commence after completion of Phase III and would be implemented over the following one to two months. Phase IV would entail the installation of the SGP

[9] NOTE: Construction phases and duration have been modified since the publication of the Draft SEIR as a result of the availability of soil within the SCLF boundaries for use by SGPREP rather than hauling soil on to the site.

Facility equipment.~~the delivery of the proposed project equipment, including large equipment, such as turbines and step-up transformers~~.

- Phase V would begin after the completion of Phase IV and would be implemented over the following four ~~to five~~ months. Phase V would entail various construction activities, such as installation of piping and wires, and would include the installation of the water supply pipeline served by the existing LADWP meter and the telecom phone and data line.
- Phase VI would begin after the completion of Phase V and would be implemented over the following one to two months. Phase VI would entail miscellaneous work, such as painting and commissioning of the SGP Facility.

2.7.2 SCE CONSTRUCTION

To support the proposed SGP Facility construction and operations, SCE would construct a switchyard and subtransmission line.

2.7.2.1 Switchyard

The proposed project includes the construction of the 66 kV switchyard, as described in Section 2.6. Construction would be performed by either SCE construction crews or contractors, depending on the availability of SCE construction personnel at the time of construction. Construction of the SCE Switchyard would likely occur over the course of approximately two to three months and would run concurrently with Phase V of the SGP Facility construction. Activities would include site management, civil (e.g., foundations, underground conduit, ground grid), electrical (e.g., MEER, switchracks, conductor, circuit breakers), testing (e.g., relays, energization), paving and fencing.

SCE construction activities would include the construction of two underground conduits and structures from each of the last two TSPs in order to accommodate additional fiber optic telecommunications lines, which SCE will eventually need to serve the proposed SGPREP in the future. One run of underground 5-inch conduit and structures would be installed from the last TSP into the MEER building within the SCE switchyard. The second run of underground 5-inch conduit and structures would be installed and stubbed out, for a diverse route into the MEER building within the SCE switchyard for future use by SCE.

2.7.2.2 Subtransmission Line

The proposed project would also include the extension of the existing SCE 66 kV subtransmission line approximately 2,100 feet to the southeast of the proposed site. Construction of the SCE Subtransmission Line would likely occur over the course of approximately five months and would run concurrently starting with Phase III and ending with Phase V of the SGP Facility construction. Activities would include survey, access road development[10], pole framing/setting, TSP footing installation, conductor installation, material delivery, and restoration.

[10] SGP or SCLF would be responsible for any access road development or restoration associated with the proposed project.

2.8 OPERATION OF PROPOSED PROJECT

Prior to startup of the proposed project, all LFG collected from SCLF would be routed to a common gas header. The LFG to be used in the turbines would be treated by the SGP Facility. SCLF would continue to be responsible for treating gas that is flared. Following treatment, the LFG would be piped to provide fuel to the turbines. SCLF would maintain the existing flare~~(s)~~ and operate them from time to time when it is necessary to shut down the turbines for maintenance, during unplanned shutdowns, or when collected LFG volumes exceed the fuel requirements of the turbines.

Two to three SGP employees would be hired to ensure proper operation and maintenance of the SGP Facility. These employees would normally work Monday through Friday, from 8 am to 5 pm, and would be available on an on-call basis outside of normal working hours. Potable drinking water (to be provided by installation of a water supply pipeline) and a restroom facility (consisting of a septic and leach field system) would be provided for these employees.

The proposed SCE Switchyard would be an unmanned, automated, ~~low-profile,~~ 21 MVA switchyard. Operation and maintenance of the SCE Switchyard would involve the periodic and routine transport, use, and disposal of minor amounts of petroleum products, namely lubricating and insulating oils. A battery would be properly stored and maintained within the SCE Switchyard structure. The SCE Switchyard would be designed to provide containment and/or diversionary structures or equipment to prevent the discharge of oil or other hazardous material. In addition, the SCE Subtransmission Line would be unmanned and subject to infrequent maintenance.

2.9 PERMITS AND COMPLIANCE REQUIREMENTS

The intended use of this EIR is to provide information to the public and to those responsible agencies that may be asked to issue permits for SGP construction and operation. Most of the permits necessary for the proposed project involve air quality permits from SCAQMD. Environmental permits to construct and operate the SGP Facility are also needed from a variety of other federal, state, and local agencies. A summary of major permitting and regulatory compliance requirements for the proposed project is provided below in Table 2-1.

TABLE 2-1

Federal, State, and Local Agency Permits, Applications and Plans

Regulatory Agency Name	Permit / Compliance Requirement(s)	Applicability to Proposed Project
Federal		
U.S. EPA	Spill Prevention Control and Countermeasure Plan (40 Code of Federal Regulations [CFR] 112)	Facility designs that affect the potential for discharge of oil into navigable waters.
U.S. Department of Transportation (U.S. DOT)	Compliance with U.S. DOT regulations regarding transportation of hazardous substances (49 CFR 171-178)	Project-related transportation of hazardous materials.
State		
Caltrans	Transportation Permit	Project-related application to transport overweight, oversize, and wide loads on state highway.
CalRecycle (and SCLF LEA)	SCLF Joint Technical Document (JTD, 14 CCR 21620)	SGPREP should be described in SCLF's Joint Technical Document (JTD) to the satisfaction of the landfill's local enforcement agency (LEA). JTD update will be filed by SCLF following certification of this Final SEIR.
California Occupational Safety and Health Association (CalOSHA)	Injury and Illness Prevention Program (8 CCR 3203)	Basic workplace safety program intended to prevent workplace injury and illness.
	Pressure Vessel Permit to Operate and Inspections [8 CCR 461(a), 470(a), and 780(a)].	Permit to Operate is required for certain types of pressure vessel (e.g., air tanks, compressors). Maintenance and inspection requirements also apply.
California Public Utilities Commission (CPUC)	Permit to Construct (PTC)/PTC Exemption	A PTC application may be~~s are~~ required to construct the SCE Switchyard and Subtransmission Line if the project does not qualify for an applicable PTC exemption.~~.~~
Local		
SCAQMD	SCAQMD Rule 201: Permit to Construct	Permit to Construct. Applications are required to construct stationary emission sources.
	SCAQMD Rule 203: Permit to Operate	Permit to Operate. Applications are required to operate stationary emission sources.
	SCAQMD Rule 212: Standards for Approving Permits	Permits cannot be issued unless the equipment can operate in compliance with the California Health and Safety Code and provisions of Rule 212. Also requires public notification of significant project.
	CEQA	The SCAQMD is the lead agency for preparation of the environmental document (CEQA Guidelines, Chapter 2.5, §21069).
	SCAQMD Regulation XXX: Title V Permits	Permit to construct and operate Title V sources. Applications are required to construct, operate or modify stationary emission sources.

TABLE 2-1 (continued)

Federal, State, and Local Agency Permits, Applications and Plans

Regulatory Agency Name	Permit / Compliance Requirement(s)	Applicability to Proposed Project
Local (continued)		
SCAQMD	Regulation XIII: New Source Review	New or modified permit units must be installed with BACT, obtain offsets and perform modeling of new emission increases.
	SCAQMD Rule 1401: NSR of Carcinogenic Air Contaminants	New or modified permit units must comply with maximum allowed risk levels, Toxics Best Available Control Technology (T-BACT), and risk assessment requirements.
	SCAQMD Rule 403: Fugitive Dust	Requires actions to prevent, reduce or mitigate fugitive dust emissions. Applies to any activity or manmade condition capable of generating fugitive dust.
RWQCB	National Pollutant Discharge Elimination System (NPDES) General Permit/Construction Activity	Project-related construction activity of one or more acres required to develop and implement a Storm-Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters.
	Waste Discharge Authorization	On-site wastewater system for condensate and wash water with discharge to land.
Los Angeles County Department of Public Works	Building Permit	Required for project-related foundations and buildings to assure compliance with the Uniform Building Code.
	Grading Permit	Required prior to grading.
	Plumbing and Electrical Permit	General construction permit.
	Recycling and Reuse Plan	Project-related construction and demolition debris must meet the County's 50 percent recycle and reuse requirements.
	LFG Mitigation and Monitoring Plan and Necessary Permits	Buildings and structures located on or within 1,000 feet of a landfill containing decomposable material must be protected against LFG intrusion.

TABLE 2-1 (concluded)

Federal, State, and Local Agency Permits, Applications and Plans

Regulatory Agency Name	Permit / Compliance Requirement(s)	Applicability to Proposed Project
Local (concluded)		
Los Angeles County Department of Public Health Environmental Health Land Use Program	Septic ~~s~~System ~~p~~Permit	Must submit plans for construction of On-Site Wastewater Treatment System for sanitary waste, must provide soil evaluations, percolation test data and historical records.
	Preliminary Building Permit Requirement	Feasibility report demonstrating conformance with On-site Wastewater Treatment System (OWTS) Guidelines.

CHAPTER 3

ENVIRONMENTAL SETTING

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3.0 ENVIRONMENTAL SETTING

3.1 INTRODUCTION

CEQA Guidelines §15125 requires an EIR to include a description of the environment within the vicinity of a proposed project as it exists at the time the NOP/IS is published, from both a local and regional perspective. The NOP/IS was published on November 17, 2009. This chapter presents the existing environmental setting for the proposed project using data available as of that date. The setting constitutes the baseline physical conditions by which a lead agency determines whether an impact is significant. This chapter describes the existing environment around the SGPREP that could be adversely affected by the proposed project. This ~~Draft~~ Final SEIR is focused only on the environmental topics identified in the NOP/IS (Appendix A) that could be significantly adversely affected by the proposed project, and additional environmental topics based on public comment during the NOP/IS comment period, as summarized in Table 1-1. The reader is referred to the NOP/IS for discussion of environmental topics not considered in this ~~Draft~~ Final SEIR and the rationale for inclusion or exclusion of each environmental topic. The discussion under each environmental topic in this chapter includes both a description of environmental conditions (“environmental setting”) and applicable regulations (“regulatory background”). Potential impacts from the proposed project to these same environmental topics are analyzed in Section 4.0.

3.2 AIR QUALITY

3.2.1 ENVIRONMENTAL SETTING

The proposed project would be located within the SCAQMD jurisdiction (referred to hereafter as the district). The district consists of the four-county Basin that includes Orange, the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, and the Riverside County portions of the Salton Sea Air Basin and the Mojave Desert Air Basin. The district is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east.

3.2.1.1 Meteorological Conditions

The climate in the district generally is characterized by sparse winter rainfall and hot summers tempered by cool ocean breezes. A temperature inversion, a warm layer of air that traps the cool marine air layer underneath it and prevents vertical mixing, is the prime factor that allows contaminants to accumulate in the district. The mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds. The climate of the area is not unique, but the high concentration of mobile and stationary sources of air contaminants in the western portion of the district, in addition to the mountains, which surround the perimeter of the district, contribute to poor air quality in the region.

3.2.1.2 Temperature and Rainfall

Temperature affects the air quality of 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 take place in the district due to a wide variation in topography. Temperature also has a major effect on vertical mixing height and affects chemical and photochemical reaction times.

Temperatures at the project site generally range between 42 and 93 degrees Fahrenheit (°F), and recorded minimum and maximum temperatures of 23 and 113 °F have been measured. The majority of the annual rainfall in the Basin occurs from November through April. Annual average rainfall varies from nine to 14 inches.

3.2.1.3 Wind Flow Patterns

Wind flow patterns play an important role in the transport of air pollutants in the district. The winds flow from offshore and blow eastward during the daytime hours. In summer, the sea breeze starts in mid-morning, peaks at 10 to 15 miles per hour (mph), and subsides after 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 the pollutants to accumulate in the district.

The overall average wind speed on site is 9.9 mph with a maximum one-hour measurement of 45 mph. The normal wind patterns in the district 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 district.

3.2.1.4 Existing Air Quality

Local air quality in the district is monitored by the SCAQMD, which operates a network of monitoring stations throughout the district. CARB operates additional monitoring stations.

The sources of air contaminants in the district vary by pollutant but generally include on-road mobile sources (e.g., automobiles, trucks, buses), other off-road mobile sources (e.g., airplanes, ships, trains, construction equipment), residential/commercial sources, and industrial/ manufacturing sources. Mobile sources are responsible for a large portion of the total district emissions of several pollutants.

Mobile sources, both on-road and off-road, continue to be the major contributors for each of the criteria pollutants monitored in the district. For example, mobile sources represent 64 percent of VOC emissions, 91 percent of NO_x emissions, and 98 percent of CO emissions. For directly emitted $PM_{2.5}$, mobile sources represent 39 percent of the emissions with another 20 percent due to vehicle-related entrained road dust (SCAQMD 2007).

Criteria air pollutants are those pollutants for which the federal and state governments have established ambient air quality standards or criteria for outdoor concentrations in order to protect public health with a margin of safety (see Table 3-1). NAAQS were first authorized by the federal Clean Air Act of 1970 and have been set by the U.S. EPA. California Ambient Air Quality Standards (CAAQS) were authorized by the state legislature in 1967 and have been set by CARB.

A region is considered to be in attainment of the air quality standards if the measured concentrations of air pollutants are continuously equal to or less than the air quality standards over the previous three-year period.

Health-based air quality standards have been established by the U.S. EPA and the CARB for ozone (O_3), CO, nitrogen dioxide (NO_2), PM_{10}, $PM_{2.5}$, SO_2, and lead. The California standards are typically more stringent than the federal air quality standards. California also has established standards for sulfate, visibility, hydrogen sulfide (H_2S), and vinyl chloride. H_2S and vinyl chloride currently are not monitored in the district because they are not a regional air quality problem, but are generally associated with localized emission sources. The district is currently designated as nonattainment for PM_{10}, $PM_{2.5}$, and ozone for both state and federal standards. The district, including the project area, is classified as attainment for both the state and federal standards for CO, NO_2, SO_2, sulfates, and lead.

Regional Air Quality

The South Coast Air Basin is a 6,600-square-mile area that encompasses Los Angeles County, Orange County, Riverside County, and the western portion of San Bernardino County. The entire Basin is under the jurisdiction of the SCAQMD. The Basin presently exceeds state and federal standards for O_3, PM_{10} and $PM_{2.5}$.

Local Air Quality

Existing ambient air quality levels measured by the SCAQMD at its Santa Clarita Valley air quality monitoring station (the air quality monitoring station closest to the proposed project site) indicate that photochemical smog levels (mainly O_3) are high in summer, dust levels may exceed particulate standards throughout the year, and primary vehicular pollutant levels (e.g., CO and ~~nitrogen dioxide [~~NO_2~~]~~) are very low in the area. Table 3-2 includes data for the last three years from the Santa Clarita Valley air quality monitoring station.

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TABLE 3-1

State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		Federal Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 μg/m^3)		0.075 ppm (147 μg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 μg/m^3	Gravimetric or Beta Attenuation	150 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 μg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard	Gravimetric or Beta Attenuation	35 μg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 μg/m^3		15.0 μg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm m^3 (10mg/ m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	Gas Phase Chemiluminescence	53 ppb (100 μg/m^3) (see footnote 8)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.18 ppm (339 μg/m^3)		100 ppb (188 μg/m3) (see footnote [8])	None	
Sulfur Dioxide (SO_2)	24 Hour	0.04 ppm (105 μg/m^3)	Ultraviolet Fluorescence	—	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)[9]
	3 Hour	—		—	0.5 ppm (1300 μg/m^3) (see footnote 9)	
	1 Hour	0.25 ppm (655 μg/m^3)		75 ppb (196 μg/m^3) (see footnote 9)	—	
Lead[10]	30 Day Average	1.5 μg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		0.15 μg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[11]	—				

TABLE 3-1 (continued)

State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards 1		Federal Standards 2		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[10]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Notes:
µg/m^3 = micrograms per cubic meter
°C = degrees Celsius

1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (one- and 24-hour), nitrogen dioxide, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

TABLE 3-1 (concluded)

State and Federal Ambient Air Quality Standards

[7] Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
[8] To attain this standard, the three-year average of the 98th percentile of the daily maximum one-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).
[9] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
[10] National lead standard, rolling three-month average: final rule signed October 15, 2008.
Source: California Air Resource Board, 2010. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf (CARB 2010)

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TABLE 3-2

Ambient Air Quality Santa Clarita Valley Monitoring Station
2006-2008 Maximum Observed Concentrations

Constituent	2006	2007	2008
Ozone: One-hour (ppm)	0.16	0.135	0.160
State Standard	(62)*	(31)*	(54)*
Eight-hour (ppm)	0.120	0.110	0.131
Federal Standard	(40)*	(44)*	(60)*
State Standard	(64)*	(64)*	(81)*
Carbon Monoxide:			
One-hour (ppm)	2	2	2
Eight-hour (ppm)	1.3	1.2	1.1
Federal Standard	(0)	(0)	(0)
State Standard	(0)	(0)	(0)
Nitrogen Dioxide			
One-hour (ppm)	0.08	0.08	0.07
State Standard	(--)	(--)	(--)
24-hour (ppm)	0.04	--	--
Annual (ppm)	0.0184	0.0196	0.0165
PM_{10}: 24-hour (µg/m^3)	53	131	91
Federal Standard	0	0	0
State Standard	(1.7%)	(9%)	(4%)
Annual (µg/m^3)			
Geometric Mean	--	--	--
Arithmetic Mean	23.4	23.0	25.8
$PM_{2.5}$: 24-hour (µg/m^3)	--	--	--
Federal Standard	--	--	--
Annual Arithmetic Mean (µg/m^3)	--	--	--
Sulfur Dioxide:			
One-hour (ppm)	--	--	--
State Standard	--	--	--
Annual Arithmetic Mean (ppm)	--	--	--
Lead: 30-Day (µg/m^3)	--	--	--
Quarter (µg/m^3)	--	--	--
Sulfate: 24-Hour (µg/m^3)	--	--	--
State Standard	--	--	--

Notes: ppm = parts by volume per million of air
µg/m^3=micrograms per cubic meter
n/a = data not available or not collected by the District
-- = not measured or monitored
* = days of violation
Source: South Coast Air Quality Management District, Historical Data by Year, website: http://www.aqmd.gov/smog/historicaldata.htm, February, 2011. (SCAQMD 2011a)

The monitoring station in the Santa Clarita Valley area did not measure $PM_{2.5}$ levels, sulfur dioxide, lead, or sulfate. The nearest monitoring station to the proposed project that measured $PM_{2.5}$ levels in 2008 is the West San Fernando Valley station. The air quality in the West San Fernando Valley exceeded the federal 24-hour $PM_{2.5}$ standards on 1.8 percent of the days sampled. Sulfur dioxide, lead, and sulfate were not measured above the federal or state standards in the Basin.

3.2.1.5 Baseline Site Emissions

Baseline criteria air pollutant emission rates (CO, NO_x, VOC, PM_{10}, $PM_{2.5}$ and sulfur dioxide [SO_2]) were based on direct measurements taken for years 2007 through 2009 for the existing three enclosed SCLF flares. These are the most recent years for which data is available. The baseline emission rates were calculated on a mass emission per volume gas combusted basis (pounds per million cubic feet LFG) using the average of actual measured 2007 through 2009 emission rates. Table 3-3 presents the measured (baseline) emission rates from the SCLF flares.

TABLE 3-3

Baseline Operational Emission Rates

Processes / Scenario	NO_x (lb/day)	CO (lb/day)	VOC (lb/day)	PM_{10} / $PM_{2.5}$ (lb/day)	SO_2 (lb/day)
SCLF Flare Baseline (2007 – 2009 Average)[1]	124	126	19	19	113

Note: [1]Baseline emissions for Oct 2007 through Sep 2009

Source: Derenzo & Associates 2010. "Sunshine Gas Producers, LLC Renewable Energy Project: Comparison of Criteria Pollutant and Greenhouse Gas Emission Rates." 22 April.

Baseline ~~toxic air contaminant (~~TAC~~)~~ rates were estimated using the baseline LFG flow rates from 2007 through 2009; air toxics emissions sampling performed at SCLF in 2002, 2003 and 2007; emissions factor for the combustion of natural gas in flares from regulatory documents; and assumed required destruction efficiency for TACs. Table 3-4 presents the baseline TAC emission rates from the SCLF flares.

TABLE 3-4

LFG Flares: Rule 1401 Air Toxics Emission Inventory

LFG Influent HAP Compound	Maximum Concentration (ppmv)	Molecular Weight	Destruction Efficiency (% wt.)	Emission Factor[1] (lb/MMscf)	Emission Rate Three Flares[2] (lb/yr)
Acrylonitrile	6.330 [C]	53.06	98.0%	0.0174	63.80
Benzene	3.190 [A]	78.11	98.0%	0.0129	47.30
Carbon disulfide	0.187 [B]	76.13	98.0%	0.0007	2.57
Chlorobenzene	0.208 [B]	112.56	98.0%	0.0012	4.40
Dichlorobenzene (1,4)	0.070 [A]	147.00	98.0%	0.0005	1.83
Dichloroethane (1,1)	0.191 [A]	98.95	98.0%	0.0010	3.67
Ethyl Benzene	1.620 [A]	106.16	98.0%	0.0089	32.63
Ethylene dichoride (1,2-dichloroethane)	0.127 [A]	98.96	98.0%	0.0006	2.20
Hydrogen chloride[3]	NA	NA	NA	5.1229	18,782.66
Hydrogen sulfide	86.200 [A]	34.07	98.0%	0.1518	556.56
Methyl ethyl ketone	12.400 [A]	72.11	98.0%	0.0462	169.39
Methylene chloride (Dichloromethane)	5.833 [B]	84.94	98.0%	0.0256	93.86

TABLE 3-4 (concluded)

LFG Flares: Rule 1401 Air Toxics Emission Inventory

LFG Influent HAP Compound	Maximum Concentration (ppmv)	Molecular Weight	Destruction Efficiency (% wt.)	Emission Factor[1] (lb/MMscf)	Emission Rate Three Flares[2] (lb/yr)
Perchloroethylene	3.180 [B]	165.83	98.0%	0.0273	100.09
Toluene	33.800 [B]	92.13	98.0%	0.1609	589.93
Trichloroethylene	1.103 [B]	131.40	98.0%	0.0075	27.50
Trichlorfluoromethane (CFC-1 1)	0.084 [A]	137.38	98.0%	0.0006	2.20
Vinyl chloride	1.425 [B]	62.50	98.0%	0.0046	16.87
Xylenes	24.537 [B]	106.16	98.0%	0.1346	493.50
Natural Gas Emission Factors[4]					
Formaldehyde				7.5E-02	106.06
Naphthalene				6.1E-04	0.86
PAH Compounds[5]				8.8E-05	0.12

Notes:

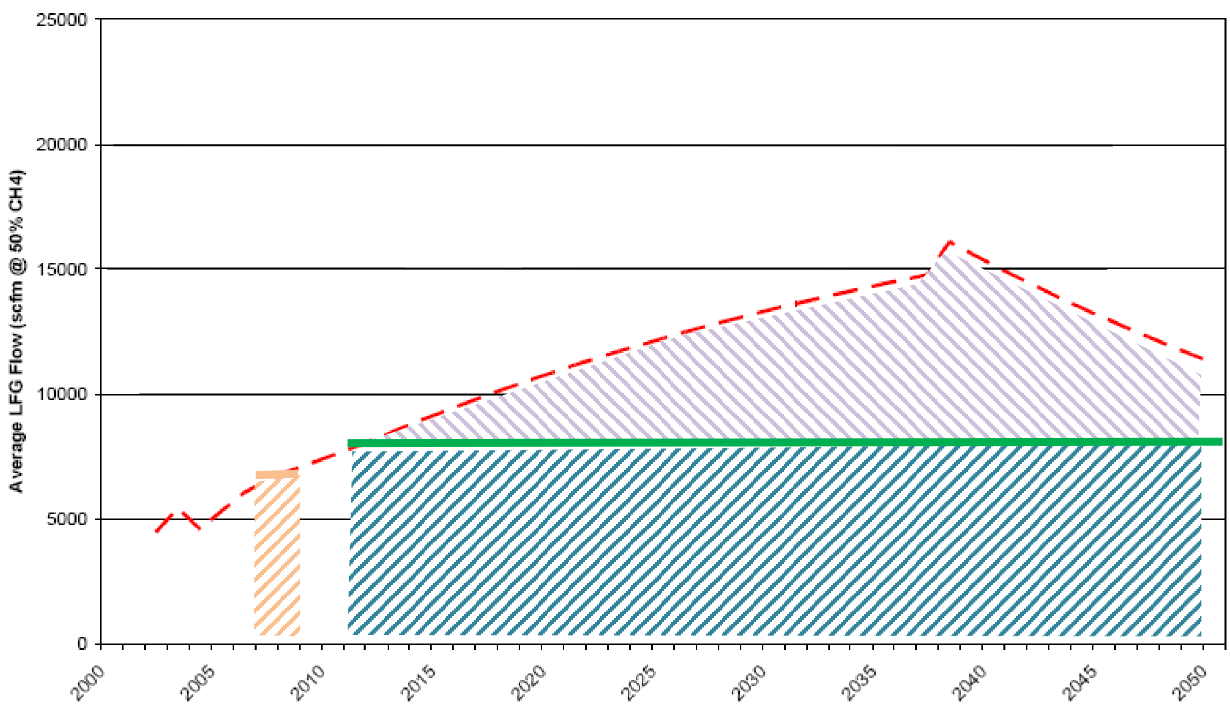
1. Emission factor calculated at 98% destruction efficiency, except where noted, (ppm, scf/MMscf) (MW, lb/mol) (1-98%) / (387 scf/mol)
2. Based on average annual LFG throughput for three (3) flares of 3,666 MMscf/year.
3. HCl emission factor determination is presented in Appendix D of the 1999 Final SEIR.
4. Emission factor for natural gas combustion (AP42 Section 1.4, Table 1.4-3) in units of lb/MMscf. The percent methane in LFG is assumed to be based on the ratio of the weighted average LFG heat value (405 Btu/scf) to the heat value of natural gas (1,050 Btu/scf).
5. The emission factor for all PAH compounds is assumed to be the sum of the individual PAHs listed in AP-42, Table 1.4-3.
6. Maximum analytical results from LFG sampling, December 2007.
7. Average of maximum values from LFG sampling performed in 2002 and 2003.
8. Sampling reports do not include this compound. Number in table is USEPA default value from AP-42, Table 2.4-1, Default Concentrations for LFG Constituents.

Projected LFG Supply

The supply of LFG collected from SCLF is expected to continue to increase until the year 2038 (peak of gas curve), at which point the supply of gas will level off and begin to decrease thereafter. Figure 3-1 provides the estimated LFG collection rates (Cornerstone 2008).[11] As shown on Figure 3-1, the LFG recovered at the peak of the gas curve is forecasted to be 16,100 standard cubic feet per minute (scfm) at 50 percent methane content. The proposed electrical generation facility would have an average combustion capacity at 50 percent methane of 8,100

11 Projections for LFG generation were developed utilizing the U.S. EPA's Landfill Gas Emissions Model version 3.02 (LandGEM). In doing the projections, Cornerstone incorporated assumptions about the current and future conditions of the waste and the landfill, which are described in their letter report dated May 2008 (see Appendix E-5). Note that the flows are normalized to 50 percent methane, and Figure 3-1 represents a calculated projection of the possible future gas generation; actual LFG generation and collection rates will vary primarily based on waste acceptance rate and waste composition. If the LFG combusted is normalized to 40 percent methane content, the equivalent flow rate would be 10,100 scfm.

scfm[12] (see green line on Figure 3-1).[13] The baseline (2007-2009) average gas generation rate was approximately 7,000 scfm.



Notes:

- LFG Collection Rate
- Average Baseline 2007-2009 (approximately 7,000 scfm)
- Average SGPREP Capacity (approximately 8,100 scfm)
- Average Baseline Quantity of LFG Flared
- Estimated Average Quantity of LFG to be Used by SGPREP
- Estimated Average Quantity of LFG to be Flared (SCLF flares)

FIGURE 3-1

Estimated LFG Collection Rate

The proposed project capacity is based on a 50 percent methane rating, however, the amount of LFG consumed by the turbines will vary with the actual methane percentage of the LFG collected and the ambient weather conditions. The maximum~~ and annual average~~ million British thermal units (MMBTU) of LFG by the facility ~~will be~~are specified in the SCAQMD permit conditions. Facility Wide Permit Condition No. 7 states: “the total landfill gas processed at this facility shall not exceed 247 MMBTU/hr (24-hour avg). The operator shall determine the total

[12] The projected LFG available for collection and the LFG collected varies based on the operation of the LFG collection system and weather conditions.

[13] The values shown in this paragraph in the 2009 NOP/IS were at 42.5 percent methane and the current value shown is estimated at 50 percent methane. The permit conditions are based on MMBTU estimated from methane content of the LFG.

heat input of the landfill gas at least once every eight hours of operation, and monitor the flow rate continuously. The operator shall maintain adequate records to demonstrate compliance with this condition."[14] The air permit application identifies 43.28 MMBTU/hr Lower Heating Value (LHV) maximum heat input (48.09 MMBTU/hr Higher Heating Value [HHV]) for each turbine.

The degradation of waste material in the landfill will produce LFG that must be collected and controlled regardless of whether the proposed project is constructed. In the absence of the proposed project, the LFG would continue to be controlled using the existing flares. Criteria air pollutant and GHG emission rates are expected to increase with or without the proposed project, due to the increasing amount of LFG that will be produced by the landfill. Future combustion emissions projections without the proposed project are provided in Chapter 6 and Tables 6-1a and 6-1b of this ~~Draft~~ Final SEIR.

Odors

Several operations at a landfill can create odors, including waste unloading and movement, decay of waste at the working face, and ~~landfill gas~~LFG that evades the collection system. The adjacent communities to the SCLF have filed a number of complaints with the SCAQMD regarding odors from the landfill operations. The volume of complaints reported to the SCAQMD concerning the SCLF increased dramatically in October and November 2009. In 2007, the SCAQMD received 24 odor complaints concerning SCLF. In 2008, the SCAQMD received 52 complaints. In 2009, the SCAQMD received 313 complaints, ~~and~~ 613 complaints were received in 2010,~~.~~ ~~For February and March 2011, 165~~and 1,565 complaints were received in 2011. For January and February 2012, 267 complaints were received. As a result, in comparison with a single NOV issued by SCAQMD in 2008, seven NOVs were issued by SCAQMD in 2009, six were issued by SCAQMD in 2010, 30~~and one~~ ~~was~~ were issued by SCAQMD ~~to date~~ in 2011[15], and six were issued by SCAQMD to date in 2012.

In response to the increasing odor complaints, the SCAQMD held multiple hearings before the Hearing Board in December 2009 and February and March 2010. The SCAQMD issued an Order for Abatement in March 2010, which was subsequently amended in July 2010 and January 2011. The Order for Abatement identified numerous factors as potential contributors to the odor issues including, increases in delivered tonnage of trash; size and location of the landfill working face; Monday morning deliveries containing trash that was picked up the prior Friday or Saturday, allowing decomposition to begin prior to disposal; trash trucks on the mile long haul road emitting odors from both trash and leaking liquids; ~~landfill gas~~LFG emissions from either the surface of the landfill or ~~landfill gas~~LFG control equipment; and the type of cover on the working face.

The SCAQMD Order for Abatement required a number of activities designed to reduce odors from the landfill. SCLF is required to limit landfilling under certain wind conditions at certain times of day; to enhance waste cover at the working face; and to implement a program designed

[14] Due to the fluctuating nature of methane content in landfill gas the condition is given in MMBTU/Hr and equates to a flow rate of approximately 10,170 scfm of gas at 40% methane, which is the average methane content of LFG at SCLF, which is approximately equal to 8,500 scfm of gas at 50% methane identified in the Draft SEIR, plus or minus one percent methane.

[15] Note, two additional NOVs were issued by SCAQMD in 2011 for violations of SCAQMD Rule 1150.1, rather than SCAQMD Rule 402 (odors).

to test odor reduction activities at the working face, enhanced odor patrols, rerouting of transfer trucks on Monday mornings, and replanting lost vegetation that enhanced dispersion of odors. In addition, SCLF is required to engage in a variety of studies aimed at better understanding the sources of odors from SCLF, the transport of odors from SCLF to the community, and potential odor reduction measures.

In addition to the Order for Abatement in September, 2010, the Los Angeles Department of Public Works required SCLF to initiate various activities in an effort to reduce odors. The communication required SCLF to use nine inches of compacted soil cover at the end of each day to permanently cover the working face. The requirement of permanent cover at the landfill working face negated some studies of mitigation measures and led, in part, to the amendments of the Order for Abatement described earlier.

The most recent Amendment to the Abatement Order, the STAOA, was signed on December 6, 2011. The STAOA discusses, in detail, the impact of the performance of the gas collection system on odors at SCLF. It also describes the odor remediation measures required by the STAOA, including: installing additional LFG collection wells; installing additional surface LFG monitoring; an additional physical or computer modeling study; hiring corrective action managers at SCLF; hiring an independent environmental consultant to monitor odors and other environmental parameters; installing a new flare; and conducting additional environmental monitoring. The STAOA does not dictate whether the destruction of LFG should occur in a flare or turbine, only that the LFG is effectively destroyed. In addition, the STAOA does not impose any conditions on, or directly affect in any way, SGPREP operations.

~~Landfill gas~~LFG control and destruction devices are not considered to be a source of odors at landfills. Typical LFG control devices include flares, internal combustion engines, turbines and boilers, which destroy LFG through the combustion process. For example, the LFG control devices currently operating at the location of the proposed project are flares.

Most odors at landfills result from either reduced sulfur compounds, such as mercaptans and hydrogen sulfide, or organic compounds, such as ethanol and acetaldehyde. Pursuant to Rule 1150.1, LFG control devices are required to control non-methane organic compounds by at least 98 percent and methane by 99 percent. Sulfur compounds in the LFG, including the mercaptans and hydrogen sulfide, are oxidized to sulfur dioxide during combustion in the turbines. Hydrogen sulfide, a sulfur compound, is converted to sulfur dioxide by this process, thereby reducing its noxious odor. As a result, few odoriferous emissions are expected from landfill control devices. In addition, the heat, buoyancy and high flow rates of the exhaust from the LFG control devices increase the dispersion of any odoriferous compounds that remain after ~~landfill gas~~LFG destruction, further reducing the potential for odors from the ~~landfill gas~~LFG destruction devices.

3.2.2 REGULATORY BACKGROUND

Ambient air quality standards in California are the responsibility of, and have been established by, both the U.S. EPA and CARB as NAAQSs and CAAQSs, respectively. These standards have been set at concentrations that provide margins of safety for the protection of public health and welfare. Federal and state air quality standards are presented in Table 3-1 (CARB 2010). The federal, state, and local air quality regulations are identified below in further detail.

3.2.2.1 Federal

The U.S. EPA is responsible for setting and enforcing the NAAQS for ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. The U.S. EPA has primary jurisdiction over emissions sources including aircraft, locomotives, and emissions sources outside of state waters (i.e., marine vessels) based on the authority granted by the federal Clean Air Act (CAA) of 1970 and the subsequent amendments.

Additionally, Title V of the CAA establishes a federal permit program that consolidates individual operating permits into a single facility permit. SCLF has a Title V permit (No. 49111). SCAQMD has been delegated authority by U.S. EPA to implement the Title V program via SCAQMD Regulation XXX. The U.S. EPA also has delegated authority to SCAQMD to implement the Prevention of Significant Deterioration (PSD) Program under Regulation XVII. PSD review is not anticipated for the proposed project because the proposed project would not result in emission increases of attainment pollutants that exceed PSD program thresholds.

3.2.2.2 State

CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for ensuring implementation of the California Clean Air Act and federal Clean Air Act, and for regulating emissions from consumer products and motor vehicles. CARB has established CAAQS for all pollutants for which the federal government has NAAQS and also has established standards for sulfates, visibility, H_2S, and vinyl chloride as discussed in Section 3.2.1.4 (Table 3-1**)**. CARB has established emission standards for vehicles sold in California and for various types of on-road and off-road equipment. Although CARB also sets fuel specifications to reduce vehicular emissions, it has no direct regulatory approval authority over the proposed project.

California has also established a state air toxics program, California Toxic Air Contaminants Program (Tanner Bill; AB1807), which was modified by the Revised Tanner Bill (AB2728). This program sets forth provisions to implement the national program for control of hazardous air pollutants.

The Air Toxic “Hot Spots” Information and Assessment Act (AB2588), as amended by Senate Bill 1731 (SB1731), requires operators of certain stationary sources to inventory air toxic emissions from their operations and, if directed to do so by the local air district, prepare a health risk assessment to determine the potential health impacts of such emissions. If the health impacts are determined to be “significant” (greater than 10 instances in one million exposures or non-cancer hazard index greater than 1.0), each facility operator must, upon approval of the health risk assessment, provide public notification to affected individuals.

3.2.2.3 Local

<u>SCAQMD</u>

The SCAQMD has regulatory authority over all stationary sources, air pollution control equipment, and limited authority over mobile sources within the district. The SCAQMD is responsible for air quality planning in the district and development and implementation of the

Air Quality Management Plan (AQMP). The AQMP establishes the strategies that will be used to achieve compliance with NAAQSs and CAAQSs in all areas within the SCAQMD's jurisdiction. The SCAQMD generally regulates stationary sources of air pollutants. There are a number of SCAQMD regulations that may apply to the proposed project including:

- Regulation II – Permits
- Regulation III – Fees
- Regulation IV – Prohibitions
- Regulation IX – New Source Performance Standards
- Regulation X – National Emissions Standards for Hazardous Air Pollutants (NESHAPS)
- Regulation XI – Source Specific Standards
- Regulation XIII – New Source Review
- Regulation XIV – New Source Review of Carcinogenic Air Contaminants (including Rule 1401 – New Source Review of Toxic Air Contaminants, and Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities)
- Regulation XXX – Title V Permits

Operators of the proposed project have submitted applications for Permits to Construct and Operate to SCAQMD. Because the proposed project is considered to be an essential public service [SCAQMD Rule 1302 (m)(7)], emission offset requirements [SCAQMD Rule 1303(b)(2)] would be satisfied by the SCAQMD's Priority Reserve account [SCAQMD Rule 1309.1]. Regulation XIII, New Source Review, requires any new, modified or relocated equipment that increases emissions of any non-attainment pollutants or non-attainment pollutant precursors (e.g., VOCs and NO2 for ozone), to comply with SCAQMD and federal emission offset requirements. To meet this requirement, PR offsets would be allocated for NO_x, VOC, PM_{10} and SO_x emissions from the proposed project ($PM_{2.5}$ offsets are not required by Rule 1303).

Los Angeles County

Los Angeles County has prepared a Public Review Draft General Plan (Los Angeles County 2011), which includes goals and policies for the air quality of the county. The version of the General Plan that is currently adopted was primarily written in 1987 and does not fully address air quality issues. If adopted prior to certification of this Final ~~Draft~~ SEIR, the following goals and policies from the 2011 Draft Public Review General Plan would be applicable to the proposed project:

- **Goal AQ 3:** Implementation of plans and programs to address the impacts of climate change.
  - **Policy AQ 3.4:** Participate in local, regional and state programs to reduce greenhouse gas emissions in the County.

SCLF MMRS

Previous environmental analyses of the City/County landfill project have resulted in the development of a detailed MMRS that is designed to reduce potentially significant air quality impacts of various landfill activities to the maximum extent feasible. Mitigation measures to ensure compliance with the current landfill CUP requirements are applicable to the proposed project and would be implemented during construction and operation as part of the proposed project. With regard to air quality impacts, the following mitigation measures apply directly to the proposed project:

MMRS 6.01: The permittee shall utilize the most effective available technology and methodology to avert fugitive dust emissions. In addition to the revegetation measures required in Condition 41 of the CUP and in the SCLF MMRS, the following apply:

- The permittee shall not engage in any excavation or other operation during high wind conditions, or when such conditions may be reasonably expected, that would result in significant emissions of fugitive dust which cannot be confined to the area under the permittee's control.
- All access roads to permanent facilities, except those infrequently used, shall be paved.

MMRS 6.07: Flaring systems shall be sited as required by the SCAQMD and constructed using BACT. The flames shall be fully contained within the stack. Flame arrestors shall be provided to the satisfaction of the SCAQMD and the County Forester and Fire Warden.

The permittee will convert gas, as it is recovered, to a renewable energy resource and to the extent technically and economically feasible.

MMRS 6.09: The following mitigation measures will reduce emissions to the maximum extent reasonably feasible:

- The permittee will maintain equipment in tune per manufacturer's specifications.
- The permittee will use catalytic converters on gasoline-powered equipment.
- The permittee will tune all diesel engines to manufacturer's specifications.
- High-pressure fuel injectors will be installed.
- Heavy equipment will use reformulated, low-emission diesel fuel.
- The permittee will substitute diesel-powered equipment with electric and gasoline-powered equipment where feasible.
- Where applicable, equipment will not be left idling for prolonged periods.
- The permittee will curtail (cease or reduce) construction during periods of high ambient pollutant concentrations (i.e., Stage II smog alerts).

Requirements for mitigation measures including monitoring actions, responsibility, and other requirements are listed in Appendix B.

3.2.3 GREENHOUSE GASES

Global warming is the observed increase in average temperature of the earth's surface and atmosphere. An ~~identified contributor to~~increase in GHGs in the atmosphere may contribute to global warming~~ is an increase of GHGs in the atmosphere~~. Due to the global nature of the effects of GHGs, the environmental setting, regulatory background, and applicable impacts are primarily discussed in Chapter 5 – Cumulative Impacts.

3.3 CULTURAL RESOURCES

3.3.1 ENVIRONMENTAL SETTING

California's cultural prehistory is classified into four cultural horizons that are characterized by the presence of archaeological items such as projectile points or pottery styles: Horizon I – Early Man refers to the first inhabitants of southern California (before 7500 years ago) who were semi-nomadic big game hunters and gatherers. During the time period from 7000 to 3500 years ago or Horizon II – Millingstone Assemblage, the inhabitants of southern California commonly processed wild plants for food on milling stones (manos and metates). Horizon III – Intermediate is characterized by a continuation of cultural developments during 3500 to 1200 years ago, with an increase in hunting and the exploitation of coastal resources. Horizon IV – Late Prehistoric is characterized by a larger number of more specialized and diversified sites and increased regional trade from A.D. 800 to A.D. 1769.

Native American resources found in southern California include archaeological resources, rock art, prominent topographical areas, natural features, habitats, plants, animals, and minerals. Examples of these resources include historic village sites, cemeteries, and ceremonial sites. Native American groups living in southern California included the Chumash, Tataviam, and Gabrieleño.

Since the early 1700s, the activities of European explorers and settlers in southern California have created historic archaeological sites. Historic archaeological sites in southern California are often related to farming, mining, residential, or commercial activities.

Paleontological (or fossilized) resources include bones and plant parts; impressions of plant, insect, or animal parts; and tracks of insects and animals preserved in stone. These resources are best preserved in fine-grained sedimentary rocks and are typically found in mountainous terrain or in areas where erosion has removed the soil profile.

The project site is located in a regional area where archaeological, paleontological, and Native American resources have been discovered. Much of the project site and surrounding vicinity is disturbed by activities associated with the Cascade Oil Field to the south as well as previous landfilling operations.

3.3.1.1 Archaeology

A records search for the project area was completed by JMA on January 28, 2010 (~~Minch and Associates~~JMA ~~2010~~2011). The records search included an in person review of survey and site files at the South Central Coastal Information Center (SCCIC) in Fullerton, historic U.S. General

Land Office (GLO), U.S. Geological Survey (USGS), and U.S. Army Corps of Engineers (USACE) maps, the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks, California Points of Historical Interest, and the California Directory of Properties, also known as the Historic Resources Inventory. The area reviewed for previously recorded archaeological sites and historic structures included SCLF property and adjacent areas within a one-mile radius of the property.

Five prehistoric archaeological sites have been reported within the landfill (CA-LAN-816, CA-LAN-2369, CA-LAN-2370, CA-LAN 2484 and CA-LAN-2529) (Table 3-5). One of the previously recorded sites (CA-LAN-816) has not been found by subsequent studies in the area and is presumed to have been destroyed or covered by slopewash. Only two of the previously recorded sites (CA-LAN-2369 and CA-LAN-2370) are near the project area. In addition, review of historic maps indicated that there had been a building near the project area in the early 1900s. No historical archaeological materials have been reported at the mapped location of this structure. The two sites near the project and the historic structure location will be visited before the implementation of the proposed project to verify their locations, assess their current condition, and assure that there would be no adverse impact to any significant resource. The majority of historic-period resources that have been reported within a one-mile radius of the landfill are linear structures or features (aqueduct, roads and transmission lines).

The records search yielded six previous archaeological surveys (Meighan 1975, LA 1730, LA 2608, LA 5147, LA 9072, and LA 9990) that included portions of SCLF area. In addition, there have been two reports of test excavations (LA 4828 and LA 5148) and several archaeological or paleontological monitoring reports (LA 4484, LA 4829, LA 5145, LA 5146, LA 9069, LA 9073 and LA 9075). Five prehistoric archaeological sites were reported within the landfill property by these previous investigations (CA-LAN-816, CA-LAN-2369, CA-LAN-2370, CA-LAN 2484 and CA-LAN-2529). Some of the previous investigations were not surveys, but provided evaluations of previously recorded prehistoric archaeological sites or updated aspects of their documentation. No historic archaeological sites, heritage properties or extant historic standing structures were identified within the landfill property. However, seven historic archaeological sites have been documented within a one-mile radius of the landfill (Table 3-5). One of the latter historic archaeological sites is also listed as a California Historical Landmark.

The earliest survey in the landfill area was a pedestrian assessment for the North Valley Landfill that is summarized in the site form for site CA-LAN-816 (Meighan 1975). The second survey was an assessment reconnaissance for the North Valley Landfill Project (LA 1730). The third survey was an archaeological assessment of a 25-acre parcel for a waste management facility in the Los Angeles County portion of the landfill (LA 2608). Subsequent surveys included a survey for a landfill extension in 1994 (LA 9072), a survey for another extension in 1997 (LA 5147), and a 2009 survey for emergency replacement of fire-damaged power line poles (LA 9990).

TABLE 3-5

Previously Recorded Archaeological Sites within One Mile of SCLF

Site Number	Site Type and Description	Recorder (Year)	Status	Within or Adjacent to Proposed Project
CA-LAN-816	Prehistoric and historic archaeology, boulder with bedrock mortar, historic artifacts.	Meighan (1975)	Could not be found by subsequent surveys	No
CA-LAN-2369	Prehistoric archaeology, artifact scatter	Stickel (1995)	Surface collected[1]	Yes
CA-LAN-2370	Prehistoric archaeology, artifact scatter	Stickel (1995)	Surface collected[1]	Yes
CA-LAN-2484	Prehistoric archaeology, artifact scatter	Stickel (1997)	Test excavated[2]	No
CA-LAN-2529	Prehistoric archaeology, artifact scatter	Stickel (1997)	Test excavated[2]	No
CA-LAN-1938	Historic feature and artifacts, oil well site including two abandoned wells and associated debris	Sheets and Gothar (1990)	Unknown[3]	No
CA-LAN-1942	Historic feature and artifacts, oil well site including remains of two oil tanks, metal pipes and cables	Sheets and Gothar (1990)	Unknown[3]	No
CA-LAN-2069	Historic structure, Beale's Cut - a man-made notch at the top of San Fernando Pass associated with the Butterfield Overland Stage and remains of a historic road	Hayden (1992)	California Historical Landmark CHL-1006	No
CA-LAN-2105	Historic structure, segment of the Los Angeles Aqueduct constructed between 1907 and 1913	Cole, McDowell and Shelton (1992)	Unknown[3]	No
CA-LAN-2147	Historic structure, Alpine Oil Road with associated well locations and structures	Sheets and Cole (1993)	Unknown[3]	No
CA-LAN-2148	Historic structure, Cuesta Viejo Trail, 1850s road	Sheets and Cole (1993)	Unknown[3]	No
CA-LAN-2149	Historic structure, Big Creek 150 kV transmission line	Cole, McDowell and Shelton (1992)	Unknown[3]	No

Notes:

[1] Artifacts were selectively removed from the surface of the site.

[2] Test excavations were conducted to evaluate the site.

[3] No information in the records was found on the site.

3.3.1.2 Paleontology

Sunshine Canyon is located in an area underlain by the late Miocene-early Pliocene Towsley Formation, consisting of coarse sandstone and conglomerate, shale, and siltstone. This unit is marine and is known to contain localized bone beds and vertebrate remains of Miocene age. The Towsley Formation is known to contain fossils, primarily in areas adjacent to the site. The fossils contained in these units have produced important scientific discoveries. As discussed in the 1997

Draft SEIR, sparse fossil remains were encountered within Sunshine Canyon, including *Pelecypods* (clams), *Gastropods* (snails), and carbonized plant remains. These remains were not considered significant (City of Los Angeles 1997).[16] However, marine vertebrates such as sharks, whales, sea lions, and sea cows are also known to be present in the Towsley Formation and may represent significant paleontological resources (~~Minch and Associates~~JMA 1999). Pleistocene and Holocene sedimentary deposits can also contain significant paleontological resources in Los Angeles County, but are not known to exist in the vicinity of Sunshine Canyon.

3.3.2 REGULATORY BACKGROUND

3.3.2.1 Federal

The project site is not located on or near federal lands; therefore, federal requirements do not apply.

3.3.2.2 State

CEQA requires that public or private projects financed or approved by public agencies must assess the effects of the project on historical resources. CEQA also applies to effects on archaeological sites, which may be included among historical resources as defined by Guidelines § 15064.5 (a), or may be subject to the provisions of PRC Section 21083.2, which govern review of unique archaeological resources. Historical resources may generally include buildings, sites, structures, objects or districts, each of which may have historical, architectural, archaeological, cultural, or scientific significance.

Under CEQA, historical resources include:

1. A resource listed in or determined by the State Historical Resources Commission to be eligible for listing in the California Register of Historical Resources (Pub. Resources Code, § 5024.1.)
2. A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in a historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resources as significant unless substantial evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be historically significant if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code, § 5024.1) including the following:

[16] Sparse fossil materials are not considered significant if they represent commonly encountered taxa or if they are disarticulated materials in secondary sediments. The sparse clam, snail, and carbonized plant materials found in this area were not unique or unusual, therefore the material was not considered significant.

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

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

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

d. Has yielded, or may be likely to yield, information important in prehistory or history.

4. The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources, is not included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC), or is not identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Section 5020.1(j) or 5024.1.

Archaeological resources that are not historical resources according to the above definitions may be unique archaeological resources as defined in PRC Section 21083.2, which also generally provides that non-unique archaeological resources do not receive any protection under CEQA. If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the EIR, but they need not be considered further in the CEQA process. In summary, CEQA requires that if a project results in an effect that may cause a substantial adverse change in the significance of a historical resource, or would cause significant effects on a unique archaeological resource, then alternative plans or mitigation measures must be considered.

Therefore, prior to the assessment of effects or the development of mitigation measures, the significance of cultural resources must first be determined. The steps that are normally taken in a cultural resources investigation for CEQA compliance are:

- Identify potential historical resources
- Evaluate the eligibility of historical resources
- Evaluate the effects of a project on all eligible historical resources

3.3.2.3 Local

Los Angeles County promotes cooperative efforts between public and private organizations to identify, restore, and preserve cultural and historical resources. The County applies the mechanism provided by CEQA for the consideration of cultural heritage resources as part of the local environmental review process. The County is guided in development decisions by programs including Los Angeles County Historical Landmarks and Records Commission, California State Parks Department Office of Historic Preservation, and by state legislation including the California Native American Heritage Act. General practices established by the County for the consideration of cultural resources include:

1. Conduct a literature search.

2. If a potential impact to a cultural resource is anticipated, a qualified archaeologist or paleontologist shall complete a study of the project site, determine the significance of the resources and recommend preservation or disposition of the resources.
3. Notify County Historical Landmarks Commission of all findings.
4. Mitigate all significant impacts to cultural resource sites to the greatest extent feasible.
5. Maintain the integrity of the significant historical features of the structure or site to the largest extent possible.
6. Maintain the integrity of sightlines to the structure or site.
7. Consider design guidelines and appropriate building design, setbacks, landscaping and other factors that would protect the integrity of the cultural resource area.
8. Cultural materials collected should be donated to an appropriate nonprofit organization. If the property owner retains possession of artifacts, it is desirable that the archaeologist or paleontologist be allowed to study and photograph the artifacts.

In addition, Senate Bill 18 requires California cities and counties to contact and consult with California Native American Tribes to aid in the protection of traditional tribal cultural places through local land use planning. California Native American tribes must be provided an opportunity to participate in local land use decisions at an early stage in planning. The SCAQMD provides notice for all of its CEQA documents to the California Native Heritage Commission and a number of California Native American Tribes suggested by the Commission.

3.4 ENERGY

3.4.1 ENVIRONMENTAL SETTING

The existing SCLF Facility is located in the boundary of Los Angeles County and just outside the City of Los Angeles. SCE currently serves the County side of the landfill, and the LADPW serves the City side of the landfill. Environmental impacts associated with energy were not identified as an issue in the 1993 Final EIR or the 1999 Final SEIR for SCLF.

3.4.1.1 Statewide Energy Trends

Figure 3-2 shows California's major sources of energy and Figure 3-3 shows the state's power generation mix. In ~~2008~~2009, ~~73~~ 69 percent of the electricity came from in-state sources, while approximately ~~27~~ 31 percent was imported into the state. Renewable energy sources account for ~~10.6~~14 percent of California's total power ("renewable energy" excluding large hydro sources) in 2010.

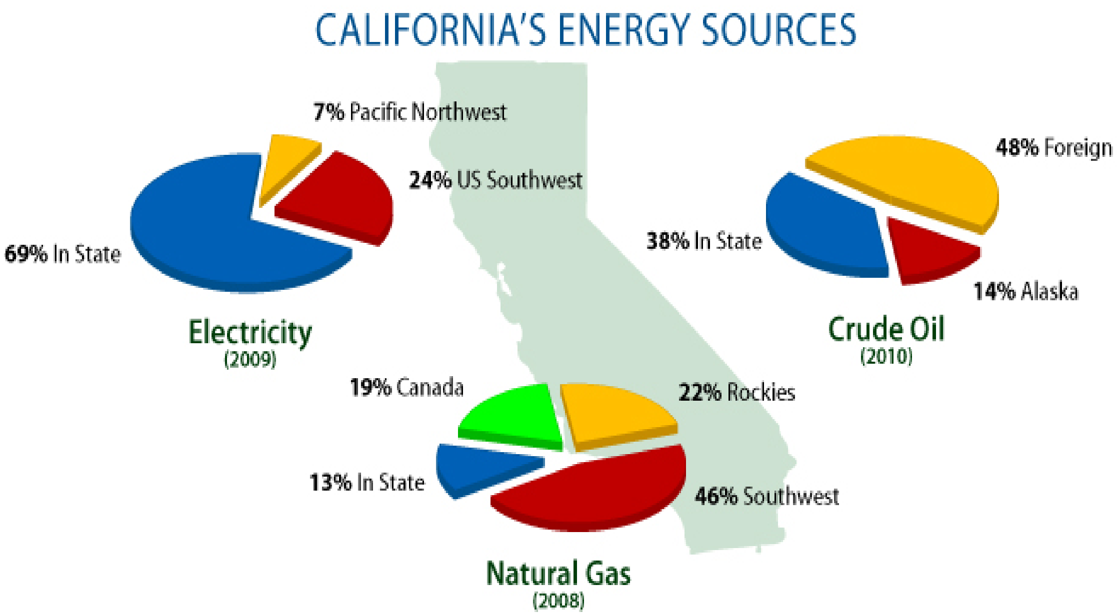


FIGURE 3-2

California's Energy Sources. Source: California Energy Commission (CEC) ~~2009a~~2011a.

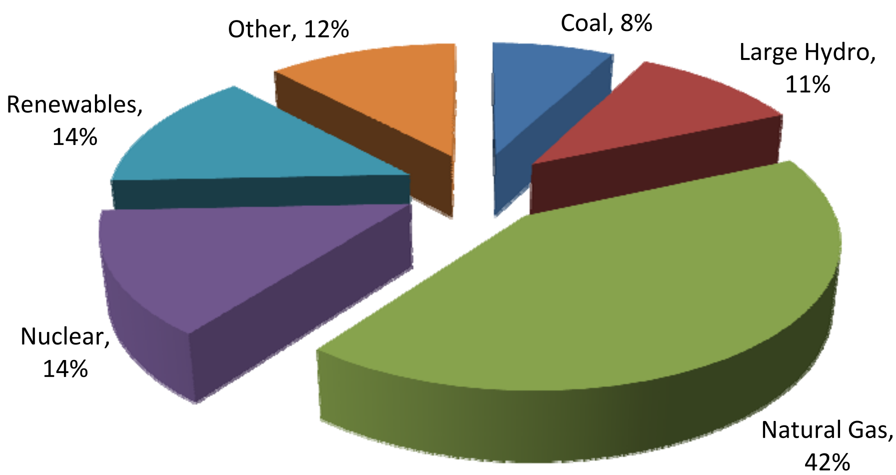


FIGURE 3-3

California's Power Mix (~~2008~~2010). Source: CEC 2010a~~2009b~~.

Electricity

Power plants in California provided approximately ~~73~~ 69 percent of the electricity from in-state electricity demand in ~~2008~~ 2009 (down from 78 percent in 2006). The relative contribution of in-state and out-of-state power plants depends upon, among other factors, the precipitation that occurred in the previous year and the corresponding amount of hydroelectric power that is available.

Local electricity distribution service is provided to customers within southern California by one of two privately owned utilities – either SCE or San Diego-based Sempra Energy – or by a publicly owned utility, such as the Los Angeles Department of Water and Power. SCE is the largest electricity utility in southern California with a service area that covers all, or nearly all, of Orange, San Bernardino, and Ventura counties, and most of Los Angeles and Riverside counties. SCE provides approximately 70 percent of the total electricity demand in southern California.

Local

With respect to SCLF operations, electricity is consumed on site to provide power for numerous environmental protection and control systems (e.g., LFG and collection system, flare station), water pumps, site security, and building lighting, heating, and air conditioning. Power for on-site electrical uses is supplied from LADWP's 4.8-kV distribution lines located along San Fernando Road and from SCE's 16-kV distribution line located within Weldon Canyon. Power to the SCE distribution line is supplied from the Newhall Substation in the Newhall Community of the City of Santa Clarita located on the northwestern corner of Lyons Avenue and Wiley Canyon Road. Power to the LADWP distribution lines is supplied from Balboa Distribution Station 86 located less than one mile south of the site and is supplied via the 34.5-kV distribution lines along San Fernando Road, immediately east of Balboa Boulevard. One SCE electrical subtransmission line traverses the project site area in two locations. Energy use at SCFL is approximately 1,000,000 kWh/y with a peak demand of approximately 176 kW.

3.4.2 REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various programs. On the federal level, the U.S. DOT, U.S. Department of Energy (U.S. DOE), and U.S. EPA are three agencies with substantial influence over energy policies and programs. On the state level, the CPUC and California Energy Commission (CEC) are two agencies with authority over different aspects of energy. The CPUC regulates privately owned utilities in the energy, rail, telecommunications, and water fields. The CEC collects and analyzes energy-related data, prepares state-wide energy policy recommendations and plans, promotes and funds energy efficiency programs, and regulates the power plant siting process. Some of the more relevant federal and state transportation-energy-related laws and plans are discussed in the following sections.

3.4.2.1 Federal

Energy Policy Act of 2005

Signed by President Bush on August 8, 2005, the Energy Policy Act of 2005 seeks to reduce reliance on nonrenewable energy resources and provide incentives to reduce current demand on these resources. For example, under the Act, consumers and businesses can obtain federal tax credits for purchasing fuel-efficient appliances and products. Additionally, tax credits are given for the installation of qualified fuel cells, stationary microturbine power plants, and solar power equipment.

American Recovery and Reinvestment Act of 2009

The American Recovery and Reinvestment Act of 2009 (ARRA) provided over $25 billion in additional funding for research and development to a range of GHG mitigation options, including: high-performance buildings; efficient manufacturing; advanced vehicles; clean biofuels; wind, solar, geothermal, and nuclear power; carbon capture and sequestration; advanced energy storage; a more intelligent electric grid; and techniques for reducing emissions and/or increasing uptake of carbon dioxide in agriculture and forestry (U.S. DOE 2010). The ARRA also provided over $400 million for establishing the Advanced Research and Projects Agency within U.S. DOE to overcome the long-term and high-risk technological barriers to the development of clean energy technologies.

Landfill Methane Outreach Program

The Landfill Methane Outreach Program (LMOP) is a U.S. EPA voluntary assistance program that helps to reduce methane emissions from landfills by encouraging the recovery and use of LFG as an energy resource. LMOP forms partnerships and agreements with communities, landfill owners, utilities, power marketers, states, the LFG industry, tribes, nonprofit organizations, and trade associations to overcome barriers to project development by helping them assess project feasibility, find financing, and market the benefits of project development to the community (U.S. EPA ~~2010a~~2011).

3.4.2.2 State

Global Warming Solutions Act (AB32)

Passed by Legislature and signed by Governor Schwarzenegger in 2006, AB–32 set the 2020 GHG emissions reduction goal into law in California. It directed the CARB to develop discrete early actions to reduce GHGs while also preparing a scoping plan to identify how best to reach the 2020 limit. ~~The reduction measures to meet the 2020 target were scheduled to be adopted by the start of 2011.~~ The legislative and regulatory activity is expected to require significant development and implementation of energy efficient technologies and shifting of energy production to renewable sources.

State of California Integrated Energy Policy Report

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that contains an assessment of major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301[a]). The Energy Commission prepares these assessments and associated policy recommendations every two years in the Integrated Energy Policy Report, with updates in alternate years.

The 2010 Integrated Energy Policy Report Update (CEC 2011b) fulfills the requirement of SB 1389 by providing an update on how energy-related funding from the American Recovery and Reinvestment Act of 2009 will affect California's electricity, natural gas, and transportation sectors. Further, it provides an update regarding the achievement of long-standing energy policy goals to increase energy efficiency and the use of renewable resources, decrease petroleum dependence, and reduce climate change impacts from the production and use of energy.

Renewables Portfolio Standard

California's Renewables Portfolio SB 1078 mandates that California increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources by 2017. SB 107 accelerated the mandate by requiring California to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources by 2010. Further, California's mandated RPS requires electrical utilities to achieve a 33 percent renewable energy target by 2020 (California Governor's Executive Order S-14-08), while Executive Order S-21-09 directs the CARB to adopt regulations increasing California's RPS to 33 percent by 2020. California's RPS also requires retail sellers of electricity to increase their procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of their retail sales are procured from eligible renewable energy resources by 2017. If retail sellers fall short in a given year, they must procure more renewable energy in succeeding years to make up the shortfall. Once retail sellers reach 20 percent, they need not increase their procurement in succeeding years. The CEC and the CPUC are jointly implementing the standard. On April 12, 2011, Governor Brown signed into law SBX-12, which requires 33 percent of the state's energy to come from renewable resources.

California Environmental Quality Act

Appendix F of the CEQA Guidelines describes the types of information and analyses related to energy conservation that are to be included in EIRs that are prepared pursuant to CEQA. In Appendix F of the CEQA Guidelines, energy conservation is described in terms of decreased per capita energy consumption, decreased reliance on natural gas and oil, and increased reliance on renewable energy sources. To assure that energy implications are considered in project decisions, EIRs must include a discussion of the potentially significant energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy.

3.4.2.2 Local

The Los Angeles County General Plan that is currently in effect was adopted in 1987 and does not fully address energy issues. Los Angeles County prepared a Public Review Draft General Plan (Los Angeles County Department of Planning 2011a), which includes goals and policies for the County's energy use. If adopted prior to certification of the Final ~~Draft~~ SEIR and approval of the proposed project, the following goals and policies from the 2011 Public Review Draft General Plan would be applicable to the proposed project:

- **Goal Conservation and Open Space (C/OS) 11:** Sustainable management of renewable and non-renewable energy resources.
  - **Policy C/OS 11.1:** Expand the production and use of renewable energy resources
- **Goal PS/F 5:** Adequate disposal capacity and minimal waste and pollution in the County
  - **Policy PS/F 5.2:** Encourage solid waste management facilities that utilize conversion and other alternative technologies and waste to energy facilities.
- **Implementation Action (Goal CO/S 12):** Prepare a Renewable Energy Ordinance that guides the development of renewable energy projects

3.5 GEOLOGY AND SOILS

3.5.1 ENVIRONMENTAL SETTING

The project site lies within the western portion of the Transverse Ranges geomorphic province of California. This province consists of a distinct group of east-west trending ranges and valleys and encompasses approximately 325 miles. The northern boundary of this province stretches along the San Andreas Fault. The southern boundary is defined by east-west trending mountain ranges that include the San Bernardino Mountains, the San Gabriel-Verdugo Mountains, and the Santa Monica Mountains.

The project site is located at 14747 San Fernando Road, Sylmar, in the northern portion of the San Fernando Valley, east of the east-west trending Santa Susana Mountains and west of the San Gabriel Mountains. The site is also located in the Ventura Basin that is underlain by the Topanga, Modelo, and Towsley Formations. On-site soils are moderately to highly permeable and moderately to poorly drained. Two landslides have been identified within SCLF, and one of these areas is located within the vicinity of the proposed project in an area referred to as the north slope. Additionally, several active and potentially active faults are located in the vicinity of the proposed project site. Elevation and other topographic features of SCLF include ridgelines extending to approximately 2,125 feet above mean sea level (msl) at the northwestern topographic limit and the lowest elevation is approximately 1,350 feet above msl at the landfill entrance located adjacent to San Fernando Road. The majority of the site area has been graded and otherwise developed due to previous landfilling activities that have occurred over the life of the landfill.

3.5.1.1 Seismicity

The proposed project area is located in a region considered to be seismically active, as is most of California. Major earthquakes have affected the region in the past and are expected to occur in the near future on one of the principal active faults in the San Andreas Fault System. Several active and potentially active faults have been mapped close to the project study area. As defined by the California Geological Survey (CGS), an "active" fault is one that has exhibited seismic activity or has evidence of fault displacement within Holocene time (roughly the past 11,000 years). "Potentially active" faults are those that show evidence of displacement during Quaternary time (roughly the past 1.6 million years), but for which no evidence of Holocene movement has been established.

Richter magnitude of an earthquake is a measure of the size of an earthquake as recorded by a seismograph. The reported Richter magnitude represents the highest amplitude measured by the seismograph at a distance of 100 kilometers from the epicenter. Richter magnitudes vary logarithmically, with each whole-number step representing a tenfold increase in the amplitude of the recorded seismic waves. Earthquake magnitudes are also measured by their moment magnitude (Mw), which is related to the physical characteristics of a fault, including the rigidity of the rock, the size of fault rupture, and the movement or displacement across a fault (CGS 2002). Moment magnitude provides a physically meaningful measure of the size of a faulting event (CGS 2002).

Regional Faults

The San Andreas Fault Zone is a major structural feature in the region and forms a boundary between the North American and Pacific tectonic plates. The San Andreas Fault is a right lateral strike-slip[17] fault moving at approximately 30 millimeters per year (mm/yr), with a northeast-southwest trend near the site area. A strike-slip fault is where two tectonic plates slide past each other. The recent earthquakes in Japan (March 2011) resulted from movement of tectonic plates in a subduction zone; where one tectonic plate is pushed under a second tectonic plate. A subduction configuration like that off the coast of Japan does not occur off the coast of southern California.

The nearest section of the fault is as close as 23 miles to the SCLF. In addition, there are seven faults within a ten-mile radius from the site, the closest being at just under one-mile (Santa

[17] A strike-slip fault is a fault in which the dominant sense of motion is horizontal, parallel to the strike of the fault . Also known as a lateral-slip fault. Motion is commonly described as left-lateral (sinistral) or right-lateral (dextral). (USGS 2011)

Susana Fault). The faults nearest to the site are reverse faults[18], but there are a number of faults (within a 25-mile radius) that have a left lateral or right lateral oblique motion to them[19]. A seismic event along any of these faults (summarized in Table 3-6 and illustrated on Figure 3-4) is capable of causing some damage at the site.

[18] A reverse fault is a fault in which the displacement is predominantly vertical, and the hanging wall moves up with respect to the footwall. The footwall is the side of the fault onto which water would drip if the fault is exposed. If the fault has a dip angle of less than 45 degrees, it is called a thrust fault. (USGS 2011)

[19] An Oblique fault is a fault that has a combination of lateral and vertical slip. (USGS 2011)

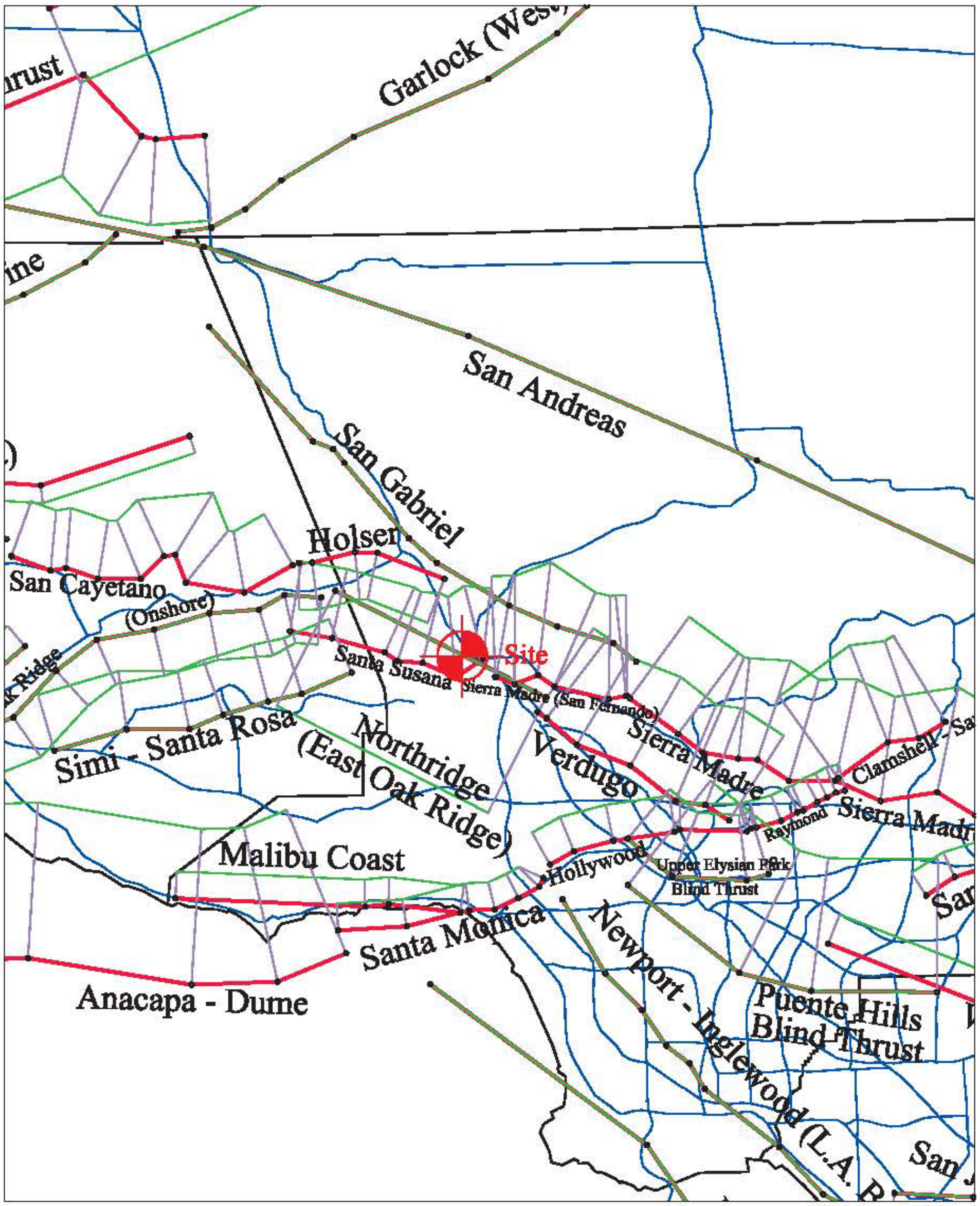
TABLE 3-6

Regional Faults

Fault	Fault Type	Fault to Project Area Distance (miles)	Slip Rate (mm/yr)	Maximum Moment Magnitude (M_W)	Peak Site Acceleration (g_n)
Santa Susana	Reverse	0.9	5	6.7	0.622
Sierra Madre (San Fernando)	Reverse	2.7	2	6.7	0.526
Northridge (E. Oak ridge)	Reverse	3.1	1.5	7	0.523
San Gabriel	Right Lateral (Strike-Slip)	5.1	1	7.2	0.353
Holser	Reverse	5.8	0.4	6.5	0.347
Verdugo	Reverse	7.4	0.5	6.9	0.323
Simi-Santa Rosa	Left Lateral, Reverse Oblique	9.3	1	7	0.282
Oak ridge (Onshore)	Reverse	12.4	4	7	0.227
Sierra Madre	Reverse	13.7	2	7.2	0.224
San Cayetano	Reverse	15.7	6	7	0.19
Hollywood	Left Lateral, Reverse Oblique	17	1	6.4	0.145
Santa Monica	Left Lateral, Reverse Oblique	18.7	1	6.6	0.143
Upper Elysian Park Blind Thrust	Reverse	19.8	1.3	6.4	0.127
Malibu coast	Left Lateral, Reverse Oblique	19.9	0.3	6.7	0.14
Newport-Inglewood (LA Basin)	Right Lateral (Strike-Slip)	21.2	1	7.1	0.125
Raymond	Left Lateral, Reverse Oblique	21.9	1.5	6.5	0.12
Anacapa-Dume	Left Lateral, Reverse Oblique	22.3	3	7.5	0.172
Puente Hills Blind Thrust	Reverse	22.4	0.7	7.1	0.147
San Andreas - Mojave M-1c-3	Right Lateral (Strike-Slip)	23.5	30	7.4	0.129
San Andreas - Whole M-1a	Right Lateral (Strike-Slip)	23.5	30	8	0.162
San Andreas - 1857 Rupture M-2a	Right Lateral (Strike-Slip)	23.5	30	7.8	0.15
San Andreas - Cho-Moj M-1b-1	Right Lateral (Strike-Slip)	23.5	30	7.8	0.15
San Andreas - Carrizo M-1c-2	Right Lateral (Strike-Slip)	25.5	34	7.4	0.121

Source: EQFAULT, Version 3.0. Deterministic Estimation of Peak Acceleration from Digitized Faults. 1 April 2010.[20] (Appendix H-2)
[1] These terms are defined in the glossary.

[20] The EQFAULT analysis was performed in April 2010. At this time, the USGS New Generation Attenuation (NGA) model is also available for modeling ground motion associated with earthquakes. As the ground movement calculations from EQFAULT are generally more conservative than those provided by the NGA model, it is reasonable to assume that the information presented conservatively provides worst-case ground shaking.



Source: Cao et al., 2003

- County Line
- Fault Bend
- Major Road
- Fault Trace
- Fault Bottom

SUNSHINE GAS PRODUCERS
RENEWABLE ENERGY PRODUCERS
DRAFT SEIR

FAULT MAP

ARCADIS

FIGURE
3-4

3.5.1.2 Seismic Hazards

Seismic hazards that could potentially affect the project study area include surface fault rupture, ground shaking, soil liquefaction and dynamic settlement, and landslides. These seismic hazards are discussed in this section for the proposed project area.

Surface Fault Rupture

Primary fault rupture refers to fissuring and offset of the ground surface along a rupturing fault during an earthquake. Primary ground rupture due to fault movement typically results in a relatively small percentage of the total damage in an earthquake, yet being too close to a rupturing fault can result in extensive damage. Secondary fault rupture refers to ground surface displacements along faults other than the main traces of active regional faults. Movement along these faults generally occurs in response to movement on a nearby regional fault. Secondary ground deformation includes fracturing, shattering, warping, tilting, uplift, and/or subsidence. Deformation and secondary faulting can also occur without primary ground rupture, as is the case of ground deformation above a blind (buried) thrust fault.

The magnitude and nature of fault rupture can vary for different faults, or even along different strands of the same fault. Ground rupture is considered more likely along active faults. Faults of known historic activity during the past 200 years, as a class, have a greater probability for future activity than faults classified as Holocene age (past 11,000 years), and a much greater probability of future activity than faults classified as last experiencing rupture between 11,000 and 1.6 million years. A fault may be inactive for thousands of years before being reactivated. Even so, future faulting generally is expected to recur along pre-existing faults. The development of a new fault or reactivation of a long-inactive fault is relatively uncommon. Dependent upon the magnitude, distance and depth of a seismic event on the Santa Susana fault (or other regional fault), surface deformations may result at the proposed project site.

Ground Shaking

Strong ground shaking may occur due to earthquake events along active faults nearby or distant to the project study area. Ground shaking intensity is partly related to the size of an earthquake, the distance to the site, and the response of the geologic materials that underlie a site. As a rule, the greater the earthquake magnitude and the closer the fault rupture to a site, the greater the intensity of ground shaking. Violent ground shaking is generally expected at and near the epicenter of a large earthquake; however, different types of geologic materials respond differently to the seismic waves. For instance, deep unconsolidated materials further from the epicenter can amplify earthquake waves and cause longer periods of ground shaking relative to a solid bedrock foundation closer to the epicenter. However, disregarding local variations in ground conditions, the intensity of shaking at different locations within the area can generally be expected to decrease with distance away from an earthquake source.

Ground motion during an earthquake can be described using the motion parameters of acceleration, velocity, and duration of shaking. A common measure of ground motion is the peak ground acceleration (PGA). The PGA for a given component of motion is the largest value of horizontal acceleration obtained from a seismograph. PGA is expressed as the percentage of the acceleration due to gravity (g_n), which is approximately 980 centimeters per second squared.

Ground acceleration data was derived using EQFAULT, which performs a deterministic seismic hazard analysis using digitized 3-D California faults as earthquake sources (Appendix H-2). An earthquake along the Santa Susana Fault about one mile away from the Sunshine Canyon site has a potential for maximum moment magnitude to be as high as 6.7, generating a PGA of $0.622g_n$. A maximum moment magnitude for an earthquake located 23 miles away from the site on the San Andreas Fault could be as high as 8.0, producing peak ground acceleration of 0.162 g_n at the site.

Soil Liquefaction and Dynamic Settlement

Liquefaction is a phenomenon in which soil loses its shear strength for short periods of time during an earthquake. Ground shaking of sufficient duration can result in the loss of grain-to-grain contact, due to a rapid increase in pore water pressure, causing the soil to behave as a fluid for short periods of time. The potential damaging effects of liquefaction include differential settlement, loss of ground support for foundations, ground cracking, heaving and cracking of structure slabs due to sand boiling, and buckling of deep foundations due to liquefaction-induced ground settlement. Dynamic settlement (pronounced consolidation and settlement from seismic shaking) may also occur in loose, dry sands above the water table resulting in settlement of, and possible damage to, overlying structures. In general, a relatively high potential for liquefaction exists in loose, sandy soils that are within 50 feet of the ground surface and are saturated (below the groundwater table). According to the Seismic Hazard Zones Map for the Oat Mountain Quadrangle prepared by the California Department of Conservation, the project site is not located within a liquefaction zone (CGS 1998).

Landslides

Slope failures, commonly referred to as landslides, include many phenomena that involve the downslope displacement and movement of material, either triggered by static (i.e., gravity) or dynamic (i.e., earthquake) forces. A slope failure is a mass of rock, soil, and debris displaced downslope by sliding, flowing, or falling.

Landslides may occur on slopes of 15 percent or less; however, the probability is greater on steeper slopes (i.e. those greater than 15 percent) that exhibit old landslide features such as scarps, slanted vegetation, and transverse ridges. Landslide-susceptible areas are characterized by steep slopes and downslope creep of surface materials. Debris flows consist of a loose mass of rocks and other granular material that, if saturated and present on a steep slope, can move downslope. The rate of rock and soil movement can vary from a slow creep over many years to a sudden mass movement. Landslides occur throughout the state of California, but the density of incidents increases in zones of active faulting.

Slope stability can depend on a number of complex variables. The geology, structure, and amount of groundwater in the slope affect slope failure potential, as do external processes (i.e., climate, topography, slope geometry, and human activity). The factors that contribute to slope movements include those that decrease the resistance in the slope materials and those that increase the stresses on the slope. Slope failure under static forces occurs when those forces initiating failure overcome the forces resisting slope movement. For example, a soil slope may be considered stable until it becomes saturated with water (e.g., during heavy rains or due to a broken pipe or sewer line). Under saturated conditions, the water pressure in the individual pores within the soil increases, reducing the strength of the soil. Cutting into the slope and removing the lower portion, or slope toe, can reduce or eliminate the slope support, thereby increasing stress on the slope. Landslides initiated by earthquakes have historically been a major cause of earthquake damage. Earthquake motions can induce significant horizontal and vertical dynamic stresses in slopes that can trigger failure. Earthquake-induced landslides can occur in areas with steep slopes that are susceptible to strong ground motion during an earthquake.

For example, landslides initiated by the 1971 San Fernando, 1989 Loma Prieta, and 1994 Northridge earthquakes were responsible for destroying or damaging numerous homes and other structures, blocking major transportation corridors, and damaging various types of lifeline infrastructure.

As discussed in the 1997 Draft SEIR, two landslides have been identified in two separate areas within SCLF, and there is a potential for more occurrences; one of these areas is located in an area referred to as the north slope (approximately 500 feet west of the SGP Facility). A ~~recent~~ preliminary slope stability analysis conducted by AMEC Geomatrix, Inc. (AMEC) at the north slope within the proposed project area reveals that the north slope likely would not meet stability design criteria and would need to be stabilized (AMEC 2009; Appendix H-1). ~~The weaker bedrock, presence and location of clay seams, and the removal of landslide material are all contributing to the decrease in slope stability at the northern locations of the site as discussed in Appendix H-1.~~ However, in response to comments received from the County of Los Angeles Department of Public Works following publication of the Draft SEIR with regard to soil stability, AMEC completed an extensive field exploration program and a laboratory testing program for the SGPREP, including the north slope. The field program in the north slope area included drilling three bucket auger borings (downhole logged by a California-licensed CEG), two hollow stem auger borings, and one continuously-sampled rock core boring. Laboratory testing included six UU triaxial strength tests and three unconfined compression strength tests on rock core samples from the north slope. Results of the field exploration and laboratory testing lead to the following conclusions:

- The strength of bedrock was higher and dip of bedding steeper than assumed in the 2009 preliminary evaluation, and
- There is no evidence of clay seams in the bucket auger borings or rock core boring.

After AMEC reanalyzed the stability of the north slope using the updated information from their field exploration and laboratory testing programs, results of those analyses indicate the north slope in its present condition is: (a) globally stable, (b) meets LA County stability criteria, and (c) would not require mitigation measures to improve stability. The results and updated conclusions from the AMEC field exploration, laboratory testing, and stability analyses are included in the comprehensive geotechnical investigation report (AMEC 2011) provided in Appendix H-3 of this Final SEIR.

3.5.2 REGULATORY BACKGROUND

3.5.2.1 State and Federal

Alquist-Priolo Earthquake Fault Zoning Act

Surface rupture is the most easily avoided seismic hazard. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. In accordance with this act, the State Geologist established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and published maps showing these zones. Within these zones, buildings for human occupancy cannot be constructed across the surface trace of active faults. Each earthquake fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace, because many active faults are complex and consist of more than one branch. There is the potential for ground surface rupture along any of the branches. This Act would not apply to the proposed project because the project site is not within an earthquake fault zone defined by the Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was passed in 1990 following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. This act requires the State Geologist to delineate various seismic hazard zones and requires cities, counties, and other local permitting agencies to regulate certain development projects within these zones. For structures intended for human occupancy, the act requires site-specific geotechnical investigations to identify potential seismic hazards and formulate mitigation measures prior to permitting most developments designed for human occupancy within the Zones of Required Investigation. Based on a review of the Seismic Hazard Zone Map, the project site is located in a zone that requires additional investigation due to earthquake-induced landslides (CGS 1998).

California Building Code

The CBC has been codified in the California Code of Regulations (CCR) as Title 24, Part 2. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, and general stability by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all building and structures within its jurisdiction. The ~~2007~~ 2010 CBC is based on the ~~2006~~ 2009 International Building Code (IBC) published by the International Code Conference. In addition, the CBC contains necessary California amendments which are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (e.g., flood, snow, wind) for inclusion into building codes.

The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California. The earthquake design requirements take into account the occupancy category of the structure, site class, soil classifications, and various seismic coefficients which are used to determine a Seismic Design Category (SDC) for a project. The SDC is a classification system that combines the occupancy categories with the level of expected ground motions at the site and ranges from SDC A (very small seismic vulnerability) to SDC E/F (very high seismic vulnerability and near a major fault). Design specifications are then determined according to the SDC. Based on site conditions at SCLF, portions of the proposed project are expected to be classified as either Seismic Design C or D, depending on whether the installation is on rock or soil.

3.5.2.3 Local

Los Angeles County General Plan

The Los Angeles County General Plan (Los Angeles County 1980) includes the following relevant land use objective and policies related to seismic and other geologic hazards:

Land Use Objective: To encourage high quality design in all development projects, compatible with and sensitive to the natural and manmade environment.

> *Policy 7:* Assure that new development is compatible with the natural and manmade environment by implementing appropriate locational controls and high quality design standards.
>
> *Policy 13:* Prevent inappropriate development in areas that are environmentally sensitive or subject to severe natural hazards, and in areas where essential services and facilities do not exist and are not planned.

Because the proposed project is located within a seismic hazard zone with the potential for earthquake induced landslides, the following additional public safety review would be required, as stated by the following public safety component:

> *Geologic, Seismic and Slope Stability Conditions:* If geologic and soil reports indicate that the project site is affected by potentially hazardous geologic, seismic, or slope stability conditions, the County Engineer shall require, in compliance with the County Building Code, mitigation measures to safeguard life, health and property. Note that the County Building Code is based on the 2007 California Building Code, as described above. Mitigation measures may include either avoidance of potential hazard area or the identification and application of adequate engineering solutions. Additionally, all excavations, roads, utilities, structures and other facilities shall be designed to compensate for problem soils and other subsurface conditions. Except for linear systems for which there is no alternative alignment, landslide hazards areas shall be avoided.

Projects must go through a performance review procedure to secure permit approval for well-designed hillside development. There are five steps including pre-application counseling, preliminary development plan review, formal case filing, consistency evaluation, cumulative impact review, and project review and action.

3.6 HYDROLOGY AND WATER QUALITY

3.6.1 ENVIRONMENTAL SETTING

The project area lies within the Los Angeles-San Gabriel Hydrologic Unit of the Los Angeles Region. This hydrologic unit encompasses most of Los Angeles County. The Los Angeles River, San Gabriel River, and Ballona Creek are the major drainage systems in this region and recharge large reserves of groundwater that underlie the San Fernando and San Gabriel Valleys and the Los Angeles Coastal Plain.

The project site is located in the San Fernando Valley Groundwater Basin and Sylmar Subbasin. The majority of groundwater in this basin is currently of poor quality and does not meet drinking water standards. Primary pollutants contained in this basin include VOCs from industry, nitrates from septic tank systems, and pollutants from past agricultural activities.

Drainage at the project site flows from the higher elevations toward the mouth of the canyon. Surface-water runoff exits the site through an existing box culvert underneath San Fernando Road before entering the Weldon Canyon Flood Control Channel. This City flood control channel drains into the County's Bull Creek Flood Control Channel that eventually drains into the Sepulveda Basin.

Confined groundwater at the project site exists in alluvial conditions. The existing landfill groundwater monitoring system consists of numerous groundwater monitoring wells and an extraction trench installed across the mouth of the canyon. Current groundwater conditions and quality are monitored semi-annually by SCLF. Low level concentrations of semivolatile organic compounds (SVOCs) and VOCs were detected in the groundwater. Intermittent springs and seeps are located within the Sunshine Canyon area.

Potable water is supplied to SCLF by the LADWP via an existing eight-inch-diameter water distribution line located underneath San Fernando Road. Water supplied from LADWP is metered as it enters SCLF near the landfill entrance adjacent to San Fernando Road. Water is then conveyed through feeder lines in the canyon and pumped uphill into an existing 100,000-gallon water storage tank located near the western perimeter ridgeline within the City. Water is also conveyed to a 265,000-gallon storage tank within the County. Water usage at SCLF is primarily for dust control and landscape irrigation. A small amount of potable water is used for employee drinking and sanitation needs. SCLF consumption demand is approximately ~~100~~200,000 gpd~~ within the City and 100,000 gpd within the County~~. Existing availability of potable water is sufficient to meet current SCLF usage and consumption demands.

SCLF generates wastewater from operation and maintenance of its facility. A septic system collects sanitary waste in accordance with Los Angeles County Department of Public Health requirements. Sanitary waste is pumped out of the septic tanks and taken off site for disposal by a licensed contractor. Heavy equipment is cleaned approximately once per month. This process is conducted by a contractor who performs the cleaning and collects and disposes the wash water off site. The sources of industrial wastewater collected and treated on site at the SCLF are landfill leachate and gas condensate. SCLF operates two water treatment facilities with an existing capacity of approximately 10, 000 - 12,000 gpd of condensate, and 57,600 gpd of leachate. SCLF currently generates and treats up to approximately 5,000 gpd of condensate. All treated wastewater is reused on site for dust control and irrigation purposes and meets the provisions for on-site use of water in accordance with the site's Los Angeles RWQCB Waste WDRs, Order No. R4-2008-0088.

3.6.2 REGULATORY BACKGROUND

3.6.2.1 Federal

Clean Water Act

The primary objective of the Federal Water Pollution Control Act, otherwise known as the Clean Water Act (CWA), is to restore and maintain the chemical, physical, and biological integrity of the nation's surface waters. The CWA sets water quality standards for all contaminants in surface waters. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff.

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation. The proposed project would not result in any dredge or fill into any waters of the United States. Therefore, no Section 404 Clean Water Act permit would be required.

3.6.2.2 State

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Act is the State of California's primary water quality control law. It implements the state's responsibilities under the Federal Clean Water Act, but also establishes state wastewater discharge requirements. The RWQCB administers the state requirements as specified under the Porter-Cologne Water Quality Act, which include storm-water discharge permits. The Porter-Cologne Act requires the RWQCB to establish water quality objectives, while acknowledging that water quality may be changed to some degree without unreasonably affecting beneficial uses. The Porter-Cologne Act requires preparation of a Basin Plan which is discussed under the Regional section below.

NPDES General Construction Storm Water Permit

The SWRCB administers the NPDES General Construction Storm-Water Permit. Construction activities disturbing one acre or more of land are subject to the permitting requirements of the NPDES General Permit Order Number 99-08-DWQ. The applicant must submit a Notice of Intent to the RWQCB to be covered by the General Construction Permit prior to the beginning of construction. The General Construction Permit requires the preparation and implementation of a SWPPP. The SWPPP must be prepared before construction begins.

No water permits for project operations would be required with the exception of a septic system permit discussed in Section 3.6.2.3.

Utility Notification Requirements

California law (California Government Code Section 4216 et seq.) requires owners and operators of underground utility lines, such as the proposed project water supply pipeline, to become members of and participate in a regional notification center. The applicable center for this project is the Underground Service Alert of Southern California. Prior to any subsurface work, excavators would be required to:

- Call Underground Service Alert of Southern California and give at least two working days notice prior to excavating.
- Delineate (outline) the water supply pipeline in white paint.
- Excavate by hand to the point of no conflict within the tolerance zone.

Owners and operators of underground utilities are then required to respond to the underground service work ticket and conduct the following:

- Mark or locate their lines within two working days of the start of construction.
- Use the American Public Works Association Color Code to mark their facilities.
- Be accurate within 24 inches either side of the buried facility (tolerance zone).

3.6.2.3 Local

Los Angeles Regional Water Quality Control Board Basin Plan

The preparation and adoption of water quality control plans (Basin Plans) are required by the California Water Code (CWC; Section 13240) and supported by the Federal Clean Water Act. Section 303 of the Clean Water Act requires states to adopt water quality standards which "consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses." According to Section 13050 of the CWC, Basin Plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives. Because beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, the Basin Plans are regulatory references for meeting the state and federal requirements for water quality control.

The Los Angeles RWQCB Basin Plan sets water quality objectives that are intended to protect the public health and welfare and maintain or enhance water quality in relation to the designated existing and potential beneficial uses of the water. Water quality objectives are achieved through WDRs, NPDES permits, and other programs that are part of their strategic planning and implementation (RWQCB 1994).

As authorized by the CWA, the NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Projects that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters. In most cases, the NPDES permit program is administered by authorized states. The proposed project would not result in any point discharges to federal waters. Therefore, no NPDES permit is required. All effluent generated by this project would be discharged to a permitted septic system or treated and applied to surface roads within the landfill for dust suppression under approved WDRs issues by the RWQCB.

Waste Discharge Requirements Permit

The RWQCB administers the Waste Discharge Requirements Permit Program pursuant to California Water Code Section 13260. Section 13260 states that persons discharging or proposing to discharge waste that could affect the quality of the waters of the state, other than into a community sewer system, shall file a Report of Waste Discharge containing information which may be required by RWQCB. This state requirement is separate from the federal NPDES permit requirement.

The Porter-Cologne Act gives the State Water Resources Control Board and the regional water quality control boards the authority to regulate water quality in the State of California~~.~~ (Water Code, § 13001~~.~~). Regional water quality control boards can regulate the discharge of wastewater to surface water bodies or groundwater through the issuance of WDRs, either individually or through general WDRs (Water Code, § 13263). Approximately ~~8~~3,500 additional gallons per day of condensate and wash water from the SGP Facility would be directed through the existing permitted water treatment system at the landfill and then discharged to surface roads for dust suppression in accordance with the SCLF site's WDR. The landfill currently treats and reuses the condensate from the gas for the flares for dust suppression. The proposed project would ~~simply~~ add an additional ~~8~~3,500 gallons of condensate and wash water to the existing system, which currently treats up to 5,000 gpd of condensate~~ which meets all local and RWQCB regulations~~. The capacity of the existing system, 10,000 - 12,000 gpd, ~~industrial wastewater permit (City of Los Angeles 201007), 120,000 gallons per day,~~ is sufficient to accommodate the~~ addition of~~ expected condensate to be treated during operation of the SGPREP which would be a total of approximately 8,500 gpd (including condensate from LFG to be flared and combusted in the proposed turbines). The currently treated 5,000 gpd would be included in the expected 8,500 gpd during SGPREP operation. ~~additional gallons per day from the proposed project Tthe landfill currently treats only 10,000 to 20,000 gallons per day, which is far less than the permitted quantity.Sanitary waste from the toilets and sinks would be discharged to a septic system under a separate septic system permit from the Los Angeles Department of Public Works. WDRs do not apply to locally permitted septic systems.~~ The site's WDR does not limit the quantity of treated wastewater that can be reused for dust control and irrigation.

Sanitary waste from the toilets and sinks would be discharged to a septic system under a separate septic system permit from the Los Angeles Department of Public Works. WDRs do not apply to locally permitted septic systems.

Los Angeles County General Plan

The Los Angeles County General Plan (Los Angeles County1980) includes the following relevant policies related to the water conservation and the protection of water quality objective, as it relates to conservation and open space:

> *Policy 4:* Protect groundwater recharge and watershed areas, conserve storm and reclaimed water, and promote water conservation programs.
>
> *Policy 5:* Encourage the maintenance, management and improvement of the quality of imported domestic water, groundwater supplies, natural runoff and ocean water.

The Los Angeles County General Plan (Los Angeles County 1980) also includes the following objectives related to the Water and Waste Management Element:

- To mitigate hazards and avoid adverse impacts in providing water and waste services and to protect the health and safety of all residents
- To develop improved systems of resource use, recovery, and reuse
- To provide efficient water and waste management services
- To maintain the high quality of our coastal, surface, and ground waters

City of Los Angeles Department of Water and Power, Urban Water Management Plan

The Urban Water Management Planning Act became effective on January 1, 1984, and requires that every urban water supplier that provides municipal and industrial water to more than 3,000 customers, or supplies more than 3,000 acre-feet per year prepare and adopt an Urban Water Management Plan (UWMP) in accordance with prescribed requirements. LADWP's Draft 2010 UWMP (LADWP 2011a) is not only designed to meet the current requirements of the Act, but also serves as the City's master plan for water supply and resources management. The UWMP identifies current and projected water demands through the year 2030 and identifies the water resource planning necessary to provide the expected water demand.

3.7 NOISE

3.7.1 ENVIRONMENTAL SETTING

The existing noise environments in the Los Angeles area vary considerably as a result of the variety of land uses and densities. Noise sources may be categorized based on either short- or long-term duration. The short-term noise sources are associated with brief bursts of sound, such as an aircraft over flight. Long-term noise sources are prolonged over hours or days, such as noise sources from vehicles traveling on complex freeway transportation corridors.

The I-5 freeway is considered the dominant long-term noise source located to the east of the project site area. Additional noise sources in the vicinity of the project site include:

- Wood chopping associated with a firewood sale area located across the street from the SCLF entrance (on San Fernando Road);

- Water treatment, pumping, and storage operations of the Los Angeles Reservoir located about 1.75 miles south of the project site; and
- Other industrial activities conducted along San Fernando Road approximately ¼- to ½-miles from the landfill entrance.

Noise is currently generated near the project site by County Landfill garbage trucks and resident vehicles disposing of their refuse, landfill earthmovers and bulldozers, other tractors, sorters and compactors to support operations, maintenance vehicles servicing the equipment, vehicles used in maintaining the existing inactive landfill, and employee vehicles accessing the site during scheduled hours of operation.

To confirm and document the current overall community ambient noise conditions at the site, a series of three environmental unmanned noise monitors were placed throughout the landfill property at various locations to record simultaneously the daytime and nighttime background noise levels prevalent in and around the project site. The three unmanned noise monitors were programmed to continuously record the rise and fall of the community ambient noise conditions for the duration of the four days from Thursday, October 15, 2009 to Sunday, October 18, 2009. The noise levels measured during this period are considered to represent typical noise levels in the area because they include both weekday and weekend days. Measurement location 1 (SGP Facility; at the boundary of the proposed project, 300 feet from the middle of the site) was selected to represent the closest distance to project noise-generating equipment from workers and visitors to the landfill who are not associated with the proposed project. Site 2 (Administration Building; 2,350 feet from the proposed project) was selected to characterize noise levels experienced by workers at the landfill administrative office, which is also not associated with the proposed project. Site 3 (southern portion of SCLF; 7,350 feet from the proposed project) was selected to characterize noise levels at the portion of the landfill boundary closest to the nearest residential receptors, which are located approximately 26 meters from the proposed water supply pipeline and telecom line installation, and ~~8,250 feet~~1.1 miles from the proposed ~~project~~SGP Facility. The three overall ambient noise monitoring locations are shown on Figure 3-5. The results of the ambient noise measurements are summarized in Table 3-7.

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SUSHINE GAS PRODUCERS
RENEWABLE ENERGY PROJECT

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AERIAL IMAGE SHOWING AMBIENT NOISE MEASUREMENT LOCATIONS AND NEAREST SENSITIVE RESIDENTIAL RECEPTOR

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FIGURE 3-5

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TABLE 3-7

Ambient Noise Levels Over Four-Day Period

Location	Noise Level (decibel A filter (dBA) Equivalent Sound Level (L_{EQ}))											
	Thursday, October 15, 2009			Friday, October 16, 2009			Saturday, October 17, 2009			Sunday, October 18, 2009		
	Day (1)	Night (2)	24-hr (3)	Day (1)	Night (2)	24-hr (3)	Day (1)	Night (2)	24-hr (3)	Day (1)	Night (2)	24-hr (3)
~~Renewable Energy Project Site~~SGP Facility (#1)	52.7	56.2	54.3	52.8	56.0	54.1	47.6	45.0	46.9	48.2	40.7	46.8
Administration Building (#2)	60.4	54.6	59.2	60.2	55.2	59.1	66.3	50.9	64.6	51.1	46.9	50.1
Southern Portion of Landfill Property (#3)	53.6	50.9	52.8	53.6	53.9	53.7	50.2	49.1	49.8	51.2	46.2	50.1

Notes:
(1) Daytime levels (day) are based on an integrated time period from 7:00 a.m. to 10:00 p.m.
(2) Nighttime levels (night) are based on an integrated time period from 10:00 p.m. to 7:00 p.m.
(3) 24-hour levels (24-hr) are based on an integrated time period from midnight to midnight.

The three noise monitors were set to record four days of continuous sound level measurements (L_{EQ}, A-Weighted) which resulted in a range from the highest 24-hour noise level impact of 64.6 dBA L_{EQ} at the Administration Building on Saturday, October 17, 2009 down to the quietest noise level impact of 48.6 dBA L_{EQ} at the proposed location of the Renewable Energy Project Site on Sunday, October 18, 2009. The daytime average sound levels range from 47.6 dBA L_{EQ} at the proposed location of the Renewable Energy Project Site on Saturday, October 17, 2009 to 66.3 dBA L_{EQ} at the Administration Building on Saturday, October 17, 2009. The nighttime average sound levels range from 40.7 dBA L_{EQ} at the proposed location of the Renewable Energy Project Site on Sunday, October 18, 2009 to 56.2 dBA L_{EQ} at the proposed location of the Renewable Energy Project Site on Thursday, October 15, 2009. During the on-site noise measurements, start and end times were recorded, as well as background noise sources noticed in the area, such as motor vehicle traffic traveling along the I-5 corridor and dump truck/vehicle access refuse activity and equipment operations in and around the landfill. The sound level measurements recorded and logged data continuously for the four days, integrating and storing the noise data every 30 minutes.

Other field data gathered at the site included measuring or estimating distances, angles-of-view, topographic slopes and site elevations. This information was subsequently verified using available maps and records. All sound level meters were field-calibrated prior to and following the noise measurements to ensure accuracy. All sound level measurements conducted and presented within this report were made using a sound level meter that conforms to the American National Standards Institute (ANSI SI.4-1983 - R2001) specifications and are maintained with the National Bureau of Standards traceable calibrations.

3.7.2 REGULATORY BACKGROUND

3.7.2.1 State

CalOSHA Hearing Conservation Noise Exposure Requirements

Noise impacts to the outdoor on-site workers as a result of the proposed project would be governed by CalOSHA hearing conservation noise exposure regulations. The CalOSHA Occupational Noise Exposure regulation includes the following requirements.

8 CCR 5096(b)

When employees are subjected to sound levels exceeding those listed in Table 3-8, feasible administrative or engineering controls shall be utilized. If such controls fail to reduce sound levels within the levels of Table 3-8, personal protective equipment shall be provided and used to reduce sound levels within the levels indicated in the table.

8 CCR 5096(b)

If the variations in noise level involve maxima at intervals of one second or less, they are to be considered continuous.

TABLE 3-8

Permissible Noise Exposures [1]

Duration per day (hours)	Sound level dBA slow response
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
¼ or less	115

[1]When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: C(1)/T(1) + C(2)/T(2) C(n)/T(n) exceeds unity, then, the mixed exposure should be considered to exceed the limit value. Cn indicates the total time of exposure at a specified noise level, and Tn indicates the total time of exposure permitted at that level. Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

3.7.2.2 Local

Los Angeles County Noise Ordinance

The proposed project is located within the jurisdiction of Los Angeles County. Therefore, properties within Los Angeles County are affected by this noise ordinance. The Los Angeles County Noise Ordinance (Los Angeles County 1995) includes the following provisions:

12.08.390 Exterior Noise Standards

A. Unless otherwise herein provided, the following exterior noise levels shall apply to all receptor properties within a designated noise zone (Table 3-9):

TABLE 3-9

Los Angeles County Noise Threshold Limits for Designated Zones

Noise Zone	Designated Noise Zone Land Use (Receptor property)	Time Interval	Exterior Noise Level (dB)
I	Noise-sensitive area	Anytime	45
II	Residential properties	10:00 pm to 7:00 am (nighttime)	45
		7:00 am to 10:00 pm (daytime)	50
II	Commercial properties	10:00 pm to 7:00 am (nighttime)	55
		7:00 am to 10:00 pm (daytime)	60
IV	Industrial properties	Anytime	70

B. Unless otherwise herein provided, no person shall operate or cause to be operated, any source of sound at any location within the unincorporated county, or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level, when measured on any other property either incorporated or unincorporated, to exceed any of the following exterior noise standards:

- *Standard No. 1* shall be the exterior noise level which may not be exceeded for a cumulative period of more than 30 minutes in any hour. Standard No. 1 shall be the applicable noise level from subsection A of this section; or, if the ambient L_{50} (the sound level that is exceeded 50 percent of the time) exceeds the foregoing level, then the ambient L_{50} becomes the exterior noise level for Standard No. 1.
- *Standard No. 2* shall be the exterior noise level which may not be exceeded for a cumulative period of more than 15 minutes in any hour. Standard No. 2 shall be the applicable noise level from subsection A of this section plus five dB; or, if the ambient L_{25} exceeds the foregoing level, then the ambient L_{25} (the sound level that is exceeded 25 percent of the time) becomes the exterior noise level for Standard No. 2.
- *Standard No. 3* shall be the exterior noise level which may not be exceeded for a cumulative period of more than five minutes in any hour. Standard No. 3 shall be the applicable noise level from subsection A of this section plus 20 dB; or, if the ambient $L_{8.3}$ exceeds the foregoing level, then the ambient $L_{8.3}$ (the sound level that is exceeded 8.3 percent of the time) becomes exterior noise level for Standard No. 3.
- *Standard No. 4* shall be the exterior noise level which may not be exceeded for a cumulative period of more than one minute in any hour. Standard No. 4 shall be the applicable noise level from subsection A of this section plus 15 dB; or, if the ambient $L_{1.7}$ exceeds the foregoing level, then the ambient $L_{1.7}$ (the sound level that is exceeded 1.7 percent of the time) becomes the exterior noise level for Standard No. 4.

- *Standard No. 5* shall be the exterior noise level which may not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level from subsection A of this section plus 20 dB; or, if the ambient L_0 (the sound level that is never exceeded) exceeds the foregoing level then the ambient L_0 becomes the exterior noise level for Standard No. 5.

C. If the measurement location is on a boundary property between two different zones, the exterior noise level utilized in subsection B of this section to determine the exterior standard shall be the arithmetic mean of the exterior noise levels, as specified in subsection A of the subject zones. Except as provided for above in this subsection, when an intruding noise source originates on an industrial property and is impacting another noise zone, the applicable exterior noise level as designated in subsection A shall be the daytime exterior noise level for the subject receptor property.

D. The ambient noise histogram shall be measured at the same location along the property line utilized in subsection B of this section, with the alleged intruding noise source inoperative. If for any reason the alleged intruding noise source cannot be turned off, the ambient noise histogram will be estimated by performing a measurement in the same general area of the alleged intruding noise source but at a sufficient distance such that the noise from the alleged intruding noise source is at least 10 dB below the ambient noise histogram in order that only the actual ambient noise histogram be measured. If the difference between the ambient noise histogram and the alleged intruding noise source is five to 10 dB, then the level of the ambient noise histogram itself can be reasonably determined by subtracting a one-decibel correction to account for the contribution of the alleged intruding noise source.

E. In the event the intrusive noise exceeds the exterior noise standards as set forth in subsections B and C of this section at a specific receptor property and the health officer has reason to believe that this violation at said specific receptor property was unanticipated and, due to abnormal atmospheric conditions, the health officer shall issue an abatement notice in lieu of a citation. If the specific violation is abated, no citation shall be issued therefore. If, however, the specific violation is not abated, the health officer may issue a citation. (Ord. 11778 § 2(Art. 4 § 403), 1978: Ord. 11773 § 2 (Art. 4 § 403), 1978.)

12.08.440 Construction Noise

A. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between weekday hours of 7:00 p.m. and 7:00 a.m., or at any time on Sundays or holidays, such that the sound creates a noise disturbance across a residential or commercial real-property line, except for emergency work of public service utilities or by variance issued by the health officer is prohibited.

B. Noise Restrictions at Affected Structures. The contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings would not exceed those listed in the following schedule (Table 3-10):

- At Residential Structures.

    a. Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment:

TABLE 3-10

Los Angeles County Maximum Allowable Noise Levels for Mobile Equipment

	Single-family Residential	Multi-family Residential	Semi-residential / Commercial
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	75 dBA	80 dBA	85 dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	60 dBA	64 dBA	70 dBA

b. Stationary Equipment. Maximum noise level for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment (Table 3-11):

TABLE 3-11

Los Angeles County Maximum Allowable Noise Levels for Stationary Equipment

	Single-family Residential	Multi-family Residential	Semi-residential / Commercial
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	60 dBA	65 dBA	70 dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA

- At Business Structures.

  a. Mobile equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation of mobile equipment: Daily, including Sunday and legal holidays, all hours: maximum of 85 dBA.

C. All mobile or stationary internal-combustion-engine powered equipment or machinery shall be equipped with suitable exhaust and air-intake silencers in proper working order.

D. In case of a conflict between this chapter and any other ordinance regulating construction activities, provisions of any specific ordinance regulating construction activities shall control. (Ord. 11778 § 2 (Art. 5 § 501(c)), 1978: Ord. 11778 § 2 (Art. 5 § 501(c)), 1978.

City of Los Angeles Noise Ordinance

The proposed project is located adjacent to the jurisdiction of the City of Los Angeles. The City of Los Angeles noise ordinance (City of Los Angeles 1982) applies to any receptors that may be located within the City. The City of Los Angeles Noise Ordinance includes the following provisions:

SEC. 111.03. MINIMUM AMBIENT NOISE LEVEL

Where the ambient noise level is less than the presumed ambient noise level designated in this section, the presumed ambient noise level in this section shall be deemed to be the minimum ambient noise level for purposes of this chapter.

Table 3-12

City of Los Angeles Presumed Ambient Noise Level (dB(A)) Sound Level "A" Decibels

Zone[1]	Day	Night
A1, A2, RA, RE, RS, RD, RW1, RW2, R1, R2, R3, R4, and R5	50	40
P, PB, CR, C1, C1.5, C2, C4, C5, and CM	60	55
M1, MR1, and MR2	60	55
M2 and M3	65	65

Zones are defined in the City of Los Angeles zoning ordinance (City of Los Angeles 2003).

In this chart, daytime levels are to be used from 7:00 a.m. to 10:00 p.m. and nighttime levels from 10:00 p.m. to 7:00 a.m. At the boundary line between two zones, the presumed ambient noise level of the quieter zone shall be used.

SEC. 112.03. CONSTRUCTION NOISE

Noise due to construction or repair work shall be regulated as provided by Section 41.40 of this Code. (Amended by Ordinance No. 161,574, Effective 9/8/86.) Section 41.40 of the City of Los Angeles Municipal Code, Noise Due to Construction, Excavation Work – When Prohibited, states:

(a) No person shall, between the hours of 9:00 P.M. and 7:00 A.M. of the following day, perform any construction or repair work of any kind upon, or any excavating for, any building or structure, where any of the foregoing entails the use of any power driven drill, riveting machine excavator or any other machine, tool, device or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling hotel or apartment or other place of residence. In addition, the operation, repair or servicing of construction equipment and the job-site delivering of construction materials in such areas shall be prohibited during the hours herein specified. Any person who knowingly and willfully violates the foregoing provision shall be deemed guilty of a misdemeanor punishable as elsewhere provided in this Code. **(Amended by Ord. No. 158,587, Eff. 1/29/84.)**

(b) The provisions of Subsection (a) shall not apply to any person who performs the construction, repair or excavation work involved pursuant to the express written permission of the Board of Police Commissioners through its Executive Director. The Executive Director, on behalf of the Board, may grant this permission, upon application in writing, where the work proposed to be done is in the public interest, or where hardship or injustice, or unreasonable delay would result from its interruption during the hours mentioned above, or where the building or structure involved is devoted or intended to be devoted to a use immediately related to public defense. The provisions of this section shall not in any event apply to construction, repair or excavation work done within any district zoned for manufacturing or industrial uses under the provisions of Chapter I of this Code, nor to emergency work necessitated by any flood, fire or other catastrophe. **(Amended by Ord. No. 178,160, Eff. 2/12/07.)**

(c) **(Amended by Ord. No. 166,170, Eff. 9/29/90.)** No person, other than an individual homeowner engaged in the repair or construction of his single-family dwelling shall perform any construction or repair work of any kind upon, or any earth grading for, any building or structure located on land developed with residential buildings under the provisions of Chapter I of this Code, or perform such work within 500 feet of land so occupied, before 8:00 a.m. or after 6:00 p.m. on any Saturday or national holiday nor at any time on any Sunday. In addition, the operation, repair or servicing of construction equipment and the job-site delivering of construction materials in such areas shall be prohibited on Saturdays and on Sundays during the hours herein specified. The provisions of this subsection shall not apply to persons engaged in the emergency repair of:

1. Any building or structure.

2. Earth supporting or endangering any building or structure.

3. Any public utility.

4. Any public way or adjacent earth.

(d) The provisions of Subsection (c) shall not apply to construction work done on the Metro Rail Project and the tunnel-station portions of the Los Angeles-Long Beach Rail Project between Sixth to Twelfth Streets, provided however that this construction work shall not include the utilization of soldier pile drilling, vibrating hammer driving, blasting, or any construction activities that will exceed the ambient noise levels as provided in the action of the Police Commission, pursuant to Subsection (b) above, granting a variance for this work. In addition, this construction work will be subject to all the conditions of the conditional variance granted by the Board through its Executive Director. This section shall have no force or effect upon completion of the construction work described here. **(Amended by Ord. No. 178,160, Eff. 2/12/07.)**

(e) The provisions of this section shall not apply to construction work done by CALTRANS to repair the collapsed sections of the Santa Monica Freeway within a one mile radius of the intersection of Interstate 10 and Fairfax Avenue. This section shall have no force and effect upon completion of the construction work herein described. **(Added by Ord. No. 169,669, Eff. 5/13/94.)**

(f) The provisions of this section shall not apply to construction work done by the County of Los Angeles in connection with Phases 2 and 3 of Unit 5 of the Hollyhills Storm Drain Project, including the installation of temporary bridges and any other structures necessary to regulate or direct traffic because of the storm drain construction. Unit 5 construction is within the area bounded by Beverly Boulevard, 3rd Street, La Cienega Boulevard and San Vicente Boulevard. Phases 2 and 3 involve several underground concrete structures to be built in and around the intersection of La Cienega and San Vicente Boulevards. This section shall have no force and effect upon completion of the construction work herein specified. **(Added by Ord. No. 172, 091, Eff. 7/3/98.)**

(g) The provisions of Subsection (c) shall not apply to construction work undertaken from March 31, 2000 to August 20, 2000 that must be done prior to the Democratic National Convention, provided however that such construction work will be subject to all conditions established by the Los Angeles Police Department Noise Enforcement Team, in 1) the downtown area bounded by Union Street on the west, Washington on the south, San Pedro on the east, and 101 Freeway on the North, including but not limited to work undertaken in compliance with construction permits issued by the Bureau of Engineering, water line improvements/installation, sewer construction, fiber optic installation, and street paving or is associated with the Convention such as installation and removal of security barriers and fencing and 2) the Windward Plaza area of Venice Beach, between 18th Place and Horizon Avenue from the western border of Ocean Front Walk to the beach, for the Venice Beach Ocean Front Walk Refurbishment Project under the direction of the City of Los Angeles Department of Recreation and Parks Department. This section shall have no force and effect after August 20, 2000. **(Added by Ord. No. 173,154, Eff. 4/30/00.)**

(h) The provisions of Subsection (c) shall not apply to the construction work done by the City of Los Angeles in connection with the portion of the Stone-Hollywood Trunk Line from Stone Canyon Reservoir service area to the Hollywood Reservoir service area as part of the Hollywood Water Quality Improvement Project undertaken on Pico Boulevard, including all structures and operations necessary for construction and/or to regulate or direct traffic due to construction activities. This section shall have no force and effect upon completion of the construction work herein specified. **(Added by Ord. No. 173,746, Eff. 1/23/01.)**

(i) None.

(j) As determined by the Executive Director of the Board, the provisions of Subsection (c) shall not apply to major public works construction by the City of Los Angeles and its proprietary Departments, including all structures and operations necessary to regulate or direct traffic due to construction activities. The Board, through its Executive Director, pursuant to Subsection (b) will grant a variance for this work and construction activities will be subject to all conditions of the variance as granted. Concurrent with the request for a variance, the City Department that will conduct the construction work will notify each affected Council district office and established Neighborhood Council of projects where proposed Sunday and/or Holiday work will occur. **(Amended by Ord. No. 178,160, Eff. 2/12/07.)**

(k) **Noise Variance Application Fee.** Any application to the Board for a noise variance under Subsection (b) shall be accompanied by payment of an application fee of $233.00. **(Added by Ord. No. 181,338, Eff. 11/13/10.)**

SEC. 112.05. MAXIMUM NOISE LEVEL OF POWERED EQUIPMENT OR POWERED HAND TOOLS

Between the hours of 7:00 a.m. and 10:00 p.m., in any residential zone of the City or within 500 feet thereof, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet there from:

(a) 75 dB(A) for construction, industrial, and agricultural machinery including crawler tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment;

(b) 75 dB(A) for powered equipment of 20 HP or less intended for infrequent use in residential areas, including chain saws, log chippers and powered hand tools;

(c) 65 dB(A) for powered equipment intended for repetitive use in residential areas, including lawn mowers, backpack blowers, small lawn and garden tools and riding tractors;

The noise limits for particular equipment listed above in (a), (b) and (c) shall be deemed to be superseded and replaced by noise limits for such equipment from and after their establishment by final regulations adopted by the Federal Environmental Protection Agency and published in the Federal Register. These noise limitations shall not apply where compliance therewith is technically infeasible. The burden of proving that compliance is technically infeasible shall be upon the person or persons charged with a violation of this section. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers and/or other noise reduction device or techniques during the operation of the equipment.

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CHAPTER 4

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

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4.0 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

CEQA Guidelines §15126.2 and §15126.4 require an EIR to include a description of the significant environmental effects of the proposed project, significant environmental effects which cannot be avoided, significant irreversible environmental changes, growth-inducing impacts, and mitigation measures proposed to minimize the significant effects. This chapter discusses these topics for each, as well as effects found not to be significant. Potential significant adverse cumulative impacts from the proposed project are discussed in Chapter 5.

4.1 INTRODUCTION

This chapter assesses the potential environmental impacts of the construction and operation of the SGPREP, as previously described in Chapter 2. This chapter evaluates those impacts that are considered potentially significant, as identified in the NOP/IS prepared for the proposed project (Appendix A). Additionally, this chapter discusses impacts from environmental topic areas identified to be less than significant in the NOP/IS, but are included in this ~~Draft~~ Final SEIR based on either public comments received (Appendix C) or additional data available since the release of the NOP/IS, as shown in Table 1-1. An impact is considered significant under the 14 CCR Section 15382 if it leads to a "substantial, or potentially substantial, adverse change in the environment." Impacts from the proposed project fall within one of the following categories:

Beneficial – Impacts would have a positive effect on the resource.

No impact – There would be no impact to the identified resource as a result of the proposed project.

Potentially significant, but mitigation measures reduce to insignificant levels – Significant adverse impacts may occur; however, with proper mitigation, the impacts can be reduced to insignificance.

Potentially significant and mitigation measures are not available to reduce to insignificant levels – Adverse impacts may occur that would be significant even after mitigation measures have been applied to lessen their severity.

4.2 AIR QUALITY

4.2.1 INTRODUCTION

The NOP/IS (Appendix A) identified the air quality impacts of the proposed project as having the potential for significant adverse impacts. Project-specific and cumulative adverse air quality impacts associated with increased emissions of air contaminants (both criteria air pollutants and TACs) during the construction and operation phases of the proposed project have been evaluated in this ~~Draft~~ Final SEIR. Potential air quality impacts from the proposed project to the surrounding areas are provided in this section.

The 1993 Final EIR and 1999 Final SEIR related to the SCLF have resulted in the development of mitigation measures that reduce potentially significant environmental impacts of landfill activities although impacts from these projects were concluded to remain significant.

The proposed project would be required to implement these mitigation measures, where applicable, to reduce potentially significant impacts and ensure compliance with the current landfill CUP requirements. Specific to air quality, the following SCLF MMRS (Appendix B) mitigation measures would apply directly to the proposed project:

> **MMRS 6.01:** The permittee shall utilize the most effective available technology and methodology to avert fugitive dust emissions. In addition to the revegetation measures required in Condition 41 of the CUP and in the SCLF MMRS, the following apply:
>
> - The permittee shall not engage in any excavation or other operation during high wind conditions, or when such conditions may be reasonably expected, that would result in significant emissions of fugitive dust which cannot be confined to the area under the permittee's control.
> - All access roads to permanent facilities, except those infrequently used, shall be paved.
>
> **MMRS 6.07:** Flaring systems shall be sited as required by the SCAQMD and constructed using BACT. The flames shall be fully contained within the stack. Flame arrestors shall be provided to the satisfaction of the SCAQMD and the County Forester and Fire Warden.
>
> The permittee will convert gas, as it is recovered, to a renewable energy resource and to the extent technically and economically feasible.
>
> **MMRS 6.09:** The following mitigation measures will reduce emissions to the maximum extent reasonably feasible:
>
> - The permittee will maintain equipment in tune per manufacturer’s specifications.
> - The permittee will use catalytic converters on gasoline-powered equipment.
> - The permittee will tune all diesel engines to manufacturer’s specifications.
> - High-pressure fuel injectors will be installed.
> - Heavy equipment will use reformulated, low-emission diesel fuel.
> - The permittee will substitute diesel-powered equipment with electric and gasoline-powered equipment where feasible.
> - Where applicable, equipment will not be left idling for prolonged periods.
> - The permittee will curtail (cease or reduce) construction during periods of high ambient pollutant concentrations (i.e., Stage II smog alerts).

In addition, MMRS 7.03 is required to be implemented by SCLF to reduce potential impacts from landfill odors. MMRS 7.03 specifically requires an odor/LFG monitoring program for the landfill operations. Because the proposed project is not impacting landfill operations, MMRS 7.03 does not apply to the proposed project.

While the proposed project is expected to emit GHGs, GHG emissions from a single project typically would not necessarily create a measurable effect on global climate change. Generally, a project's GHG emissions will be relatively small compared to global or even statewide GHG emissions, and, as such, will almost certainly have no detectable impact on global climate change. Rather, it is the increased accumulation of GHG emissions from more than one project or many individual sources that may contribute to significant adverse global climate change impacts. As such, project-specific GHG emissions and determining the significance of potential impacts are more properly assessed on a cumulative basis. For this reason, ~~the~~ project-specific GHG emissions and an evaluation of ~~that contribute to cumulative climate change impacts, and the determination of~~ the potential ~~effect of~~ project-specific contributions to cumulative climate change impacts are discussed in Chapter 5 – Cumulative Impacts, rather than in this chapter.

4.2.2 SIGNIFICANCE CRITERIA

Based on Appendix G of the *CEQA Guidelines*, as well as further examination of potential impacts, this project may be deemed to have a significant effect on the environment with respect to air quality if it would:

a. Conflict with or obstruct implementation of the applicable air quality plan;

b. Violate any air quality standard or contribute to an existing or projected air quality violation;

c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard, including releasing emissions that exceed quantitative thresholds for ozone precursors (addressed in Chapter 5 –Cumulative Impacts);

d. Expose sensitive receptors to substantial pollutant concentrations;

e. Create objectionable odors affecting a substantial number of people;

f. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance (addressed in Chapter 5 – Cumulative Impacts); or

g. Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs (addressed in Chapter 5 – Cumulative Impacts).

In addition to the aforementioned considerations, an impact would be considered significant if emissions equal or exceed the significance criteria established by the SCAQMD (Table 4-1).

Significance determinations for construction impacts are based on the difference between maximum or peak daily emissions during the construction period compared to the baseline emissions, which provides a "worst-case" analysis of the construction emissions. Similarly, significance determinations for operational emissions are based on the maximum or peak daily allowable emissions during the operational phase compared to the baseline emissions.

4.2.3 ENVIRONMENTAL IMPACTS

The following impact analyses identify the *current conditions baseline* as the flaring of the recovered LFG using the enclosed flares owned by SCLF. The baseline emissions are based on historical emissions from flaring operations for 2007 through 2009. Potential air quality impacts are evaluated and compared to the criteria listed in Section 4.2.2 to establish potential significant impacts.

TABLE 4-1

SCAQMD Air Quality Significance Thresholds (February 2011)

Mass Daily Thresholds [a]		
Pollutant	Construction [b]	Operation
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day

TACs, Odor, and GHG Thresholds	
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
GHG	10,000 MT/yr CO_2eq for industrial facilities

Ambient Air Quality Standards for Criteria Pollutants [d]	
NO_2	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (~~federalo~~federal)
PM_{10} 24-hr average annual average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation) 1.0 μg/m^3
$PM_{2.5}$ 24-hour average	10.4 μg/m^3 (construction)[e] & 2.5 μg/m^3 (operation)
SO_2 1-hour average 24-hour average annual arithmetic mean	0.25 ppm (state) & 0.075 ppm (federal — 99th percentile) 0.04 ppm (state) & 0.14 ppm (federal) 0.03 ppm (federal)
Sulfate 24-hour average	25 μg/m^3 (state)
CO 1-hour average 8-hour average	SCAQMD is in attainment: project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)
Lead 30-clay Average Rolling 3-month average Quarterly average	1.5 μg/m^3 (state) 0.15 μg/m^3 (federal) 1.5 μg/m^3 (federal)

[a] Source: SCAQMD CEQA Handbook (SCAQMD. 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton. Sea and Mojave Desert Air Basins).
[c] For Coachella Valley. the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303. Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on SCAQMD Rule 403.
KEY: lbs/day = pounds per dayppm = parts per million μg/m^3 = microgram per cubic meter ≥ = greater than or equal to
MT/yr CO_2eq = metric tons per year of CO_2 equivalent > = greater than

4.2.3.1 Consistency with the Applicable Air Quality Management Plan

The proposed project would be consistent with implementation of the AQMP.

Analysis of the proposed project indicates that it would not conflict with or obstruct implementation of the AQMP adopted by SCAQMD (SCAQMD 2007). The proposed project is consistent with the AQMP because the SCLF complies with Rule 1150.1. The SGPREP will continue to result in compliance with Rule 1150.1 with the potential added benefit of a slight reduction in air quality emissions at existing power generating facilities. The proposed project would add two to three employees from the existing employee pool in southern California, but would not add any dwelling units for residential uses. The proposed project would not diminish an existing air quality rule or future compliance requirement as the proposed project must demonstrate compliance with all applicable SCAQMD rules and regulations before any permit applications could be approved. Thus, by complying with applicable SCAQMD rules and regulations, the proposed project would be consistent with implementation of the AQMP.

4.2.3.2 Regional Construction Emission Impacts

Construction activities associated with the SGP Facility, SCE Switchyard, and SCE Subtransmission Line would generate construction emissions of criteria pollutants. Only NO_x emissions from construction equipment would exceed the SCAQMD regional threshold of significance of 100 lbs/day. Mitigation Measures A-1 and A-2 would reduce the proposed project's impacts from construction activities to less than significant levels.

SGP Facility Construction

Construction of the SGP Facility would occur over the course of approximately ~~27~~ 24 months through implementation of approximately six sequential phases of development, as described below:

- Phase I (~~Haul~~Site Preparation) would be implemented over the first ~~11~~ three to four months and would entail the replacement of surface water drainage ditches with buried piping and the construction and maintenance of temporary roads for continued service needs by SCLF. Dump trucks would haul the concrete and asphalt debris from road and drainage ditch demolition to a recycling facility and ~~,~~deliver bedding/fill material for the buried piping. Flatbed trucks would be used to deliver pipe segments to the project site. A total of 90 trips per day would occur during this phase of construction consisting of ~~33 to 34~~15 dump trucks carrying asphalt debris, 10 dump trucks carrying bedding/fill material, 10 flatbed trucks carrying pipe segments and 10 worker commuter vehicles going to and from the proposed project site. As discussed below, during Phase II, soil would be transferred by haul trucks from elsewhere within the landfill, rather than importing additional soil. ~~per day, each truck holding approximately 10 cubic yards of soil, over the course of approximately 213 working days. Additionally, one dozer would be delivered the first day of soil deliveries, and one equipment operator and supervisor would drive to and from the site in personal or company vehicles.~~ As a conservative estimate, an average vehicle ridership (AVR) of 1.0 ~~is~~ was assumed for all construction phases.
- ~~Therefore, two daily commuter roundtrips were evaluated for Phase I.~~

- Phase II (Haul and Earthmoving) would begin after Phase I is completed and would be implemented over the next ~~eight~~ five months of construction. Phase II would entail delivering large earth moving equipment that would be used for excavation, site preparation, and civil construction. Three off-road quarry trucks would be used to transfer approximately 120,000 cubic yards of clean fill soil from identified sources within SCLF for use at the proposed project site, thus, eliminating approximately 115,000 cubic yards of soil transport haul truck trips during construction Phases I and II. A total of ~~Site preparation may require approximately 42,500 cubic yards of additional soil to be delivered during Phase II of the construction schedule. During Phase II, soil deliveries would be made with approximately 30~~20 on-road trips per day would occur during this phase of construction due to ~~dump trucks per day, each truck holding approximately 10 cubic yards of soil, for 141 working days.[21] Additionally, up to~~ 10 workers commuting ~~equipment operators and supervisors would travel~~ to and from the proposed project site. ~~in personal or company vehicles (i.e., 10 daily commuter roundtrips, assuming an AVR of 1.0).~~

- Phase III (Foundation) would begin after completion of Phase II and would be implemented over the next one to two months. Phase III would entail laying foundations and underground piping, and would also include delivery of various construction materials. Concrete trucks would bring approximately 420 loads over approximately 30 days with a maximum of 20 concrete truck trips per day. Additionally, up to 30 on-site personnel in personal or company vehicles would travel to and from the site (i.e., 30 daily commuter roundtrips~~, assuming an AVR of 1.0~~).

- Phase IV (Installation) would commence after completion of Phase III and would be implemented over the following one to two months. Phase IV would entail the delivery of the proposed project equipment, including large equipment, such as turbines and step-up transformers. Additionally, up to 10 on-site personnel would drive to and from the site in personal or work vehicles (i.e., 10 daily commuter roundtrips~~, assuming an AVR of 1.0~~).

- Phase V (Piping and Wiring) would begin after the completion of Phase IV and would be implemented over the following four months. Phase V would entail various construction activities, such as installation of piping and wires (including the installation of the water supply pipeline which would extend to the entrance of SCLF – Figure 2-5). Up to 30 construction workers and supervisors would drive to and from the site in ~~on-site~~ personal or work vehicles (i.e., 30 daily commuter roundtrips ~~assuming an AVR of 1.0~~).

- Phase VI (Misc. Activities) would begin after the completion of Phase V and would be implemented over the following one to two months. Phase VI would entail miscellaneous work~~,~~ such as painting and commissioning of the SGP Facility. This work would require up to 15 on-site personnel, who would drive to and from the site in personal or work vehicles (i.e., 15 daily commuter roundtrips~~, assuming an AVR of 1.0~~).

The assumed construction activities, equipment and schedule for the SGP Facility are included in Table 4-2 below.

~~[21] The number of daily dump truck trips during Phase II (30) is lower than Phase I (34) due to increased soil delivery in Phase I to prepare the site for the subsequent construction activity.~~

TABLE 4-2

SGP Facility Construction Equipment

Construction Activity	Daily Commuter Trips	Duration (days)	Equipment	Number of Units	Estimated Usage (Hours per Day)
Phase I: ~~Haul~~Site Preparation	~~2~~10	~~213~~40	Dozer	1	4~~6~~
			~~Dump Trucks~~Excavator	~~34~~1	~~NA~~6
		20	Dump Trucks	25	NA
			Flat Bed Trucks	10	NA
Phase II: Haul and Earthmoving	10	~~141~~60 ~~10~~	~~Dump Trucks~~Quarry Articulated Truck	3~~30~~	~~NA~~8
			Excavator	1	~~2~~8
			Dozer	1	~~6~~8
			~~Generator~~Compactor	~~2~~1	~~6~~8
			~~Survey Truck~~ Water Trucks (Gasoline)~~s~~	1~~2~~	4~~6~~
			~~Flat Bed Truck~~	~~1~~	~~6~~
Phase III: Foundations	30	30	Excavator	1	6
			Tractor/Backhoe	1	6
			Crane	1	6
			Generator	2	6
			Cement Truck	20	NA
			Water Trucks (Gasoline)	1	4
			Truck for Soil Test Inspector (Gasoline)	1	4
			Rubber Tired Loader	1	6
			Scraper	1	6
		6	Flat Bed Truck	1	6
Phase IV: Installation	10	30	Excavator	1	6
			Crane	2	6
			Generator	2	6
			Carryall Vehicle (Gasoline)	1	2
			Crew Truck (Gasoline/Diesel)	1	2
			Forklift	1	6
			Processing Trailer (Electric) And Trailer Generator 100kw	1	6
			Low Bed Truck	1	4
		6	Flat Bed Truck	1	6

TABLE 4-2 (concluded)

SGP Facility Construction Equipment

Construction Activity	Daily Commuter Trips	Duration (days)	Equipment	Number of Units	Estimated Usage (Hours per Day)
Phase V: Piping and Wiring	30	80	Cement Truck	10	NA
			Paver	1	6
			Compactor	1	6
			Roller	1	6
			Crane	1	6
			Generator	2	6
		16	Flat Bed Truck	1	6
		15	Trencher	1	6
			Tractor/Backhoe	1	6
			Saw	1	6
			Paver	1	6
Phase VI: Misc. Tasks	15	30	Flat Bed Truck	1	6
			Generator	2	6

Notes: NA – Not applicable. Emissions based on vehicle miles traveled.

SCE Construction

To support the proposed SGPREP construction and operations, SCE would construct a switchyard and subtransmission line. Construction of the SCE Switchyard would likely occur over the course of approximately two to three months and would run concurrently with Phase V of the SGPREP construction. The estimated elements, materials, number of personnel and equipment required for construction of the SCE Switchyard for the proposed project are summarized in Table 4-3.

TABLE 4-3

SCE Switchyard Construction Equipment

Sub-phase	Construction Activity	Daily Commuter Trips	Duration (days)	Equipment	Number of Units	Estimated Usage (Hours per Day)
SY-1	Site Management	1	45	Office Trailer	1	8
SY-2	Civil (e.g., foundations, underground conduit, ground grid)	8	30	Crew Trucks (Gasoline/Diesel)	2	2
			30	Dump Trucks	1	3
			30	5-Ton Stake Bed Truck	1	2
			15	Portable Trencher	1	8
			8	Drill Rig	1	8
			30	Tractor/Skip Loader	1	7
			30	Forklift	1	4

TABLE 4-3 (concluded)

SCE Switchyard Construction Equipment

Sub-phase	Construction Activity	Daily Commuter Trips	Duration (days)	Equipment	Number of Units	Estimated Usage (Hours per Day)
SY-3	Electrical (e.g., MEER, switchracks, conductor, circuit breakers)	10	45	(1 Ton) Stake Truck	2	4
			45	Crew Trucks (Gasoline/Diesel)	2	6
			45	Carryall Vehicles (Gasoline)	2	6
			45	Boom/Crain Truck	1	4
			45	Tool Trailer[2]	1	8
			45	Forklift	1	6
			45	~~Manlifts~~Man lifts (aerial lift)	2	8
SY-4	Test (e.g., relays, energization)	2	30	Test Truck (Gasoline/Diesel)	1	4
SY-5	Fence Contractor	4	7	Foreman Truck (Gasoline/Diesel)	1	4
			7	Crew Truck (Gasoline/Diesel)	1	4
			7	Bobcat (Gasoline)	1	8
			2	3-Ton Flatbed Truck	1	2
SY-6	Paving Contractor	8	5	Foreman Truck (Gasoline/Diesel)	1	6
			5	Dump Trucks (Gasoline/Diesel)	2	6
			5	Skip Loaders	2	6
			2	Barbergreen	1	8

Construction of the SCE Subtransmission Line would likely occur over the course of approximately five months and would run concurrently, starting with Phase III and ending with Phase V of the SGPREP construction. The estimated elements, materials, number of personnel and equipment required for construction of the SCE Subtransmission Line for the proposed project are summarized in Table 4-4.

TABLE 4-4

SCE Subtransmission Line Construction Equipment

Sub-phase	Construction Activity	Daily Commuter Trips	Duration (days)	Equipment	Number of Units	Estimated Usage (Hours per Day)
STL-1	Survey	2	5	1/2 Ton Pick-Up Truck 4x4	1	8
STL-2	Access Roads	3	2	Crew Trucks (Gasoline)	2	2
				Light Trucks	2	2
				Water Truck	1	2
				Crawler D6	1	10
				Crawler D8	1	10
				Motor Grader	1	5
STL-3	TSP Footing Installation	6	24	Crew Trucks (Gasoline)	2	10
				Truck Mounted Cranes	2	10
				Backhoes	2	10
				Water Truck	1	10
				Drilling Rig	1	10
				Cement Truck	1	10
STL-4	Pole Framing and Setting	10	58	Crew Trucks (Gasoline)	2	10
				5-Ton Framing Truck	1	10
				30-Ton Line Trucks	2	10
				Light Trucks	2	10
				Bucket Trucks	2	10
				Water Truck	1	10
				Truck Mounted Cranes	2	10
				30 Ton Crane	1	10
				Backhoes	2	10
STL-5	Material Delivery	3	3	60-Foot Flat Bed Pole Truck	1	8
				Forklift	1	5
STL-6	Conductor Installation	12	7	Flat Bed Truck	2	6
				Conductor Pulling Machine	1	6
				Conductor Tensioner (Gasoline)	1	6
				30 Ton Crane	1	10
				Crew Trucks	2	10
				Helicopter	1	4
				Truck Mounted Cranes	2	10
STL-7	Restoration	5	2	1-Ton Crew Cab 4x4	1	8
				Water Truck	1	8

Because SCE Switchyard and Subtransmission Line construction would occur during certain phases of the SGP Facility construction, construction emissions from each SCE component and the SGP Facility would be generated simultaneously. In order to analyze the total construction emissions generated for each time frame, periods of construction were organized into groups as presented in Table 4-5. Each group consists of a unique set of construction activities that would occur during the same time frame.

TABLE 4-5

Concurrent Activity Groups

Groups	Duration (days)	Subphase	Concurrent Activity
Group 1	~~74~~40	--	SGP Facility Phase I
Group 2	~~49~~60	--	SGP Facility Phase II
Group 3	14	--	SGP Facility Phase III
Group 4	5	--	SGP Facility Phase III
		STL-1	SCE Subtransmission Line Survey
Group 5	2	--	SGP Facility Phase III
		STL-2	SCE Subtransmission Line Access Roads
Group 6	8	--	SGP Facility Phase III
		STL-3	SCE Subtransmission Line TSP Footing
Group 7	15	--	SGP Facility Phase IV
		STL-3	SCE Subtransmission Line TSP Footing
Group 8	15	--	SGP Facility Phase IV
		STL-4	SCE Subtransmission Line ~~Poll~~ Pole Framing & Setting
Group 9	7	--	SGP Facility Phase V
		STL-4	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting
Group 10	15	--	SGP Facility Phase V
		STL-4	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting
		SY-1	SCE Switchyard Site Management
		SY-2	SCE Switchyard Civil
		SY-3	SCE Switchyard Electrical
Group 11	8	--	SGP Facility Phase V
		STL-4	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting
		SY-1	SCE Switchyard Site Management
		SY-2	SCE Switchyard Civil
		SY-3	SCE Switchyard Electrical
		SY-4	SCE Switchyard Test
Group 12	2	--	SGP Facility Phase V
		STL-4	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting
		SY-1	SCE Switchyard Site Management
		SY-2	SCE Switchyard Civil
		SY-3	SCE Switchyard Electrical
		SY-4	SCE Switchyard Test
		SY-5	SCE Switchyard Fencing
Group 13	5	--	SGP Facility Phase V
		STL-4	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting
		SY-1	SCE Switchyard Site Management
		SY-2	SCE Switchyard Civil
		SY-3	SCE Switchyard Electrical
		SY-4	SCE Switchyard Test
		SY-5	SCE Switchyard Fencing
		SY-6	SCE Switchyard Paving

TABLE 4-5 (concluded)

Concurrent Activity Groups

Groups	Duration (days)	Subphase	Concurrent Activity
Group 14	8	--	SGP Facility Phase V
		STL-4	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting
		SY-1	SCE Switchyard Site Management
		SY-3	SCE Switchyard Electrical
		SY-4	SCE Switchyard Test
Group 15	3	--	SGP Facility Phase V
		STL-4	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting
		SY-1	SCE Switchyard Site Management
		SY-3	SCE Switchyard Electrical
		SY-4	SCE Switchyard Test
		STL-5	SCE Subtransmission Line Materials Delivery
Group 16	7	--	SGP Facility Phase V
		SY-1	SCE Switchyard Site Management
		SY-3	SCE Switchyard Electrical
		SY-4	SCE Switchyard Test
		STL-6	SCE Subtransmission Line Conductor Installation
Group 17	2	--	SGP Facility Phase V
		SY-1	SCE Switchyard Site Management
		SY-3	SCE Switchyard Electrical
		SY-4	SCE Switchyard Test
		STL-7	SCE Subtransmission Line Restoration
Group 18	29	--	SGP Facility Phase V
Group 19	30	--	SGP Facility Phase VI

Construction emissions are expected from the following equipment and processes:

- On-site construction equipment (e.g., dump trucks, backhoes, excavators);
- On-site and off-site vehicle emissions, including delivery trucks and worker vehicles;
- On-site fugitive dust associated with site construction activities; and
- On-site and off-site fugitive dust associated with travel on unpaved and paved roads.

Analysis of construction phase emissions was performed based on expected equipment usage. Composite emission factors for off-road (e.g., backhoes, cranes) and on-road (e.g., haul trucks, cement trucks) vehicles were used to calculate emissions from equipment expected to be used (SCAQMD 2008b and 2008c, respectively).

Calculations for ~~haul trucks, and other~~ on-road vehicles (including flatbed trucks and dump trucks), which use a lb/mile emission factor, used the following equation:

$$\left(emission\ factor\ \frac{lb}{mile}\right) \times \left(\frac{miles}{truck}\right) \times \left(\frac{trucks}{day}\right) = \frac{lbs}{day}$$

Calculations for heavy equipment, such as backhoes and excavators, which use a pound per hour (lb/hr) emission factor based on assumed horsepower of the equipment, used the following equation:

$$\left(emission\ factor\ \frac{lb}{hr}\right) \times \left(\frac{equipment\ hours}{day}\right) = \frac{lbs}{day}$$

Fugitive dust emissions (PM_{10}) were evaluated for clearing, storage piles and material handling based on U.S. EPA equations:

Clearing Activities[22]:

$$0.75 \times \frac{silt\ content^{1.5}}{moisture\ content^{1.4}} \times \frac{hours}{day} = \frac{lbs}{day}$$

Storage Piles[23]:

$$1.7 \times \frac{silt\ content}{1.5} \times \frac{dry\ days}{235} \times \frac{wind\ speed\ \%}{15} \times TSP\ Fraction \times Area = \frac{lbs}{day}$$

Material Handling[24]:

$$0.0032 \times \begin{matrix} aerodynamic\ particle \\ size\ multiplier \end{matrix} \times \frac{\left(\frac{wind\ speed}{5}\right)^{1.3}}{\left(\frac{moisture\ content}{2}\right)^{1.4}} \times \frac{lbs\ dirt\ handled}{day} \times \frac{1\ ton}{2{,}000\ lbs} = \frac{lbs}{day}$$

These equations assume that appropriate dust control measures would be implemented during each phase of development as required by SCAQMD Rule 403—Fugitive Dust. Specifically, the following dust control measures, as required by SCAQMD Rule 403, will be implemented as part of the project description:

- Apply water every three hours to disturbed areas within a construction site.
- Where possible, use a gravel apron, 25 feet long by road width, to reduce mud/dirt trackout from unpaved truck exit routes.
- Limit on-site vehicle speeds (on unpaved roads) to 15 mph by radar enforcement.
- Replace ground cover in disturbed areas as quickly as possible.
- All trucks hauling dirt, sand, soil, or other loose materials are to be tarped with a fabric cover and maintain a freeboard height of 12 inches.

Appendix D-1 provides construction emissions calculations for the proposed SGP Facility (includes the construction and installation of five turbines, siloxane removal system, regeneration gas flare, water supply pipeline, and telecom line), SCE Switchyard, and SCE Subtransmission line. The schedule assumes overlap between construction activities from the SGP Facility, SCE Switchyard and SCE Subtransmission Line, and groups the overlapping activities to estimate maximum potential emissions on a pounds per day basis.

It was assumed that the construction work would take place over a ~~27~~24-month period, with an average of twenty 10-hour days per month. Soil needed for the construction of the proposed project would be obtained from clean sources within SCLF, and would be transferred to the SGP Facility site using three off-road quarry trucks for a period of 60 working days during Phase II. The distance for ~~soil hauling and~~ cement transport to the site is unknown at this time. However, ~~four~~ a potential ~~fill~~ cement material provider~~s were~~ was identified within 20 miles of the site~~:~~

[22] Source: U.S. EPA, AP-42, July 1998, Table 11.9-1, Equation for bulldozer, overburden, ≤ 10 µm.

[23] Source: U.S. EPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, Sept 1992, EPA-450/2-92-004, Equation 2-12.

[24] Source: U.S. EPA, AP-42, Jan 1995, Section 13.2.4 Aggregate Handling and Storage Piles, Equation 1.

(~~Flamingo Sand and Gravel,~~ All Valley Concrete)~~, Soledad Rock and Asphalt, and Curtis Sand and Gravel~~. Therefore, for the purpose of calculations, a haul distance of 20 miles one-way (40 miles roundtrip) was conservatively assumed for ~~both the haul trucks and the~~ cement transport trucks. ~~Soil from the existing landfill may be used if it meets the appropriate engineering standards, which would result in a truck trip distance of less than five miles roundtrip. The haul trucks are assumed to carry 10 cubic yards of soil per trip.~~

Calculations were performed using the SCAQMD off-road mobile source emission factors (SCAQMD 2008b) for scenario year 2011~~, as this is the first year that construction is currently planned to take place~~ (while the work will likely be performed in 2012 and 2013, using 2011 emission factors provides a conservative assumption as emission factors for vehicles decrease with newer fleet). As discussed in this chapter, the construction activities for the SGP Facility are defined as six phases. The calculations assume that all hauling of ~~soil~~ materials ~~onto~~ on site, off site, and within the site would occur in Phases I and II. The remaining construction activities for the SGP Facility occur throughout Phases II through VI. No hauling ~~of soil~~ is anticipated to occur during the construction of the SCE Switchyard or SCE Subtransmission Line.

Projected construction emissions are provided as peak day emissions for each group of concurrent construction activities, based on an assumed equipment schedule and account for all equipment used in that phase to run concurrently for each full 10-hour work day. ~~Emissions do not include the use of soil from the existing landfill (calculations assume off-site soil hauling for all soil), which, if used, would result in a reduction in the estimated emissions from soil hauling truck travel and the overall estimated daily construction emission estimates.~~

Table 4-6 provides a comparison of peak calculated construction emissions on a pounds per day basis compared to SCAQMD significance thresholds. These calculations have been revised from those included in Appendix D-1 of the Draft SEIR, based on the availability of clean soil within SCLF boundaries for use in construction of the proposed project. The complete revised calculations can be found in Appendix D-1 of this Final SEIR. As shown in ~~the t~~Table 4-6, construction emissions for all criteria pollutants with the exception of NO_x are anticipated to be less than ~~significance~~ significant~~thresholds~~. ~~Therefore, u~~Unmitigated NO_x emissions would exceed the 100 lb/day threshold of significance for some phases of the construction. Mitigation measures developed in the SCLF MMRS that are applicable to this project have been incorporated into the analysis as they will be implemented according to MMRS conditions.

TABLE 4-6

Regional Daily Construction Emissions for Concurrent Activities

Concurrent Activity Groups	Activity	VOC (lb/day)	CO (lb/day)	NO_x (lb/day)	SO_x (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Group 1	SGP Plant Phase I	~~5~~6	~~20~~23	~~59~~64	~~0.064~~0.075	5	3
	Group 1 Total	~~5~~6	~~20~~23	~~59~~64	~~0.064~~0.075	5	3
Group 2	SGP Plant Phase II	~~6~~10	~~25~~33	~~62~~87	~~0.073~~0.103	~~4~~5	~~3~~4
	Group 2 Total	~~6~~10	~~25~~33	~~62~~87	~~0.073~~0.103	~~4~~5	~~3~~4
Group 3	SGP Plant Phase III	7	27	83	0.073	6	4
	Group 3 Total	7	27	83	0.073	6	4
Group 4	SGP Plant Phase III	7	27	83	0.073	6	4
	SCE Subtransmission Line Survey	0.19	2	0.19	0.0024	0.020	0.012
	Group 4 Total	7	29	83	0.075	6	4
Group 5	SGP Plant Phase III	7	27	83	0.073	6	4
	SCE Subtransmission Line Access Roads	5	18	35	0.036	2	2
	Group 5 Total	12	45	**118**	0.11	8	6
Group 6	SGP Plant Phase III	7	27	83	0.073	6	4
	SCE Subtransmission Line TSP Footing	5	25	37	0.057	2	2
	Group 6 Total	12	52	**120**	0.13	8	6
Group 7	SGP Plant Phase IV	5	21	43	0.052	4	2
	SCE Subtransmission Line TSP Footing	5	25	37	0.057	2	2
	Group 7 Total	10	46	80	0.11	6	4
Group 8	SGP Plant Phase IV	5	21	43	0.052	4	2
	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting	8	43	59	0.085	3	3
	Group 8 Total	13	64	**102**	0.14	7	5
Group 9	SGP Plant Phase V	7	27	54	0.067	3	2
	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting	8	43	59	0.085	3	3
	Group 9 Total	14	70	**113**	0.15	6	5
Group 10	SGP Plant Phase V	7	27	54	0.067	3	2
	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting	8	43	59	0.085	3	3
	SCE Switchyard Site Management	0	0	0	0.00022	0	0
	SCE Switchyard Civil	3	14	22	0.032	2	1
	SCE Switchyard Electrical	2	11	12	0.020	1	1
	Group 10 Total	20	96	**147**	0.20	9	7

TABLE 4-6 (continued)

Regional Daily Construction Emissions for Concurrent Activities

Concurrent Activity Groups	Activity	VOC (lb/day)	CO (lb/day)	NO_X (lb/day)	SO_X (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Group 11	SGP Plant Phase V_{WL}	~~7~~10	~~27~~38	~~54~~81	~~0.067~~0.10	~~3~~4	~~2~~4
	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting	8	43	59	0.085	3	3
	SCE Switchyard Site Management	0.017	0.17	0.017	0.00022	0.0018	0.0011
	SCE Switchyard Civil	3	14	22	0.032	2	1
	SCE Switchyard Electrical	2	11	12	0.020	1	1
	SCE Switchyard Test	0.18	1	1	0.0021	0.046	0.038
	Group 11 Total	~~20~~24	~~97~~108	**~~149~~175**	~~0.21~~0.24	~~9~~10	~~7~~9
Group 12	SGP Plant Phase V_{WL}	10~~7~~	38~~27~~	81~~54~~	0.10~~0.067~~	4~~3~~	4~~2~~
	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting	8	43	59	0.085	3	3
	SCE Switchyard Site Management	0.017	0.17	0.017	0.00022	0.0018	0.0011
	SCE Switchyard Civil	3	14	22	0.032	2	1
	SCE Switchyard Electrical	2	11	12	0.020	1	1
	SCE Switchyard Test	0.18	1	1	0.0021	0.046	0.038
	SCE Switchyard Fencing	1	4	3	0.0059	0	0
	Group 12 Total	~~21~~24	~~101~~112	**~~152~~179**	~~0.21~~0.24	~~9~~11	~~8~~9
Group 13	SGP Plant Phase V_{WL}	10~~7~~	38~~27~~	81~~54~~	0.10~~0.067~~	4~~3~~	4~~2~~
	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting	8	43	59	0.085	3	3
	SCE Switchyard Site Management	0.017	0.17	0.017	0.00022	0.0018	0.0011
	SCE Switchyard Civil	3	14	22	0.032	2	1
	SCE Switchyard Electrical	2	11	12	0.020	1	1
	SCE Switchyard Test	0.18	1	1	0.0021	0.046	0.038
	SCE Switchyard Fencing	1	4	3	0.0059	0	0
	SCE Switchyard Paving	3	12	19	0.024	1	1
	Group 13 Total	~~24~~27	~~113~~124	**~~171~~198**	~~0.24~~0.27	~~11~~12	~~9~~10
Group 14	SGP Plant Phase V	7	27	54	0.067	3	2
	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting	8	43	59	0.085	3	3
	SCE Switchyard Site Management	0.017	0.17	0.017	0.00022	0.0018	0.0011
	SCE Switchyard Electrical	2	11	12	0.020	1	1
	SCE Switchyard Test	0.18	1	1	0.0021	0.046	0.038
	Group 14 Total	17	83	**126**	0.175	7	6

TABLE 4-6 (concluded)

Regional Daily Construction Emissions for Concurrent Activities

Concurrent Activity Groups	Activity	VOC (lb/day)	CO (lb/day)	NO_X (lb/day)	SO_X (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Group 15	SGP Plant Phase V	7	27	54	0.067	3	2
	SCE Subtransmission Line ~~Poll~~Pole Framing & Setting	8	43	59	0.085	3	3
	SCE Switchyard Site Management	0.017	0.17	0.017	0.00022	0.0018	0.0011
	SCE Switchyard Electrical	2	11	12	0.020	1	1
	SCE Switchyard Test	0.18	1	1	0.0021	0.046	0.038
	SCE Subtransmission Line Materials Delivery	1	3	5	0.0068	0.27	0.24
	Group 15 Total	18	85	**132**	0.18	7	6
Group 16	SGP Plant Phase V	7	27	54	0.067	3	2
	SCE Switchyard Site Management	0.017	0.17	0.017	0.00022	0.0018	0.0011
	SCE Switchyard Electrical	2	11	12	0.020	1	1
	SCE Switchyard Test	0.18	1	1	0.0021	0.046	0.038
	SCE Subtransmission Line Conductor Installation	6	23	49	0.12	2	2
	Group 16 Total	15	63	**116**	0.21	6	5
Group 17	SGP Plant Phase V	7	27	54	0.067	3	2
	SCE Switchyard Site Management	0.017	0.17	0.017	0.00022	0.0018	0.0011
	SCE Switchyard Electrical	2	11	12	0.020	1	1
	SCE Switchyard Test	0.18	1	1	0.0021	0.046	0.038
	SCE Subtransmission Line Restoration	0.43	3	2	0.0050	0.10	0.081
	Group 17 Total	10	43	70	0.094	4	3
Group 18	SGP Plant Phase V	7	27	54	0.067	3	2
	Group 5 Total	7	27	54	0.067	3	2
Group 19	SGP Plant Phase VI	1	6	6	0.011	0.40	0.35
	Group 6 Total	1	6	6	0.011	0.40	0.35
SCAQMD Construction Thresholds (lb/day)		**75**	**75**	**550**	**100**	**150**	**150**

Notes:
Presented totals may not add up due to rounding

4.2.3.3 Localized Construction Impacts

Construction activities associated with the SGP Facility, SCE Switchyard, and SCE Subtransmission line would generate construction emissions of criteria pollutants. The impact of localized construction emissions would be less than significant ~~with mitigation~~.

In addition to SCAQMD's regional significance thresholds, the SCAQMD has also developed localized significance thresholds (LSTs) that ~~are~~ identify daily emissions levels at a ~~based on the emissions per day that can be generated by a project at the~~ project construction site that ~~and~~ could cause or contribute to adverse localized air quality impacts to the nearest sensitive receptors. For ~~construction~~ projects with a daily construction footprint larger than five acres, ~~the~~ it is recommended that the localized air quality analysis ~~must~~ be performed using an appropriate air quality dispersion model. For projects with a daily construction footprint five acres or less, LSTs found in the mass rate look-up tables in the "Finalized Localized Significance Threshold Methodology" document prepared by the SCAQMD (SCAQMD 2008d) can be used. Since the maximum daily footprint for construction area of the proposed project would be less than three acres, LSTs would be applicable. LSTs apply only to the following criteria pollutants: NO_x, CO, PM_{10}, and $PM_{2.5}$, and apply only to emissions generated on site. LSTs represent the maximum on-site emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards and are developed based on the ambient concentrations of that pollutant in that area. The SCAQMD divides the Basin into 38 source receptor areas (SRAs) in which 35 permanent monitoring stations operate to measure the ambient concentrations of various air pollutants in the region. The proposed project would be located in the Santa Clarita Valley area, which is designated SRA 13.

The majority of the construction (SGP Facility, SCE Switchyard and SCE Subtransmission Line) is more than 500 meters (approximately 1,640 feet) from the nearest sensitive receptor (located across San Fernando Road from the SCLF entrance). However, construction of the water supply pipeline and telecom line may occur as close as 26 meters (approximately 85 feet) from the receptor located across from the SCLF entrance. As a conservative estimate, analyses were done at a closer distance of 25 meters (approximately 82 feet). The water supply pipeline and telecom line construction would occur during Phase V of the SGPREP construction.

Since concurrent construction activities could occur at various distances from the sensitive receptors, the emissions were compared to the LST at appropriate distances. Both the SGP Facility and SCE Switchyard/Subtransmission Line would be located more than 500 meters from the sensitive receptor. Thus, these emissions were compared to a LST for a distance of 500 meters. The water supply pipeline and telecom installation (projected to occur during Groups 11 through 13) was compared to LSTs for a distance to the sensitive receptor of 25 meters. ~~As the project site, which includes the SGPREP and SCE Switchyard, is approximately two acres in size, the calculated emissions generated are analyzed against the applicable LSTs for a two-acre site at a distance of 500 meters. The nearest sensitive receptor would be approximately 2,700 meters from the proposed site. Additionally, installation of a water supply pipeline and telecom line that would extend from the project site to the landfill entrance is approximately 600 meters to the nearest receptor. Therefore, the distance of 500 meters is considered a conservative measure.~~ Table 4-7 shows the construction emissions from the SGP Facility, the SCE

Switchyard/Subtransmission Line, and the water supply pipeline/telecom line~~provides a comparison of projected localized construction emissions on a pounds per day basis compared to SCAQMD local significance thresholds~~. In addition to construction emissions from the proposed project components, Table 4-7 shows the applicable LST for each component and the ratio of the construction emissions to the applicable LST. If the total ratio is less than 1.0, the emissions would not exceed the significance thresholds and would be less than significant. Complete revised localized construction emission calculations can be found in Appendix D-2 of this Final SEIR. As shown in ~~the t~~Table 4-7, construction emissions for all criteria pollutants are anticipated to be below significant levels and therefore the impact would be less than significant.

TABLE 4-7
Localized Peak On-Site Construction Emissions

Concurrent Activity Groups	**Project Component**	**Total On-Site Construction Emissions ~~in~~ (lbs/day)**			
	Fraction of Threshold	**CO**	**NO_2**	**PM_{10}**	**$PM_{2.5}$**
Group 1	SGP	6	16	3	1
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.001**	**0.05**	**0.02**	**0.02**
Group 2	SGP	32	87	5	4
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.004**	**0.30**	**0.04**	**0.05**
Group 3	SGP	21	55	5	3
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.002**	**0.19**	**0.03**	**0.03**
Group 4	SGP and SCE	21	55	5	3
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.002**	**0.19**	**0.03**	**0.03**
Group 5	SGP and SCE	38	89	7	4
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.002**	**0.30**	**0.05**	**0.06**
Group 6	SGP and SCE	35	79	6	4
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.004**	**0.27**	**0.04**	**0.05**
Group 7	SGP and SCE	31	64	6	4
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.004**	**0.22**	**0.04**	**0.04**
Group 8	SGP and SCE	33	68	6	4
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.004**	**0.23**	**0.04**	**0.05**
Group 9	SGP and SCE	34	68	4	3
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.004**	**0.23**	**0.03**	**0.04**

TABLE 4-7

Localized Peak On-Site Construction Emissions

Concurrent Activity Groups	**Project Component**	**Total On-Site Construction Emissions ~~in~~ (lbs/day)**			
	Fraction of Threshold	**CO**	**NO_2**	**PM_{10}**	**$PM_{2.5}$**
Group 10	SGP and SCE	52	98	7	5
	SCAQMD Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.006**	**0.34**	**0.05**	**0.07**
Group 11	SGP and SCE	52	98	7	5
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	0.01	0.34	0.05	0.07
	Water Pipeline	11	27	1	1
	Significance Threshold	590	114	4	3
	Fraction of Threshold	0.02	0.24	0.35	0.43
	Combined Fraction of Threshold	**0.02**	**0.57**	**0.40**	**0.50**
Group 12	SGP and SCE	54	101	7	6
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	0.0061	0.35	0.049	0.069
	Water Pipeline	11	27	1	1
	Significance Threshold	590	114	4	3
	Fraction of Threshold	0.02	0.24	0.35	0.43
	Combined Fraction of Threshold	**0.03**	**0.58**	**0.40**	**0.50**
Group 13	SGP and SCE	64	116	8	7
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	0.0072	0.40	0.057	0.082
	Water Pipeline	11	27	1	1
	Significance Threshold	590	114	4	3
	Fraction of Threshold	0.02	0.24	0.35	0.43
	Combined Fraction of Threshold	**0.03**	**0.63**	**0.41**	**0.51**

TABLE 4-7
Localized Peak On-Site Construction Emissions

Concurrent Activity Groups	Project Component	Total On-Site Construction Emissions ~~in~~ (lbs/day)			
	Fraction of Threshold	**CO**	**NO_2**	**PM_{10}**	**$PM_{2.5}$**
Group 14	SGP and SCE	40	78	4	4
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.004**	**0.27**	**0.03**	**0.05**
Group 15	SGP and SCE	41	80	4	4
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.005**	**0.28**	**0.03**	**0.05**
Group 16	SGP and SCE	40	83	4	4
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.004**	**0.28**	**0.03**	**0.05**
Group 17	SGP and SCE	26	49	3	2
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.003**	**0.17**	**0.02**	**0.03**
Group 18	SGP and SCE	19	39	2	2
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.002**	**0.13**	**0.01**	**0.02**
Group 19	SGP	3	3	0.24	0.22
	Significance Threshold	8933	291	139	80
	Fraction of Threshold	**0.0003**	**0.01**	**0.002**	**0.003**

Notes:

The SGP Facility construction area is approximately 1,860 meters from the nearest sensitive receptor.
The SCE construction area is approximately 1,200 meters from the nearest sensitive receptor.
The water supply pipeline construction area is approximately 26 meters from the nearest sensitive receptor.

A fraction of threshold value equal to one or greater would indicate a significance impact

4.2.3.4 Regional Operation Impacts

Operation of the proposed project would likely increase air pollutant emissions compared to baseline emissions on a regional level. Based on revised manufacturer's guarantees, operational CO emissions from the proposed project would not be significant. Operational NO_x, VOC, and SO_x emissions from the proposed project would be less than significant with the allocation of ~~PR~~ Priority Reserve offsets. Operational ~~CO and~~ $PM_{2.5}$ emissions from the proposed project would be significant and unavoidable.

Emissions from the proposed project would increase from the current level of emissions generated by flaring, due to differences in the combustion process of the turbines as compared to the flares and between baseline LFG production and project capacity. It is expected that LFG production will increase in the future as solid waste placement increases decomposition of that solid waste (see Figure 3-1). As the supply of LFG increases, it will eventually exceed the capacity of the turbines in the proposed project. At this point, the excess gas would be flared by the existing LFG flares, as required by SCAQMD regulations.

There are two primary differences in combustion between the turbines compared to the existing SCLF flares that impact emissions of criteria pollutants. These differences in combustion are as follows:

1. A pilot flame of LFG on the turbine is used as the ignition source for the main combustion flame and is adjusted to maintain flame temperature and flame stability. Flame stability requires maintaining a higher flame temperature than the flare and results in higher NO_x emissions on a per BTU basis because of greater thermal NO_x generation.
2. The residence time in the combustion chamber of a gas turbine is less as compared to the SCLF enclosed flares. This results in less time for completing the combustion reaction of CO to CO_2 in the gas turbine, and consequently, higher emissions of CO than each SCLF enclosed flare on a per BTU basis. For this project, the turbine manufacturer, Solar Turbines, has guaranteed CO and NO_x levels at or below the current SCAQMD waste gas turbine best available control technology (BACT) levels of 130 ppm for CO and 25 ppm for NO_x. Thus, while the Solar Turbines are believed to have the lowest expected CO and NO_x levels of any electrical generation turbine currently on the market, the substitution of the turbines for the existing flares will still result in an increase in CO and NO_x emissions over the existing flares.

When calculating operational emissions for the SGPREP turbines, the following factors were taken into consideration. Sulfur dioxide formation is a function of the amount of sulfur compounds present in the recovered LFG and is independent of combustion technology; therefore, the amount of sulfur dioxide emitted by the proposed project compared with baseline conditions would be solely a function of the difference between baseline LFG production and project capacity.

The Permit to Construct application for the SGP Facility ~~and Operate Application~~ states:

> "Based on the specified regulatory agency control equipment determinations, the use of the Solar Mercury 50 gas turbines, with dry low-NO_x combustor technology represents Lowest Achievable Emission Rate (LAER) for the production of electricity from medium British thermal units (Btu) waste gas. The proposed NO_x

> emission rate of ~~25~~ 15 parts per million, volumetric dry (ppmvd) is considered achieved in practice (AIP) LAER. The proposed CO emission rate of ~~55~~ 25 ppmvd exceeds (is less than) current AIP LAER determinations. The estimated emission rates for NO_x and CO are based on the manufacturer guaranteed exhaust concentrations of ~~25~~ 15 ppmv and ~~55~~ 25 ppmv, respectively, dry basis, at 15 percent oxygen. The actual exhaust concentrations for NO_x and CO are expected to be lower than the manufacturer guaranteed rates, and, therefore, are expected to produce lower emissions than those presented in the SCAQMD permit application."[25]

Additionally, the permit application states, "proper design and operation of the gas turbine combustion system to achieve a VOC destruction efficiency of 98 percent by weight is AIP LAER for the proposed project gas turbines fueled with LFG."

New, modified, or relocated stationary emissions sources that increase emissions one pound or more per day are subject to emissions offsets pursuant to federal New Source Review requirements and SCAQMD Rule 1303. As an essential public service, the proposed project is exempt from providing its own offsets, per Rule 1304(c)(5). However, in order to demonstrate equivalency with federal offset requirements, the SCAQMD would provide offsets from its internal account. SCAQMD PR offsets are considered to be equivalent to emission reductions. The offset ratio for allocations from the PR is 1.0-to-1.0, pursuant to SCAQMD Rule 1303(b)(2)(A).

Table 4-8 provides a comparison between the measured (baseline) emission rate from the SCLF flares (discussed in Section 3.2.1.4) and the estimated emission rate for operation of the proposed project at its peak capacity. The estimated emission rates for the proposed project are based on manufacturer guarantee values and represent a conservative estimate of emissions. Actual emissions for the proposed project are anticipated to be less. As discussed above, it is expected that LFG production will increase in the future as waste placement increases and the subsequent decomposition of solid waste increases. For example, while LFG recovery under baseline conditions is approximately 7,000 scfm, it is projected that LFG recovery would peak at 16,100 scfm with a methane content of 50 percent. A discussion of emissions associated with the continued flaring of the recovered LFG using the currently utilized SCLF flares owned by SCLF is provided in Chapter 6, Alternatives.

In response to comments submitted on the Draft SEIR regarding significant operational air quality impacts, SCAQMD staff requested that the project proponent identify ways to further reduce significant operational air quality impacts from the proposed project. The project proponent contacted the equipment manufacturer regarding the possibility of further reducing operational emissions. New manufacturer guarantees were provided to the applicant on July 8, 2011 (see Attachment A of Appendix J), which resulted in reduced estimated daily emissions for both NO_x and CO from those reported in the Draft SEIR. The updated manufacturer guarantees are based on inclusion of recent field data from other facilities utilizing the turbines.

[25] New manufacturer guarantees were provided to the applicant on July 8, 2011, which resulted in reduced emission rates presented above. The updated manufacturer guarantees are based on inclusion of recent field data from other facilities utilizing the same model of turbines. This information is included in Appendix E-6 of this Final SEIR. Quotation was updated to include the new manufacturer guarantees.

As a result of the reduced manufacturer guarantees, CO emissions would be less than significant. NO_x, VOC, PM_{10} and SO_x PR offsets applied to the proposed project would result in regional emissions below the significance thresholds and therefore these impacts would be less than significant. Impacts from ~~CO and~~ $PM_{2.5}$ emissions would exceed the thresholds and would be significant. These impacts are further discussed in Section 4.2.5. The application of PR offsets addresses regional impacts and do not apply to localized air quality impacts. Even without offsets, the localized air quality modeling indicated that the proposed project would have a less than significant impact to localized air quality (Section 4.2.3.5).

TABLE 4-8

Estimated Facility Operation Emission Inventory

Processes / Scenario		NO_x (lb/day)	CO (lb/day)	VOC (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$[3] (lb/day)	SO_x (lb/day)
a	SCLF Flare Baseline (2007 – 2009)[1]	124	126	19	19	19	113
b	Total SGPREP Emissions [2]	~~639~~385	~~858~~394	107	113	113	375
b-a =c	Subtotal SGPREP Emission Increases	~~515~~261	~~732~~268	88	94	94	262
d	Offsets Applied to SGPREP per Rule 1303 (b)(2)(A)	~~515~~261	0	88	94	0	262
c-d	Remaining SGPREP Emissions	0	~~732~~268	0	0	94	0
	SCAQMD Threshold of Significance	55	550	55	150	55	150
	Significant?	No	~~Yes~~No	No	No	Yes	No

Notes:
1. Baseline emissions for Oct 2007 through Sep 2009
2. SGPREP emissions at peak capacity (Assume average 245.2 MMBTU/hr heat input, not to exceed 247 MMBTU/hr on a 24-hour average).
3. $PM_{2.5}$ emissions are a subset of PM_{10} emissions and for some combustion sources, $PM_{2.5}$ can represent up to 99 percent of the PM_{10} emissions. This means that if you have 100 pounds of PM_{10}, 99 of the 100 pounds would be $PM_{2.5}$. Thus, using ~~emissions based on~~ the conservative estimate that $PM_{2.5}$ emissions are equal to PM_{10} emissions means that these emissions represent the same emissions, not two different sets of emissions.

Operational emissions from the SCE Switchyard and SCE Subtransmisison Line are considered to be de minimis.
Source: Derenzo & Associates 2010. "Sunshine Gas Producers, LLC Renewable Energy Project: Comparison of Criteria Pollutant and Greenhouse Gas Emission Rates." 22 April. (Derenzo 2010)

The estimated emission rates for the proposed project represent the lowest emissions rates that manufacturers will guarantee~~s~~ in writing (revised manufacturer's guarante~~i~~es provided in Appendix E-6). SCAQMD permit conditions limiting stationary source equipment emissions are typically based on manufacturer's guarantees. Baseline emissions, in contrast, are based on actual emissions data that represent normal operating conditions recorded during a representative time period before release of the NOP/IS for public review. To ensure compliance with permit conditions, operators will typically operate equipment at less than maximum capacity allowed by permit conditions, i.e., manufacturers' guarantees. Although actual operational emissions increase, the difference between the proposed project and baseline during normal operations are anticipated to be less than the emissions increases when comparing the manufacturers' guaranteed emissions rates and the baseline. This is because the proposed project emissions rates could achieve the emissions rates guaranteed by the manufacturer. Emissions calculated using this more conservative approach are quantified and compared to the applicable operation air quality significance thresholds.

4.2.3.5 ~~Analysis of~~Localized Operational Impacts to Ambient Air Quality

Operation of the proposed project would increase criteria pollutant ambient air concentrations. The impact of criteria pollutant concentrations would be less than significant on a localized level.

Air dispersion modeling was conducted to calculate ambient air concentrations of criteria pollutants NO_2, CO, and PM_{10} from the proposed project sources to determine the localized air quality impacts to the nearest sensitive receptors. VOC and SO_x are not required to be modeled under SCAQMD Rule 1303, Appendix A, because they do~~n't~~ not normally contribute to localized air quality impacts. Because $PM_{2.5}$ emissions are a fraction of PM_{10} emissions and the significance thresholds are the same for PM_{10} and $PM_{2.5}$, $PM_{2.5}$ emissions were not modeled but were based on the modeling results for PM_{10}.

The methodology and modeling parameters are included in Appendix ~~D~~E-3. The calculated impacts on ambient air concentrations of the modeled criteria pollutants at the nearest sensitive receptors are presented in Table 4-9. Based on the dispersion modeling, concentrations of NO_2, CO, and PM_{10} at the nearest sensitive receptors would be below significance thresholds. Therefore, no significant adverse localized air quality impacts to the nearest sensitive receptors are anticipated to occur from the operation of the proposed project.

Comments on the Draft SEIR suggested that the SCAQMD did not identify all sensitive receptors located in close proximity to the construction and operation emissions sources from the proposed project. Several of the suggested sensitive receptors noted in the comment letter did not qualify as sensitive receptors and were not further analyzed or had already been evaluated in the Draft SEIR. A reconnaissance survey was conducted in June 2011, and a trailer park that had previously been characterized as unoccupied was identified as potentially being occupied. The trailer park location, however, was included in the analysis of localized operational air quality impacts as it had the potential to be inhabited during operation of the proposed project. As a result, conclusions regarding air quality impacts to sensitive receptors are unchanged.

TABLE 4-9

Results of Criteria Pollutants Air Quality Modeling

Criteria Pollutant	Averaging Time	Significance Threshold (μg/m³)	Concentrations for Proposed Project (μg/m³)	Significant?
NO_2	1-hour	500	~~260~~291	No
	Annual	100	~~41~~38	No
CO	1-hour	23,000	~~5,992~~2,337	No
	~~Annual~~8-hour	10,000	~~4,357~~1,612	No
PM_{10}	~~1-hr~~24-hour	2.5	2.~~0~~1	No
	Annual	1	0.~~47~~36	No

4.2.3.6 Analysis of Impacts to Sensitive Receptors

According to the NOP/IS prepared for the proposed project, operation of the proposed project could expose sensitive receptors to toxic air pollutants. The impact of toxic air pollutant concentrations on sensitive receptors would be less than significant.

A Tier III health risk assessment was performed to calculate residential maximum individual cancer risk (MICR), as well as the residential chronic hazard index (HIC) and acute hazard index (HIA) for non-cancer health risks from ~~toxic air contaminants~~TACs emitted from the proposed LFG-fueled devices to residential receptors. This analysis was conducted as part of the SCAQMD permit application for the SGPREP (Appendix E-1 through E-3). The risk assessment was conducted using the procedures specified in the SCAQMD document Risk Assessment Procedures for Rules 1401 and 212, Version 7.0 and the Permit Application Package L for permit applications deemed complete after July 1, 2005. Rule 1401, New Source Review of Toxic Air Contaminants, requires that new emission units that have the potential to emit ~~toxic air contaminants~~TACs must demonstrate compliance with specified limits for maximum individual cancer risk and acute and chronic hazard indices.

Maximum Individual Cancer Risk, Residents

As stated in Risk Assessment Procedures for Rules 1401 and 212, Version 7.0: "the cumulative increase in MICR shall not exceed: (a) one in one million (1×10^{-6}) if Best Available Control Technology for Toxics (T-BACT) is not used, or (b) ten in one million (10×10^{-6}) if T-BACT is used."

As discussed in the SCAQMD Permit to Construct application documents (Appendix E-1 through E-3), based on the specified regulatory agency control equipment determinations (CARB Guidance, SCAQMD/BAAQMD Guidance, and U.S. EPA RBLC Databases), the use of the Solar Turbines Mercury 50 gas turbines, with dry low-NO_x combustor technology represents LAER for the production of electricity from medium Btu landfill waste gas. The proposed NO_x emission rate of ~~25~~ 15 ppmvd is considered AIP LAER. The proposed CO emission rate of ~~55~~ 25 ppmvd exceeds (is less than) current AIP LAER determinations. Additionally, the turbines are designed to remove a minimum of 98 percent VOCs from the LFG. This represents LAER for VOC removal, and therefore, this would also represent T-BACT for destruction of TACs. Because the proposed project would use T-BACT, the MICR to comply with Rule 1401 is ten in one million. Ten in one million is also the cancer risk significance threshold (see Table 4-1).

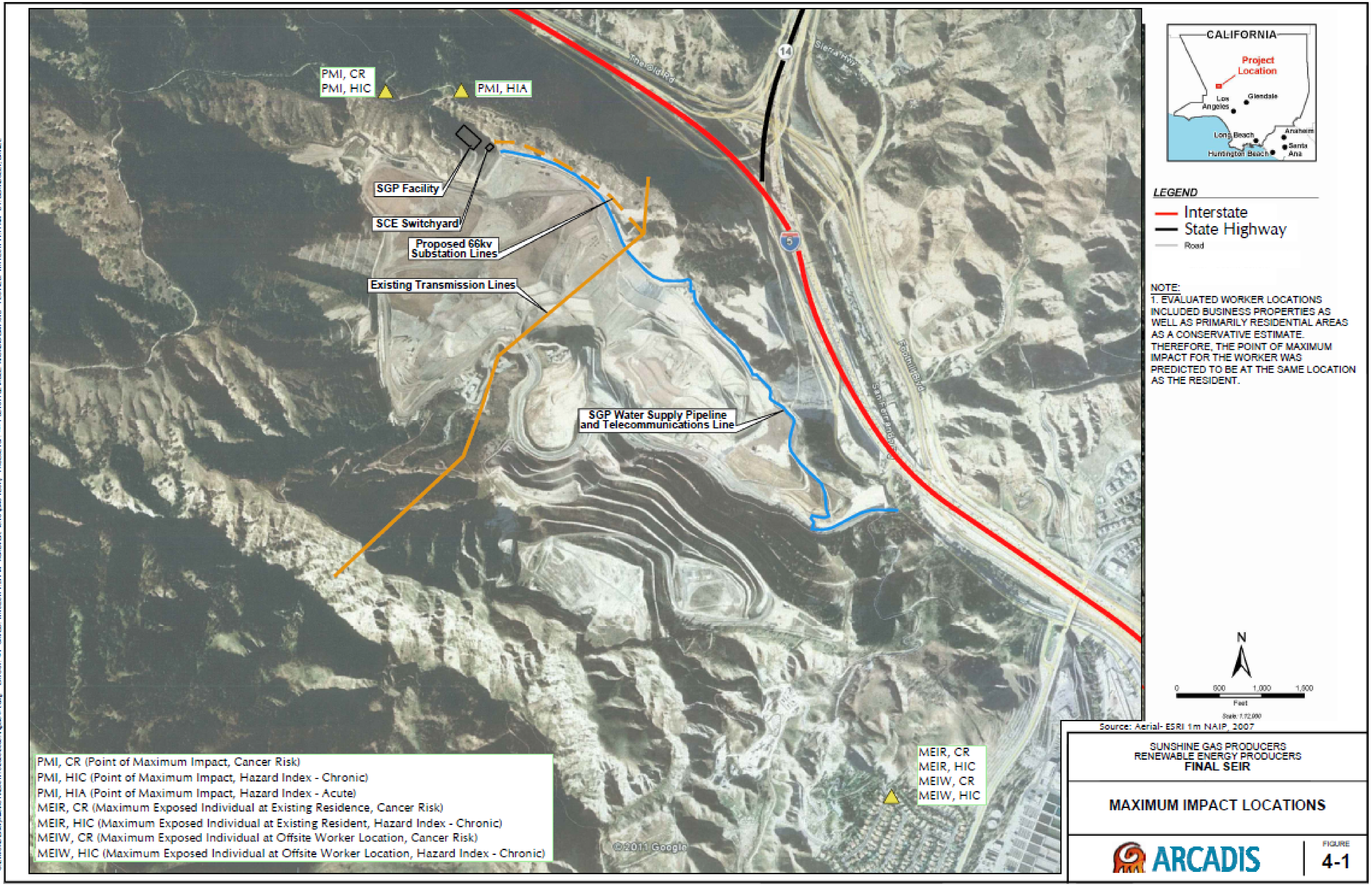
The MICR values calculated at the nearest residential receptors (Figure 4-1) would be less than 0.07 in one million (7.0×10^{-8}). The MICR values calculated for the nearest residential receptors is less than both the T-BACT and non-T-BACT thresholds set forth by Rules 1401 and 212.

Hazard Indices, Residents

A hazard index analysis is a methodology for calculating non-cancer health impacts from short-term exposures to air toxics (acute exposure, or HIA) and long-term exposures (chronic, or HIC). As stated in Risk Assessment Procedures for Rules 1401 and 212, Version 7.0: "for target organ systems, neither the cumulative increase in either the total HIC nor the total HIA due to total emissions from the affected permit unit shall exceed 1.0 for any target organ system, or an alternate hazard index level deemed to be safe." In addition, 1.0 is the significance threshold for both HIA and HIC non-cancer health impacts (see Table 4-1).

The HIA was calculated for each receptor for the combined impact of all chemicals on target organs. The maximum overall HIA value is 6.54 x 10^{-2} (or 0.065), which is less than the unit significance threshold of 1.0. The location of the maximum HIA is presented on Figure 4-1. The location of the maximum overall HIA is in an area where short-term exposure could occur. The HIC values calculated at the nearest residential receptors (Figure 4-1) would be less than 1.3 x 10^{-03} (0.0013). All calculated HIC values would be less than the significance threshold of 1.0.

Further information regarding the modeling method and parameters can be found in the *Air Toxic Evaluation and Health Risk Assessment for Sunshine Gas Producers, L.L.C.* (Derenzo 2009a), provided in Appendix E-3.


PMI, CR
PMI, HIC
PMI, HIA
SGP Facility
SCE Switchyard
Proposed 66kv Substation Lines
Existing Transmission Lines
SGP Water Supply Pipeline and Telecommunications Line
The Old Rd
Sierra Hwy
Foothill Blvd
San Fernando Rd
14
5
MEIR, CR
MEIR, HIC
MEIW, CR
MEIW, HIC
PMI, CR (Point of Maximum Impact, Cancer Risk)
PMI, HIC (Point of Maximum Impact, Hazard Index - Chronic)
PMI, HIA (Point of Maximum Impact, Hazard Index - Acute)
MEIR, CR (Maximum Exposed Individual at Existing Residence, Cancer Risk)
MEIR, HIC (Maximum Exposed Individual at Existing Resident, Hazard Index - Chronic)
MEIW, CR (Maximum Exposed Individual at Offsite Worker Location, Cancer Risk)
MEIW, HIC (Maximum Exposed Individual at Offsite Worker Location, Hazard Index - Chronic)
©2011 Google
CALIFORNIA
Project Location
Los Angeles
Glendale
Long Beach
Huntington Beach
Anaheim
Santa Ana
LEGEND
Interstate
State Highway
Road
NOTE:
1. EVALUATED WORKER LOCATIONS INCLUDED BUSINESS PROPERTIES AS WELL AS PRIMARILY RESIDENTIAL AREAS AS A CONSERVATIVE ESTIMATE. THEREFORE, THE POINT OF MAXIMUM IMPACT FOR THE WORKER WAS PREDICTED TO BE AT THE SAME LOCATION AS THE RESIDENT.
N
0 500 1,000 1,500
Feet
Source: Aerial- ESRI 1m NAIP, 2007
SUNSHINE GAS PRODUCERS
RENEWABLE ENERGY PRODUCERS
FINAL SEIR
MAXIMUM IMPACT LOCATIONS
ARCADIS
FIGURE
4-1

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Impact Assessment

The results of the Tier III health risk assessment indicate that the proposed project would not exceed the cancer risk, HIA, or HIC significance thresholds at any location, including those areas that are regularly occupied by people (i.e., locations of sensitive receptors). Therefore, this impact is considered less than significant.

Furthermore, impacts of TACs would be below SCAQMD HI and MICR limits specified in Rule 1401.

4.2.3.7 Analysis of Impacts to Off-Site Workers

According to the NOP/IS prepared for the proposed project, operation of the proposed project could expose off-site workers to toxic air pollutants. The impact of toxic air pollutant concentrations on off-site workers would be less than significant.

A Tier III health risk assessment was performed to calculate MICR, HIC and HIA from ~~toxic air contaminants~~TACs emitted from the proposed LFG-fueled devices to off-site workers. This analysis was conducted as part of the SCAQMD permit application for the SGPREP (Appendix E-1 through E-3).

Maximum Individual Cancer Risk, Off-Site Workers

As with the sensitive receptor evaluation, the MICR threshold of significance for off-site workers is identified as ten in one million (see Table 4-1).

The calculated overall MICR value from the proposed project is 0.78 in one million (7.8×10^{-7}). The MICR values calculated at the nearest off-site worker area (Figure 4-1) would be less than 0.08 in one million (8.0×10^{-8}). The MICR values calculated for the nearest off-site worker receptors are less than both the T-BACT and non-T-BACT limits set forth in Rule 1401.

Hazard Indices, Off-Site Workers

As with the sensitive receptor evaluation, 1.0 is the significance threshold for both HIA and HIC non-cancer health impacts to off-site workers.

The HIA was calculated for each off-site worker receptor for the combined impact of all chemicals on target organs. The maximum overall HIA value is 6.5×10^{-2} (or 0.065), which is less than the unit significance threshold of 1.0. The location of the maximum HIA is presented on Figure 4-1. The maximum overall HIC value is 7.31×10^{-2} (0.073). The maximum HIC impacts occur to the north of the proposed project in areas that are not regularly occupied by people. The HIC values calculated at the nearest off-site worker receptors would be less than 8.0~~E~~$^{-03}$ (0.008). All calculated HIC values would be less than the significance threshold of 1.0.

Further information regarding the modeling method and parameters can be found in the *Air Toxic Evaluation and Health Risk Assessment for Sunshine Gas Producers, L.L.C.* (Derenzo 2009a), provided in Appendix E-3.

Impact Assessment

The results of the Tier III health risk assessment indicate that the proposed project would not exceed the cancer risk, HIA, or HIC significance thresholds at any location including those areas that are regularly occupied by workers. Therefore, this impact is considered less than significant.

Furthermore, impacts of TACs would be below SCAQMD HI and MICR limits specified in Rule 1401.

4.2.3.8 Odor Impacts

Operation of the proposed project would not create objectionable odors affecting the surrounding community. This impact is considered less than significant.

As discussed in Section 3.2.1.5, several operations at the SCLF may create odors such as waste unloading and movement, decay of waste at the working face, and LFG that evades the collection system. These activities are a part of SCLF operations and not associated with the proposed project because the proposed project involvement with the SCLF LFG starts after collection of the LFG. LFG destruction devices such as the proposed project turbines or the existing flares are not considered to be a source of odors at landfills. The SGPREP would not include expanding the landfill capacity or increasing the amount of waste that can be accepted on a daily, monthly, or annual basis. Additionally, the SGPREP would not change the current operational conditions of the landfill, including the quantity or type of material brought onto the landfill for disposal. The SGPREP would convert LFG to energy that would otherwise be flared under the operational conditions of SCLF to energy. While the SGPREP would not affect the volume of LFG, LFG volumes that would be used by the SGPREP are expected to increase over the baseline, because of the decomposition of existing and future wastes allowed to be disposed of under existing conditions and requirements, as shown on Figure 3-1.

LFG does have an odor associated with it, and under current conditions, LFG is collected and flared to prevent escape into the atmosphere and to prevent odor nuisances. SCLF is required to follow the mitigation measures developed in the MMRS to monitor and test LFG concentrations at perimeter probes, gas collection system headers, the landfill surface, and in ambient air downwind of the landfill once a month or less frequently as required by the SCAQMD. Based on the monitoring results, the LFG collection system must be adjusted and improved. The proposed gas turbines would be additional control devices supplementing the existing flares at the project location and are not expected to be sources of significant odors. As noted in Chapter 3, most odors at landfills result from activities other than the LFG control devices. In addition, the odor causing compounds are either reduced sulfur compounds, such as mercaptans and hydrogen sulfide, or organic compounds, such as ethanol and acetaldehyde. Landfill control devices, such as the turbines that ~~are to~~would be used at SGPREP (and the flares that are currently used), are required pursuant to Rule 1150.1 to control non-methane organic compounds by at least 98 percent and methane by 99 percent. Sulfur compounds in the LFG, including the mercaptans and hydrogen sulfide, are oxidized to sulfur dioxide during combustion in the turbines. Hydrogen sulfide, a sulfur compound, is converted to sulfur dioxide by this process, thereby reducing its noxious odor. As a result, odoriferous emissions, if any, from the turbines would not be any greater than odoriferous emissions from the flares as long as the turbines comply with applicable LFG control requirements. In addition, the temperature and high flow rates of the combustion exhaust serve to enhance the dispersion of any odoriferous compounds that may remain after LFG destruction by either the flare or the turbine, which further reduces potential odor impacts.

Comments were received on the Draft SEIR asserting that the analysis of odor impacts is 'in error." As indicated above, the proposed project does not affect in any way the amount of refuse collected at the SCLF, production of LFG, or any odors associated with LFG. In the~~its~~ simplest terms, the proposed project would replace one odor destruction device, combustion through flaring, with equivalent odor destruction devices, combustion in the gas turbines. However, subsequent to release of the Draft SEIR to the public, a number of regulatory requirements have been imposed by the SCAQMD on SCLF to address odor complaints from the local community. Consequently, potential existing odor impacts associated with SCLF is more appropriately analyzed as a cumulative impact. Therefore, the reader is referred to Chapter 5 for a description of the new odor control requirements placed on SCLF and their effects on cumulative odor impacts.

4.2.4 MITIGATION MEASURES

Mitigation Measure A-1

Use of engines meeting the California Tier 3 off-road compression ignition engine certification standards (Title 13, California Code of Regulations, Section 2423), shall be used~~ when available~~ for the SGP Facility construction and equipment installation (i.e., the five turbines, siloxane removal system, compressors, regeneration gas flare, water supply pipeline, and telecom line). During the selection process for a construction contractor, additional credit will be given to those with Tier 3 engines. If not available, Tier 2 equipment shall be used.

Mitigation Measure A-2

The project proponent shall purchase MSERCs to mitigate significant adverse NO_x air quality impacts in accordance with SCAQMD policies and procedures as outlined below. Applying MSERCs as a construction air quality mitigation measure requires purchasing a sufficient number of MSERCs to offset every pound of pollutant that exceeds the applicable significance threshold based on the analysis of construction air quality impacts in Appendix D-1. SCAQMD has established the following process and procedures for using MSERCs as CEQA mitigation:

1. Comply with the "Revised CEQA Policy and Procedure in Allowing the Use of Emission Credits to Mitigate Significant Air Quality Impacts from Construction Phase" by:
    a. providing a localized air quality modeling analysis to demonstrate that localized NO_2 impacts would be less than significant (see ~~Impact~~ Subsection 4.2.3~~-1~~.3 ~~discussion in this document~~);
    b. demonstrating that the emission credits were derived from emission reduction project(s) through existing SCAQMD protocols (e.g., Rule 1612 – Credits for Clean On-Road Vehicles);
    c. ensuring the credit is current for the time the project takes place meaning the MSERCs have not expired before or during the time period when the emissions from the project would occur;

d. preparing and submitting a monthly report (including equipment usage logs, see Appendix F) within seven days after the end of each construction month to demonstrate that conditions have been met, and to identify the quantity of NO_x MSERCs to be purchased from MSERC brokers.

2. Contact appropriate SCAQMD staff who can provide the list of MSERC brokers.
3. Contact the broker to negotiate the purchase of the amount needed to offset the emissions which exceed the daily significance threshold during the construction phase of the project.
4. Retire the monthly NO_x emission credits within seven days of submitting the monthly report to SCAQMD through one of two means:
   a. Convert the credit amount into a physical certificate which is issued to the purchaser of the credit and is surrendered back to the SCAQMD; or
   b. Establish an MSERC account with SCAQMD and transfer the MSERCs into that account to retire them with the SCAQMD.

To ensure that the project proponent is providing sufficient MSERCs to reduce construction air quality impacts to less than significant, the following procedures shall be followed:

1. The construction contractors shall record the hour meter reading for each piece of equipment and the project applicant shall record all the equipment used and hours of operations.
2. Logs shall be kept to identify distance traveled by each haul truck brought onto the site for the proposed construction project.
3. Third party audits of the recordkeeping system shall be conducted on a monthly basis.
4. The project applicant or consultant shall prepare and submit a monthly report within seven days after the end of each construction month to demonstrate that conditions have been met. The monthly report shall summarize equipment used, hours of operation, NO_x emissions as well as identifying any problems that occur and corrective actions implemented by the contractor. The monthly report shall identify the total number of pounds of NO_x MSERCs needed to offset the proposed construction project's impacts to regional air quality from NO_x emissions.

Additional Evaluation of Potential Mitigation Measures

In response to comments submitted on the Draft SEIR and at SCAQMD staff's request, a report was prepared that presents available technologies and their potential in providing further emission reductions during operation of the proposed project (report included in Attachment A to Appendix J). No technologies were identified that could further reduce operational emissions without creating other potentially significant adverse environmental impacts that would be outside the scope of the environmental analysis in this Final SEIR. In addition, application of several of the technologies was concluded to be infeasible, primarily because the exhaust temperature ranges from the gas turbines were incompatible with the temperature ranges for affective performance of the control technologies. Finally, for most of the technologies surveyed, to achieve a measurable change in the operational emission rate would require installing large scale equipment that could not be accommodated on site due to the space limitations imposed by topography. Therefore, no feasible mitigation measures were identified that could mitigate operational $PM_{2.5}$ emission impacts to less than significant levels.

4.2.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Significant NO_x emission impacts during construction can be mitigated to less than significant through implementing mitigation measures A-1 and A-2. ~~To the extent~~ Tier 3 engines ~~are available~~shall be used for the SGP Facility construction equipment, if not available, Tier 2 engines would be used. To the extent Tier 3 engines are available, NO_x emission would be lower, especially for large equipment, compared to lower tier equipment. Purchase of sufficient NO_x MSERCs will be required to offset NO_x emissions from construction equipment to less than significant levels.

An analysis of potential mitigation measures was conducted to determine if operational ~~CO and~~ $PM_{2.5}$ emissions could be mitigated to less than significant levels. The results of the analysis indicate that there are no feasible mitigation measures that would reduce ~~CO and~~ $PM_{2.5}$ emissions below the level of significance. Source control and the use of on-site offsets and offsite ERCs were evaluated to make this determination as explained in the following paragraphs.

Consistent with SCAQMD Rule 1303 – Requirements, the turbines and auxiliary flare will be constructed using BACT for all criteria pollutants, including ~~CO and~~ PM_{10}. BACT is defined by SCAQMD Rule 1302 as the most stringent emission limitation or control technique which has been achieved in practice for a similar source, found in certain regulations, or determined by the Executive Officer to be feasible. Installation of BACT results in the lowest achievable emission rate for stationary source equipment so, once the stationary source equipment complies with BACT requirements, by definition there are no additional stationary source controls that would be feasible that could provide further control of ~~CO and~~ PM_{10} emissions.

$PM_{2.5}$ ~~is not currently included in the~~was recently included in SCAQMD's Regulation XIII – New Source Review, regulation; ~~so~~however, the project does not qualify as a major source of $PM_{2.5}$ and therefore $PM_{2.5}$ emission increases are not subject to BACT requirements. However, BACT for PM_{10} is also considered to be BACT for $PM_{2.5}$. Since a large fraction of PM_{10} is comprised of $PM_{2.5}$ (up to 99 percent for some stationary sources), controlling PM_{10} emissions by complying with PM_{10} BACT requirements, will also serve to reduce $PM_{2.5}$ emissions.

Evaluation of potential ~~CO and~~ $PM_{2.5}$ mitigation options indicated that there are no on-site surplus emission reductions available that could help mitigate significant adverse ~~CO or~~ $PM_{2.5}$ impacts. As noted above, SGPREP emissions sources are designed to be constructed using BACT for ~~CO and~~ PM_{10}, which also reduces $PM_{2.5}$ emissions. Accordingly, there are no additional reductions of ~~CO and~~ $PM_{2.5}$ that can be obtained from the new SGPREP stationary sources. The ~~only other emission sources at the proposed project site are the~~ three existing enclosed flares~~, which~~ will need to remain fully operational to continue complying with SCAQMD Rule 1150.1 ~~even~~ as LFG increases in the future to levels that would ultimately exceed the combustion capacity of the five new gas turbine generation sets. Similarly, there are virtually no existing or future operational mobile sources at the SGPREP site, which could be used to provide mitigation in the form of reducing the number of vehicle trips or replacing existing vehicles with cleaner or alternative fueled mobile sources. Consequently, there is no potential for on-site emission reductions of ~~CO and~~ $PM_{2.5}$ from stationary or mobile sources.

~~Since $PM_{2.5}$ has not yet been incorporated into Regulation XIII, $PM_{2.5}$ ERCs are currently not available because they are not needed for any regulatory compliance. Proposed~~ Rule ~~(PR)~~ 1325 – Federal $PM_{2.5}$ New Source Review ~~– would~~ establishes the SCAQMD $PM_{2.5}$ New Source Review (NSR) program[26]. The staff report for ~~the current version of PR~~ Rule 1325 states that $PM_{2.5}$ ERCs will be generated from the existing universe of PM_{10} ERCs (based on an apportioning analysis approved by the U.S. EPA) or from future $PM_{2.5}$ reductions[27]. Based on the above information, it is unlikely that $PM_{2.5}$ ERCs would be available to mitigate $PM_{2.5}$ impacts from the proposed project because there have been no protocols established for generating $PM_{2.5}$ ERCs at this time.~~, and therefore are not available.~~

~~CO ERCs are currently available, even though CO offsets are no longer required because the district has been designated as in attainment with the national ambient air quality standards for CO. According to Table 4-8 of this SEIR, 182 lbs/day of CO offsets would have to be purchased (732 lbs/day – 550 lbs/day = 182 lbs/day) to reduce the proposed project's CO emissions to below a level of significance. Prices for CO ERCs cannot be easily predicted because there is no longer a market for them. The cost for the last ERCs traded was $1,000.00 per pound per day in December 2010[28]. At that cost, CO ERCs to reduce the proposed project's CO emission to below a level of significance would be $182,000. Increasing project costs by this additional amount without an increase in profitability would serve as a strong disincentive for pursuing the proposed LFG-to-energy project and would not meet project objectives #2, #3, and especially #4, which is to incentivize projects of this type, or #5, which is to provide a source of renewable energy as cost effectively as possible.~~

4.3 CULTURAL RESOURCES

4.3.1 INTRODUCTION

The NOP/IS determined that the proposed project would have a less than significant impact on cultural resources. Comments received during the public comment period advocated for additional analyses of cultural resources. The potential impacts of the proposed project on cultural resources are evaluated in this section.

Previous environmental analyses of cultural resources at SCLF have resulted in the development of mitigation measures to reduce potentially significant environmental impacts of landfill activities to less than significant, as specified in the SCLF MMRS (Measures 5.01, 5.02, 5.05,

[26] ~~Proposed~~ Rule 1325 was adopted on June 3, 2011 and would apply to new $PM_{2.5}$ major sources with a potential to emit of 100 tons per year (tpy) or existing modified or relocated major sources with potential increases of 100 tpy or more of $PM_{2.5}$ or its precursors. ~~, which means~~Based on the analysis of operation emissions impacts, the proposed project ~~would~~ is not ~~be~~ subject to $PM_{2.5}$ offsets ~~if this rule were currently in effect~~. ~~Proposed Rule 1325 is expected to be considered for adoption by the SCAQMD's Governing Board at the June 3, 2011 public hearing, subject to change.~~

[27] SCAQMD. ~~Draft~~ Staff Report, Proposed Rule 1325 – Federal $PM_{2.5}$ New Source Review Program, ~~April 6~~June 2011. ~~http://www.aqmd.gov/rules/proposed/1325/Draft_Staff_Report_040511.pdf~~ http://www.aqmd.gov/hb/attachments/2011-2015/2011Jun/2011-Jun3-023.pdf

~~[28] Nicole Shaughnessey, Evolution Markets, April 20, 2011. Personal communication to Joe Hower, ENVIRON.~~

and 7.05). The proposed SGP Facility and SCE Switchyard would be constructed within a previously disturbed area and would generally not require disturbing native soils. However, the installation of the proposed water supply pipeline and SCE Subtransmission Line~~,~~ would disturb native soils. Therefore, applicable mitigation measures to ensure compliance with the current landfill CUP requirements would be adopted for the proposed project. The following mitigation measures listed in the Archeological, Historical, and Paleontological sections of the SCLF MMRS, apply to the proposed project.

> **MMRS 5.01**: Prior to the commencement of initial earth excavation, specific sections of the landfill project area would be surveyed as a precautionary measure to minimize potential loss of undiscovered archaeological or paleontological resources. Specific sections of the project area to be surveyed would be determined by the intended cut and fill areas proposed for landfill development. As new areas for excavation are identified by the permittee, an evaluation of the need for surveying of those areas would be made based on prior survey results and consultation with the appropriate technical specialists. Factors to be considered for delineation of areas to be surveyed would be known site selection factors associated with aboriginal groups suspected of having inhabited the general area. These factors include: proximity to water; the type of local vegetation (e.g., food source, shelter, and fuel); and the topography (e.g., slope and aspect).

> **MMRS 5.02**: An archaeologist and paleontologist would be on site during major infrastructure work which requires significant excavation. In the event that archaeological and paleontological resources are discovered during grading or excavation, the archaeologist and/or paleontologist shall be allowed to redirect grading away from the area of exposed fossils to allow sufficient time for inspection, evaluation, and recovery.

> **MMRS 5.05**: Archaeological resources recovered during surface collection, subsurface excavations, and monitoring, with related records, notes, and technical reports, shall be curated at a regional repository approved by the County.

> **MMRS 7.05:** Equipment operators involved in excavation shall be made cognizant of the potential presence of existing unrecorded subsurface wellheads. If a wellhead (or other unidentifiable obstruction) is encountered during construction, all excavation activities shall cease. The area will be cordoned off, and the landfill supervisor shall be called to determine whether the obstruction is an abandoned wellhead.

4.3.2 SIGNIFICANCE CRITERIA

The following significance criteria are adapted from and are consistent with the CEQA Guidelines, Appendix G, *Environmental Checklist*. In accordance with the CEQA Guidelines, the proposed project would result in a significant impact to cultural resources if it would:

a. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5.

b. Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5.

c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

d. Disturb any human remains, including those interred outside of formal cemeteries.

4.3.3 ENVIRONMENTAL IMPACTS

The proposed project would include soil disturbance associated with site preparation activities. As discussed in the NOP/IS, the installation of the SGP Facility, SCE Switchyard and SCE Subtransmission Line (collectively considered the proposed project in the NOP/IS) would generally occur within areas that have been previously disturbed by historical landfill activities. The water supply pipeline installation, which was added to the project description in response to a comment from Los Angeles County Department of Public Health (Appendix C, Comment 7-2), could impact native soils. The proposed project would incorporate the relevant mitigation measures identified above to ensure that previously identified significant impacts relevant to cultural resources would be reduced to less than significant levels.

One comment letter was received from the Native American Heritage Commission during the Initial Study comment period requesting further analysis of historical and archeological resources through a records search. In response to the comment letter, a revised records search was conducted on January 28, 2010 (~~Minch and Associates~~JMA 2010). As described in Section 3.3, the records search included an in-person review of survey and site files at the SCCIC in Fullerton, historic GLO, USGS, and USACE maps, the National Register of Historic Places, the California Register of Historical Resources, California Historical Landmarks, California Points of Historical Interest, and the California Directory of Properties, also known as the Historic Resources Inventory. The area reviewed for previously recorded archaeological sites and historic structures included the SCFL property and adjacent areas within a one-mile radius of the property.

The cultural resources impacts were re-evaluated based on the results of the revised records search and site walk conducted and reported in a Phase I CRA ~~2010~~ by ~~John Minch and Associates~~JMA (JMA~~Minch and Associates~~ 2010; report is included as Appendix G in Draft SEIR). Following public review of the Draft SEIR, JMA prepared a Revised Phase I CRA in October 2011 ~~to~~which included the small additional disturbance areas associated with the water supply pipeline installation and maintenance grading for a roadway associated with the SGPREP (Appendix G of this Final SEIR). The Revised Phase I CRA included a Sacred Lands File Check (June 7, 2011), which confirmed previous findings that no sensitive Native American sites have been recorded within the proposed project area. Additionally, the Revised Phase I CRA included field reconnaissance of the proposed project area on August 26, 2011, which did not identify any prehistoric or historic resources. As described below, the proposed project would not create new significant impacts to cultural resources.

4.3.3.1 Cultural Resources Impacts from Construction Activities

Construction of the proposed project would not cause a substantial change in the significance of a historical or archaeological resource as defined by §15064.5, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or disturb any human remains. This impact would be less than significant.

The surrounding area adjacent to the proposed project has been used for refuse disposal since the 1950s (Figure 2-3) and prior to that time was the site of active oil exploration and extraction, with many abandoned well heads and drilling platforms still in existence. Previous records searches and on-site surveys indicate that there are two historical resource sites within the vicinity of the proposed project water supply pipeline, as discussed in Section 3.3.1.1. As a result, the proposed project incorporates the mitigation measures listed in the Archeological, Historical, and Paleontological sections of the SCLF MMRS (Measures 5.01, 5.02, 5.05, and 7.05), as described in Section 4.3.1.

Based on the potential presence of the historical resource sites, ~~a~~ field walks were~~as~~ conducted on March 14, 2010 and August 26, 2011 by ~~John Minch and Associates~~JMA (~~Minch and Associates~~JMA ~~2010~~2011). The records search failed to indicate the presence of any recorded prehistoric or historic resources within the boundaries ~~of either the power plant site location or the power pole alignment~~of the proposed project. Neither of the two surviving archaeological sites in the near vicinity of the project (Primary # 19-002369 [LAN-2369] and Primary # 19-002370 [LAN-2370]) would be adversely impacted by the proposed project, as they have been removed for curation. Furthermore, no prehistoric or historic resources of any kind (including human remains) were identified as a result of the recently completed field investigation. Additionally, the ~~2010~~ 2011 study included inquiries with Native American individuals and groups provided on the Native American Heritage Council's consultation lists which did not result in identification of cultural resources within the proposed project area.

There is a high degree of probability that the marine sedimentary rocks (Miocene-early Pliocene Towsley Formation) that underlie the canyon may contain undiscovered paleontological resources. Although many of the fossils likely to be encountered would be common marine invertebrate fossils, there is high potential for scientifically valuable vertebrate fossils to be present as well. During earth disturbing activities associated with the Sunshine Canyon Extension, 81 fossil localities consisting of 748 observed fossils were discovered (~~Minch and Associates~~JMA 1999). Seven fossil localities were identified within the City portion of SCLF during the March 1997 field surveys. Although these localities were not identified as containing significant paleontological resources the Towsley formation could contain significant fossils adjacent to areas proposed for development. (JMA~~ohn Minch and Associates~~ 1997). Implementation of applicable SCLF MMRS measures, as discussed in Section 4.3.1, would reduce any potential significant effects to a less than significant level.

The composition and structure of geological features and the fossils contained within them provide information about earth history and past environments. Unique geologic features are considered bedrock formations or geomorphic features of unusual scientific or aesthetic value, including fossil localities or "type sections" (i.e., locations defining the characteristics of a formation) that preserve with great detail the record of important past environments, or that are deemed of high value to academic or research interests. Although all geologic formations contain similar features, a feature is generally considered unique if it is the best or a rare example of a particular feature locally or regionally, contains a mineral that is not known to occur elsewhere in the County, or is repeatedly used as a teaching tool. No unique geological features are known to occur at the Site and no impacts to unique geological features would occur; therefore, no further discussion of such impacts will be provided in this document.

The results of the recent records search and site walks indicate that site disturbance activities associated with the proposed project would require that excavation areas be resurveyed prior to initial earth excavation. Results of surveying these areas of the site would determine if further monitoring during excavation activities is required to protect cultural resources at the site. Therefore, this impact is considered less than significant.

4.3.4 MITIGATION MEASURES

No significant impacts associated with cultural resources are expected from the proposed project. Mitigation measures from the existing MMRS (Measures 5.01, 5.02, 5.05, and 7.05) are currently in place to address potential impacts to cultural resources. Therefore, no additional mitigation measures are required.

4.3.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project impacts for cultural resources are expected to be less than significant.

4.4 ENERGY

4.4.1 INTRODUCTION

The NOP/IS determined the proposed project would have a less than significant energy impact. However, the NOP/IS also stated that energy impacts would be addressed in the Draft SEIR due to SCE's procedural requirements relative to the SCE Switchyard and Subtransmission Lines. Therefore, the potential energy impacts from the proposed project are evaluated in this section.

4.4.2 SIGNIFICANCE CRITERIA

The impacts to energy resources would be considered significant if any of the following criteria are met:

a. The proposed project conflicts with adopted energy conservation plans or existing energy standards.

b. The proposed project results in the need for new or substantially altered power or natural gas utility systems.

c. The proposed project creates any significant effects on local or regional energy supplies and on requirements for additional energy.

d. The proposed project would create any significant effects on peak and base period demands for electricity and other forms of energy.

4.4.3 ENVIRONMENTAL IMPACTS

The proposed project would be connected to the SCE 66 kV subtransmission system through the ~~SGP Facility~~SCE Switchyard that would be constructed for the proposed project. The proposed project would convert the existing LFG that is currently flared into a useful energy source ~~through the construction of the SGP Facility on the SCLF site~~. Once the SGP Facility is constructed, one to three MW of capacity and energy would be required from SCE to startup the first turbine for a period of up to one to two hours. After the first turbine is operational, electrically connected to SCE's subtransmission system, and generating electricity, the SGP Facility would generate sufficient energy to provide for the internal use of the plant auxiliary equipment. The proposed project would use electricity from the SCE grid during startup and when the entire SGP Facility is not operating.

The proposed project would consume approximately 15 to 17 percent of the total energy generated from the LFG to supply internal auxiliary equipment loads. The electricity generated by the facility would not be connected or supplied to the existing landfill electricity distribution system. Instead, the electricity generated by the facility would be delivered to the SCE subtransmission system for delivery into the bulk power system. There is an Interconnection Agreement between SCE and SGP under which the SCE Subtransmission Line and SCE Switchyard will be installed. Additionally, as a new energy source, the proposed project would not create any significant adverse impacts on peak and base period demands for electricity and other forms of energy.

4.4.3.1 Construction Impacts to Energy Resources

Construction of the proposed project would use nonrenewable energy resources, primarily in the form of fuels for vehicles and equipment, and would use electrical energy (from the grid) for tools and lighting. The energy required would not result in a substantial use of regional energy sources, nor would it require new energy infrastructure to be constructed. Construction impacts to energy resources would be less than significant.

Energy expenditures to construct the proposed project would include both direct and indirect uses of energy. Combustion of diesel fuel and gasoline needed to operate construction equipment would be a part of the direct energy use. Though construction energy would be consumed only during the construction period, it would be a relatively small, but irreversible drain on finite natural energy resources. The total supply of diesel fuel or gasoline within California could adequately accommodate the proposed project.

Construction of the proposed project's major components would take place over a period of approximately ~~27~~ 24 months. Construction would consume fuel and electricity, along with indirect energy for materials used in the proposed project facilities. Electricity would be used by construction-related equipment, such as welding machines and power tools.

Given the proposed project's objective to utilize LFG as a renewable energy source, construction of the proposed project would not be considered to be a wasteful use of energy. Construction energy consumption would be limited to the construction periods and would primarily be in the form of petroleum-based fuels. Energy consumed by construction activities would be a less than significant environmental impact.

4.4.3.2 Operational Impacts to Energy Consumption

Operation of the proposed project and its components would increase long-term generation of electrical energy and would require a one-time increase in short-term consumption of energy. This would be a less than significant impact.

The proposed project includes the installation of five gas turbines as described in the Project Description (Chapter 2). At peak capacity, the proposed project would generate up to 20 MW net of electricity which would enter the grid for sale to a third party. As a renewable energy project, in the near term it has the potential to displace production of a small percentage of electricity that would otherwise be produced using fossil fuels using less equipment, which equates to higher emissions per MW. Further, the proposed renewable energy project ~~will~~would not only contribute to the goals of the RPS, but would provide~~s~~ a stable source of electricity compared to other clean energy projects such as wind or solar power projects that may be susceptible to interrupted service because of weather conditions.

As previously discussed, following the completion of construction, in order to start the first turbine the plant would require one to three MW of capacity and energy from SCE for a period of up to one to two hours (i.e., one to six megawatt-hours). After the first turbine becomes operational, electrical~~ly~~ lines ~~are~~ would be connected to SCE's subtransmission system, and the turbines ~~are~~ would ~~generating~~ generate electricity, the facility would generate sufficient energy to provide for the internal use of the plant auxiliary equipment. The proposed project would be self-sufficient with regard to electrical demand as it is expected to consume approximately 15 to 17 percent of the total energy generated from the LFG to supply internal auxiliary equipment loads.

The draw on the grid for startup activities is minor in comparison to the 20 MW production of renewable energy that can be used to meet the State of California's mandated RPS.

This impact would not only be less than significant, but once operational, would provide a stable source of electricity that would help meet the goals of the RPS.

4.4.4 MITIGATION MEASURES

No significant impacts associated with energy are expected from the proposed project, so no mitigation measures are required.

4.4.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project impacts for energy are expected to be less than significant.

4.5 GEOLOGY AND SOILS

4.5.1 INTRODUCTION

The NOP/IS completed for the proposed project concluded that there would be no additional impacts to geology or soil properties within the vicinity of the proposed project site beyond those identified in the 1999 Final SEIR. As was determined in the NOP/IS and discussed further in Section 3.5, the proposed project site is not located within an earthquake fault zone and would not be impacted by rupture of a known earthquake fault. This determination was based on the Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of known faults. Similarly, according to the Seismic Hazard Zones Map for the Oat Mountain Quadrangle prepared by the California Department of Conservation, the project site is not located within a liquefaction zone (CGS 1998). Therefore, these geotechnical issues would not require additional review. However, the Draft SEIR incorporates a revised waste management system for employee sanitary facilities from that described in the NOP/IS. Specifically, the proposed project includes the installation of a septic system for wastewater disposal associated with the employee sanitary facilities which necessitates an evaluation of soil compatibility with such a system. Additionally, a comment letter was received from Los Angeles County Department of Public Works during the Initial Study comment period requesting that geotechnical issues discussed in the NOP/IS be addressed in the Draft SEIR. In response to the comment letter, the preliminary geotechnical report by AMEC (AMEC 2009, Appendix ~~F~~H-1) has been further evaluated, along with multiple USGS geologic reports, and the following impact analyses have been revised accordingly.

The following mitigation measures from the current SCLF MMRS (Appendix B) would be required of the proposed project to ensure compliance with the current landfill CUP requirements and to reduce potentially significant impacts to less than significant levels:

> **MMRS 1.02**: Final designs for major engineered structures will be based on the results of the detailed stability analyses of potential seismic events. Final cut slopes shall be no steeper than 1.5:1 (horizontal to vertical ratio excluding benches).
>
> **MMRS 1.06**: All grading activities shall be performed in accordance with applicable provisions of the County Code and with the rules and regulations as established by the County Department of Public Works.
>
> **MMRS 1.07**: All grading activities shall be in compliance with specific requirements provided in a comprehensive geotechnical report prepared specifically for the proposed project, including provisions for excavation approved by the County Department of Public Works, the County Local Enforcement Agency (LEA) and other Responsible Agencies.
>
> **MMRS 1.11**: Grading allows for ancillary facilities outside of the landfill footprint.
>
> **MMRS 1.13**: Revegetation and erosion control of all exposed slopes will be an ongoing process. The erosion controls to be implemented at the site would include soil stabilization measures and revegetation in accordance with the approved Revegetation Program. The installation of interceptor ditches shall be designed for the diversion of storm-water runoff to sedimentation basins. Sediment traps would be used at points of runoff concentration along the perimeter of exposed slopes surfaces.

The proposed project would be required to incorporate the relevant mitigation measures identified above to ensure that previously identified significant impacts relevant to geologic and soil conditions within the proposed project location would be reduced to less than significant levels. Requirements for mitigation measures including monitoring actions, responsibility, and other requirements are listed in Appendix B. Additionally, ~~there are strict design requirements defined in~~ the CBC (California Building Code Standards Commission 2010~~CBC 2007~~) includes strict design requirements that would ensure that the proposed project is appropriately designed for the geologic hazards present in the surrounding area.

4.5.2 SIGNIFICANCE CRITERIA

The impacts on the geological environment would be considered significant if any of the following criteria apply:

a. Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil

b. Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.

c. Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.

d. Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.

e. Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

As discussed in Section 4.5.1, impacts to geology and soil properties were included in the Draft SEIR to evaluate soil compatibility to a septic system and additional geotechnical information. Therefore, geotechnical issues and impacts, specifically those related to criteria c) through e), are analyzed.

4.5.3 ENVIRONMENTAL IMPACTS

4.5.3.1 Seismic Activity Impacts

The proposed project would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking, or seismic-related ground failure including landslides. This impact would be less than significant.

A summary of active faults located in the vicinity of the site, including distance to the site, slip rate, maximum moment magnitude, and peak site acceleration, is provided in Table 3-6. The location of these faults with respect to the proposed project site is illustrated on Figure 3-5. The identification of nearby active faults is based on a recent search of nearby fault locations using a geotechnical computer program based on Cao et al. (Cao 2003). As indicated in Table 3-6, the closest active faults to the landfill are the Santa Susana Fault located approximately 0.9 mile from the site, and the San Fernando-Sierra Madre Fault located approximately 2.7 miles from the site, both of which are part of the Sierra Madre Fault Zone. The Santa Susana, San Fernando, Sierra Madre and Cucamonga Fault Zones are four basic units of this fault zone.

In general, the Sierra Madre-Cucamonga Fault Zone marks the southern margin of uplift of the San Gabriel Mountains, although the Santa Susana Fault extends the zone of south-vergent uplift west of these mountains. Published slip rates vary widely along the fault zone from two mm/yr or less near the Sierra Madre Fault to greater than five mm/yr near the Santa Susana Fault. Similarly, recurrence intervals (average time span between large earthquakes at a particular site) vary widely from as long as seven to eight thousand years or longer for magnitude earthquakes greater than or equal to seven, to approximately four thousand years on the San Fernando Fault Zone/Segment (Treiman 2000).

If an earthquake were to occur on either of these two faults, the estimated peak ground acceleration in the vicinity of the project location would likely range from $0.526g_n$ to $0.622g_n$, as presented in Table 3-6 of this ~~Draft~~ Final SEIR and Appendix H-1 and cause strong seismic ground shaking. Additionally, according to the Seismic Hazard Zones Map for the Oat Mountain Quadrangle prepared by the California Department of Conservation, the project site is located in an earthquake induced landslide area (CGS 1998).

In order to further assess the potential impacts due to these geologic hazards, AMEC conducted a preliminary geotechnical evaluation of the proposed project site (AMEC 2009). The preliminary geotechnical evaluation is provided as Appendix H-1. As stated in the geotechnical report, exploratory investigations within SCLF indicated that landslide deposits are relatively scarce within the landfill site, although the north-facing slope (down-slope from SCLF Flare No. 8, and referred to ~~herein~~ as "the north slope") adjacent to the project site has historically exhibited some slope instability. As discussed in Subsection 3.5.1.2, since the publication of the Draft SEIR, AMEC conducted an extensive field exploration and laboratory testing program, which concluded that the north slope is globally stable, would meet LA County stability criteria, and would not require mitigation measures to improve stability. The revised geotechnical report is provided in Appendix H-3 of this Final SEIR.

~~Recent geologic and geotechnical models of the area have been developed using a revised dip of the bedrock bedding in the north slope, and the USGS recommended cross-bedded strength of bedrock for geologic materials identified at the site (A-Mehr 2006; A-Mehr 2008). These recent modeling parameters are considered conservative for the purpose of evaluating slope stability and determining the need for engineering controls to protect people and structures from the ground shaking and earthquake induced landslides. As required by the Los Angeles County General Plan (Los Angeles County 1980), if geologic and soil reports indicate that the project site is affected by potentially hazardous geologic, seismic, or slope stability conditions, the County Engineer shall require, in compliance with the County Building Code, mitigation measures to safeguard life, health and property. Specifically, the County will require that a geotechnical report be provided to address all relevant issues in Special Publication 117 developed by CGS, including evaluating the stability of the north slope. In the absence of site-specific data, conservative modeling parameters would be used to provide the County with the necessary geotechnical information for site development activities.~~

The Los Angeles County Building Code (Los Angeles County ~~2008~~2011) is based on the codified 20~~07~~10 CBC and is enforceable by law. The proposed project would be required to design all components of the renewable energy plant according to the CBC earthquake design requirements based on the appropriate SDC classification. Facilities that meet CBC design standards have a built in factor of safety to protect people and structures from risk of loss, injury, or death involving strong seismic ground shaking or seismic-related ground failure including landslides, among other important geologic hazards. As required by the County Building Code, the SGPREP would comply with all applicable building requirements for the SDC C or D classification. This impact would be less than significant.

4.5.3.2 Soil Erosion Impact

Construction and operation of the proposed project would not result in substantial soil erosion or the loss of topsoil. This impact would be less than significant.

Erosion, runoff, and loss of top soil are influenced by several factors including climate, topography, soil and rock types, and vegetation. Construction activities and sites with poor drainage designs have the potential to increase soil erosion. Specifically, grading activities could increase the potential for erosion and sedimentation by removing protective vegetation, altering natural drainage patterns, compacting the soil, and constructing cut-and-fill slopes that may be more susceptible to erosion than the natural condition. Development~~s~~ also reduces the surface area available for infiltration, leading to increased flooding and sedimentation downstream of the project site.

However, the proposed project would be subject to the SWRCB's NPDES General Construction Storm Water Permit requirements because construction sites greater than one acre are required to prepare and implement a SWPPP to control for, among other pollutants, erosion and sedimentation generated during construction activities (see Sections 3.6 and 4.6). The SWPPP would outline various procedures to reduce sedimentation and would list BMPs required to control runoff and to keep sediment, construction debris, and petroleum-based fuels from entering the surface water. The monitoring and reporting program required as part of the NPDES permit would ensure that BMPs are adequately installed and maintained and the overall performance of the BMPs are reported annually to the RWQCB. BMPs could include silt fences, vegetated swales, source control, and temporary protection of exposed soil. Additionally, the proposed project would comply with the SCAQMD Rule 403, which, in addition to reducing potential air quality impacts due to fugitive dust emission, also helps minimize soil erosion.

Development of the proposed project includes approximately 43,000 square feet of increased impervious surfaces, as a result of constructing pads on which equipment and structures would be placed. However, because the proposed project would be located within the boundaries of SCLF, the proposed project would be required to implement applicable mitigation measures from the ~~1993 Final EIR, 1999 Final SEIR, and the~~ SCLF MMRS. Applicable mitigation measures would be incorporated into the SWPPP. Specifically, erosion controls to be implemented at the site would include soil stabilization measures and revegetation in accordance with the approved SCLF Revegetation Program. The installation of interceptor ditches ~~shall~~ would be designed for the diversion of storm-water runoff to sedimentation basins, and sediment traps would be used at points of runoff concentration along the perimeter of exposed slopes surfaces. Additionally, all structures would be required to conform to the ~~2007~~ 2010 CBC (~~CBC~~ California Building Code Standards Commission 2010~~2007~~) and Los Angeles County Building Code (Los Angeles County ~~2008~~2011) slope stabilization and erosion control requirements. Consequently, erosion is not a potential geologic hazard for the project site during post-construction conditions.

Considering the existing regulatory mechanisms, which require monitoring and reporting of water quality protection measures to manage storm water discharge and water quality during construction, CBC and County code requirements, as well as the previously established mitigation measures for SCLF, this impact would be less than significant.

4.5.3.3 Soil Stability Impacts

The proposed project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. The proposed project would not be located on expansive soil creating substantial risks to life or property. This impact is less than significant.

Landslide impacts are discussed in Section 4.5.3.1, and determined to be less than significant.

The proposed project would be located within an area that has been previously graded due to landfill activities. As part of the site preparation, the site plan includes raising the elevation of the building area by approximately 20 to 50 feet using imported fill material. Currently, site soils consist of silty sand with minor clay and gravel components and the fine fraction is of low to medium plasticity. Mitigation measures (Section 4.5.1) that are part of SCLF MMRS~~R~~ would require that all grading activities be in compliance with specific requirements provided in a comprehensive geotechnical report prepared specifically for the proposed project, including provisions for excavation approved by the County Department of Public Works, the County LEA and other Responsible Agencies. As stated in Section 4.5.3.1, a preliminary geotechnical study (AMEC 2009) was conducted to assess potential impacts due to geologic hazards. The County of Los Angeles, Department of Public Works submitted a comment on the Draft SEIR stating that the factor of safety for the north slope identified in the geotechnical study did not meet the Department's minimum standard and, therefore, additional mitigation measures were necessary. In response to this comment a revised geotechnical study was prepared. The ~~comprehensive~~ revised geotechnical report ~~will~~ (Appendix H-3) is~~be~~ based on an extensive field sampling and laboratory testing program conducted in 2011, which determined that the north slope would be globally stable and meet County of Los Angeles, Department of Public Works' soil stability requirements without requiring additional mitigation measures. ~~the~~The ~~preliminary~~ revised geotechnical report to be provided to the County of Los Angeles, Department of Public Works~~(AMEC 2009)~~ includes the results of the field and laboratory testing programs~~ and~~, will be supplemented with additional information from the finalized design, ~~based on the overall CEQA document requirements~~ and will include an engineered fill and grading permit. ~~Through the process of obtaining a comprehensive geotechnical report prepared specifically for the proposed project, the soils present would be evaluated to ensure that they meet relevant standards for the proposed project building design.~~ Additionally, as part of the facility permitting process, the building site and fill material would be required to be of appropriate engineering quality to reduce the risk of geologic hazards such as subsidence, collapse, or expansive soils, as described in the CBC (California Building Code Standards Commission 2010~~CBC 2007~~). Therefore, this impact is less than significant.

4.5.3.4 Soil Compatibility with Septic System

The proposed project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. This impact would be less than significant.

The proposed project includes the installation of a septic system to manage wastewater discharge associated with the employee sanitary facilities. A septic system receives wastewater and solids from the sanitary facilities and then disposes of the effluent from the waste by permitting it to absorb into soils at the property in an area designated for draining the system. Proper septic system design for the level of usage and soil conditions is critical if the system is going to have a long useful life. The septic system would be designed to support the two to three full-time employees that would operate the SGPREP. In order to ensure that the drain field does not cause flooding or unsafe conditions associated with the wastewater discharge, the soils must meet a minimum size to support the wastewater discharge and necessary biological activity to naturally treat the effluent and maintain the necessary percolation rates to accommodate the wastewater discharge volumes on a daily basis.

Because the proposed project includes raising the elevation of the building area by approximately 20 to 50 feet using imported fill material, the material can be purchased to support various engineering characteristics, as necessary. Fill meeting these requirements has been identified within SCLF for use by the proposed project. Specifically, the area designated for the proposed septic system would be designed and installed as the project is built. The design of the septic system would be subject to review and approval by the Los Angeles County Department of Public Health and would be required to conform to the Los Angeles County Code, Title 11 (Plumbing Code) and Title 28 (Health and Safety). A facility report would be submitted to and approved by the Department before a building permit could be issued. The report would include the following information:

1. Soil profile excavation to determine the composition of earthen material in the vicinity of the proposed septic system.
2. Exploratory borings to determine the historic and seasonal high groundwater mark and presence of subsurface water.
3. Percolation testing to ensure soil has capabilities to treat wastewater effluent at required rates.
4. Scaled plot plan illustrating the cut and fill and the setback distances from the proposed on-site waste treatment system to any existing and proposed structures, such as buildings and exterior parts of the buildings, trees, walls, retaining walls, water mains, monitoring or other types of wells, streams, drainage courses, sub-drains, culverts and all other structures and amenities.
5. Information regarding the nature of all other types of wastewater generated other than the typical effluent wastewater.
6. The total number of occupants/employees on site during a 24-hour day.

~~This applicant~~The project proponent would be ~~is~~ required to obtain authorization from the RWQCB in order to proceed with installation of the septic system. The project proponent ~~is~~ would be required to work with the Los Angeles County Department of Public Health to ensure the proper design and installation of the septic system. Additionally, the building permit is conditional to the approval of the septic system design, which ensures that the proposed project would not be constructed until the septic system design meets the necessary design requirements, including the use of soils that adequately support the use of a septic system. The SGPREP would comply with all RWQRB and Los Angeles County Department of Public Health requirements; therefore, this impact is less than significant.

4.5.4 MITIGATION MEASURES

No significant impacts associated with geology and soils are expected from the proposed project. Mitigation measures from the existing SCLF MMRS (Measures 1.02, 1.06, 1.07, 1.11, and 1.13) are currently in place to address potential impacts to geology and soils. Therefore, no additional mitigation measures are required.

4.5.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project impacts for geology and soils are expected to be less than significant.

4.6 HYDROLOGY AND WATER QUALITY

4.6.1 INTRODUCTION

The NOP/IS determined the hydrology and water quality impact of the proposed project was less than significant. However, the NOP/IS analysis acknowledged that additional information was required to fully describe the procedures necessary to handle condensate from the proposed project. Although the impact was considered less than significant, the NOP/IS stated that this impact would be discussed in this ~~Draft~~ Final SEIR to document industrial wastewater handling procedures and compliance with applicable requirements. Additionally, comments received during the public comment period advocated for a discussion of impacts from the potable water supply pipeline. The potential impact of the proposed project on hydrology and water quality is evaluated in this section.

The 1993 Final EIR and~~,~~ 1999 Final SEIR~~, and MMRS~~ ~~have~~ resulted in the development of mitigation measures that reduce potentially significant ~~environmental~~hydrology and water quality impacts of landfill activities to less than significant impacts.

The proposed project would be required to implement applicable mitigation measures to reduce potentially significant impacts and ensure compliance with the current landfill CUP requirements. Specific to hydrology and water quality, the following SCLF MMRS (Appendix B) mitigation measures would apply directly to the proposed project:

> **MMRS 2.03**: On-site drainage control channels would be designed per CCR, Title 23, Division 3 Chapter 15, Article 3, § 2546, which mandates the requirements for a capital storm event (100-year, 24-hour precipitation).
>
> **MMRS 2.14**: An erosion control plan would be implemented by the permittee to prevent storm-water pollution from construction activity. Construction materials, equipment and vehicles would be stored or parked in areas protected from storm-water runoff. Construction material loading and unloading would be in designated areas to minimize any washout due to storm-water runoff. Pre-construction controls would be implemented to include the use of a sandbagging system, including sandbag check dams and sandbag desilting basins, which would be used to limit runoff velocities and minimize sediment in storm-water runoff.
>
> **MMRS 3.12**: Dust control water would be applied to wet only the upper soil surface. Evaporation is the natural means whereby this water is dissipated.

4.6.2 SIGNIFICANCE CRITERIA

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

Water Quality

a. The project will cause the degradation of surface water substantially affecting current or future uses;

b. The project will cause degradation or depletion of ground water resources substantially affecting current or future uses;

c. The project will result in a violation of NPDES permit requirements;

d. The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer are not sufficient to meet the needs of the project; or

e. The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.

Water Demand

f. The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water; or

g. The project increases demand for total water by more than five million gallons per day.

As discussed in Section 4.6.1, hydrology and water quality impacts are addressed in the Draft SEIR based on additional information regarding condensate handling and water demand issues. Therefore, impacts related to these two issues, specifically those relating to criteria d), f) and g), are considered.

4.6.3 ENVIRONMENTAL IMPACTS

Additional information regarding the proposed processing of wastewater generated from the LFG treatment system was required to provide the appropriate level of detail to document wastewater handling procedures and compliance with applicable requirements.

4.6.3.1 Industrial Wastewater Impacts

The proposed project would not exceed industrial wastewater treatment requirements of the Los Angeles RWQCB. This impact would be less than significant.

The proposed SGP Facility would include an LFG treatment process that filters, dewaters, and compress the gas prior to combustion. The LFG treatment process would include a siloxane removal system (siloxane is a compound made of alternating silicon and oxygen atoms with hydrocarbon chains attached to the silicon atoms) that would provide additional filtration for the LFG prior to combustion in the electricity generating turbines.

Assuming that the LFG is saturated and the treatment process removes 100 percent of the water vapor, it is estimated that approximately ~~8~~3,500 gallons of additional wastewater would be generated each day during the gas treatment process. The majority of the wastewater would be generated from the compressor system as condensate, and a small portion may also be generated from the siloxane removal system. The volume of condensate generated by the SGPREP would likely be higher than SCLF's current generation rates as the turbines require that LFG contain less moisture than the LFG combusted by the flare. An additional 500 to 1,000 gallons of wash water would be generated on a quarterly basis as part of equipment cleaning and maintenance. Preliminary review of water quality indicates that the wastewater may contain a component of oily waste from the condensate. The wastewater from these sources would be captured and included in the SCLF wastewater management system, as described below.

SCLF currently manages wastewater in accordance with the SCLF site's WDR, Order No. R4-~~2007~~2008-~~0023~~0088, issued by the Los Angeles RWQCB. The sources of wastewater currently collected and treated at the landfill are landfill leachate, gas condensate, ~~spring (seep) water,~~ and wash water. SCLF operates one facility to treat leachate and a separate facility to treat condensate. The treated condensate effluent combines with the leachate waste stream and is further treated in the leachate treatment facility to ensure that the water quality meets applicable discharge requirements. The existing SCLF treatment systems' capacity is approximately 10,000 - 12,000 gpd. SCLF currently treats up to approximately 5,000 gpd; the anticipated total wastewater during operation of SGPREP would be 8,500 gpd (which includes the current 5,000 gpd and the additional 3,500 gpd from the proposed project), and therefore, the existing SCLF treatment systems' capacity is sufficient to handle the additional wastewater from the SGP Facility. All treated wastewater is reused on site for dust control and irrigation purposes and meets the provisions for on-site use of water provided in the WDR. ~~SCLF previously discharged treated industrial wastewater to a sewer line under an Industrial Wastewater Permit issued by the City of Los Angeles (Permit Number W-464583; City of Los Angeles 2010). The sewer connection was terminated in March 2010, and the sewer line piping was removed in August 2010. The Industrial Wastewater Permit is still in effect; however, SCLF plans to deactivate this permit, since it is classified as a zero-discharge facility (City of Los Angeles, Department of Public Works, Bureau of Sanitation, 2011).~~ The WDR does not limit quantity of treated wastewater that can be reused for dust control and irrigation.

The industrial wastewater that would be generated as part of the SGP Facility would likely be similar in composition to the wastewater, including condensate that is already collected as part of the SCLF wastewater collection system. Condensate produced from the SGP Facility compressors may contain oil, and an oil/water separator would be installed for pretreatment, prior to discharging the condensate to the SCLF wastewater collection facility. ~~No other additional wastewater treatment systems would be required because the capacity of the existing SCLF treatment systems is sufficient to handle the additional wastewater from the SGP Facility.~~ SCLF operates the wastewater treatment facilities to ensure that the water quality meets the Los Angeles RWQCB requirements for beneficial reuse, in this case for application to land for dust suppression and irrigation.

A separate septic treatment system would be established to treat the sanitary waste associated with the proposed project in accordance with Los Angeles County Department of Public Health requirements. Effluent from the proposed project's septic system would not be commingled with the industrial wastewater generated from the SGP Facility, nor with SCLF leachate. Leachate from the landfill material is contained within lined collection cells. Commingling of septic system effluent with leachate would not occur as the septic system would be located outside of collection cells.

Because the wastewater produced as part of the proposed project would be appropriately managed and treated on site in accordance with relevant industrial wastewater requirements, this impact is considered less than significant.

4.6.3.2 Water Demand Impacts

The proposed project would have sufficient water supplies available ~~to serve the project~~ from existing entitlements and resources and no new or expanded entitlements are necessary. This impact would be less than significant.

The proposed project would employ two to three full-time employees. In order to meet the requirements of the California Health and Safety Code, the California Code of Regulations and Title 11 of the Los Angeles County Code, the proposed project includes the installation of a water supply pipeline from the LADWP water meter located at the entrance to SCLF near San Fernando Road. The additional water demand for two to three full-time employees is approximately 40-60 gpd (20 gallons per capita per day; University of Minnesota 2009, and Iowa Department of Natural Resources 2009). The proposed project would use far less (40-60 gpd) than the threshold of 262,820 gallons per day of potable water. Therefore, impacts to water resources would be less than significant.

4.6.4 MITIGATION MEASURES

No significant impacts associated with hydrology and water quality are expected from the proposed project. Mitigation measures from the existing SCLF MMRS (Measures 2.03, 2.14, and 3.12) are currently in place to address potential impacts to hydrology and water quality. Therefore, no additional mitigation measures are required.

4.6.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project impacts for hydrology and water quality are expected to be less than significant.

4.7 NOISE

4.7.1 INTRODUCTION

The NOP/IS determined that the proposed project has the potential to generate significant adverse noise impacts. Potential noise impacts are evaluated in this section. Supporting information is provided in Appendix I.

The 1993 Final EIR and 1999 Final SEIR ~~have~~ resulted in the development of a detailed MMRS (Appendix B) that is designed to reduce potentially significant noise impacts of various landfill activities to less than significant levels. Applicable mitigation measures would be implemented as part of the proposed project to ensure compliance with the current landfill CUP requirements.

With regard to noise impacts, the following mitigation measures identified in the SCLF MMRS apply directly to the proposed project:

> **MMRS 9.01**: Landfill access for the disposal of refuse will be limited to the following: (1) The landfill shall be closed on Sunday. (2) Refuse may be accepted at the landfill scales between the hours of 6:00 a.m. to 6:00 p.m. Monday through Friday, and 7:00 a.m. to 2:00 p.m. on Saturday, except as needed to accommodate City post-holiday disposal requirements. The landfill entrance gate at San Fernando Road shall be open to waste-hauling vehicles at 5:00 a.m. Monday through Friday, and at 6:00 a.m. on Saturday, except as needed to accommodate post-holiday disposal requirements, to provide for on-site queuing of vehicles. Further, refuse or dirt may be accepted at other times, upon notification that the LEA determines that extended hours are necessary to handle emergency disposal for the preservation of the public health and safety.
>
> **MMRS 9.02**: Small commercial and private users who would use the landfill would be encouraged by the permittee to use alternate routes other than Balboa Boulevard, because this roadway is near residential areas.
>
> **MMRS 9.03**: All of the proposed project's service vehicles, construction equipment, and diesel powered generators would be equipped with low-noise mufflers and air flow silencers on intake systems (if available) and would be properly maintained.

The proposed project does not have the potential to increase the noise levels from landfill operations because the SGPREP does not in any way affect receipt or on-site handling of wastes. However, as described below, the proposed project would add noise sources whose effects on the closest sensitive noise receptor need to be evaluated. The impact analysis incorporates terrain into the model, and considers the fact that the proposed SGP Facility would be operational 24 hours a day, seven days a week. The potential for noise impacts to occur was evaluated using noise modeling calculations compared to current ambient noise levels, as discussed in Section 3.7.

4.7.2 SIGNIFICANCE CRITERIA

The proposed project is located within the jurisdiction of Los Angeles County. The nearest residential receptors are located in the City of Los Angeles, about 1.6 miles from the ~~project site~~proposed SGP Facility, and 26 meters from the proposed water supply pipeline and telecommunications line installations. Therefore, significance criteria applicable to ~~this~~the proposed project refer to both the County and City of Los Angeles Noise Ordinances. ~~Because the nearest project construction activity would be more than one and one-half miles from a City of Los Angeles residential zone, the construction portion of the City of Los Angeles Noise Ordinance does not apply to this project. The remainder of the City of Los Angeles Noise Ordinance would apply.~~ Noise impacts to the on-site workers will be governed by CalOSHA noise exposure regulations. Project-related noise impacts would be considered significant if any of the following conditions are met:

- Construction noise levels exceed City of Los Angeles or Los Angeles County Noise Ordinance threshold limits (see Section 3.7.2.2) for daytime and nighttime operations or, if the project noise sources are shown to increase the current ambient noise levels by more than three decibels at the project site boundary;

- Facility operations and/or construction noise levels would be considered significant to on-site workers if they exceed CalOSHA noise threshold exposure limits; or
- Facility operation noise levels exceed the County or City of Los Angeles Noise Ordinance threshold limits (see Section 3.7.2.2) for daytime and nighttime operations or, if the project noise sources increase the current ambient noise levels by more than three decibels at the project site boundary.

4.7.3 ENVIRONMENTAL IMPACTS

A variety of detailed noise modeling calculations compared to current ambient noise levels show that operation of the proposed project would not generate significant noise impacts to the adjacent surrounding residential community, commercial areas, or the administrative building and refuse collection areas. All comparative noise values are shown to be well below the required environmental thresholds as specified within the County or City of Los Angeles Noise Ordinances. Additionally, the outdoor work environment at the refuse collection area would be impacted by noise levels well below the acceptable OSHA Eight-hour TWA noise threshold limit of 90 dBA and, therefore, would not require a Hearing Conservation Plan as a result of the proposed project as discussed below.

4.7.3.1 Operational Noise Impacts

According to the NOP/IS prepared for the proposed project, the proposed project could expose persons to, or generate, noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. The overall noise impact from the proposed operations at the project site is determined to be less than significant and, therefore, the proposed project will not require any form of noise project-specific mitigation as a result of this study.

The operational activities of the proposed project were evaluated to determine the worst-case daily operational noise impacts to the nearest sensitive receptors. The purpose of this evaluation is to determine if the operational noise impacts would exceed the County or City of Los Angeles Noise Ordinance limits.

The proposed SGP Facility would be ~~project site is~~ located within a small canyon area that is part of the larger SCLF operations. The noise-generating components of the proposed project would include five LFG-powered turbines, eight compressor units, two chiller units, and one SGPREP flare, all of which would generally operate continuously for 24 hours per day and seven days per week. Additional noise-generating project-related equipment may also contain outdoor and/or rooftop heating, ventilating, and air conditioning units for cooling purposes. In addition to the eight continuously operating compressor units, one backup compressor unit would be installed, and would only operate when one of the other compressors is not in service.

The proposed equipment would require periodic maintenance work that would be conducted by off-site service vehicles and necessary ancillary equipment traveling to and from the project site. The proposed project is expected to generate 16 roundtrips per day, of which 30 percent are assumed to be heavy duty trucks, and the remainder light vehicles. These trips include trips to and from the site by workers and occasional delivery of parts and equipment for operation and maintenance purposes.

Table 4-10 summarizes the proposed equipment generating noise and associated noise emission levels. Noise levels are assumed to be continuous.

TABLE 4-10

Summary of Equipment Noise Levels

Equipment Quantity	Equipment Description	Manufacturer	Sound Level Distance (feet)	Noise Level (dBA)
5	Turbine	Solar	3	85.0
8	Compressor Unit	N/A	3	95 (e)
2	Chiller Unit	N/A	3	90 (e)
1	Enclosed Flare Unit	N/A	3	90 (e)

Notes:
Noise is generated continuously through each hour of operation.
(e) = estimated value
N/A = Not available

The combined mechanical equipment and traffic noise impacts from the proposed project were calculated at four locations within and along the boundary of the existing SCLF[29]. Table 4-11 provides the distance from the SGPREP to the four worst-case receptors. Table 4-12 shows the calculated noise impacts at the four locations. A graphical representation of the noise impacts from the proposed project's combined operations is presented on Figure 4-2.

TABLE 4-11

Distance From SGPREP to Receptors

Number	Location	Distance from ~~SGPREP~~ SGP Facility to Location (feet)
1	~~SGPREP~~SGP Facility	0
2	Administration Building	2,350
3	Southern Portion of Landfill Property	7,850
4	Northern Landfill Property Line	4,370
5	San Fernando Road Trailers	85 (from water supply pipeline)

[29] The noise levels shown are considered worst-case as all the monitoring locations are within the landfill boundary and are not readily accessible to the general public. Impacts to off-site receptors are anticipated to be lower.

TABLE 4-12

Noise Impacts to the Surrounding Area from the Project Operations

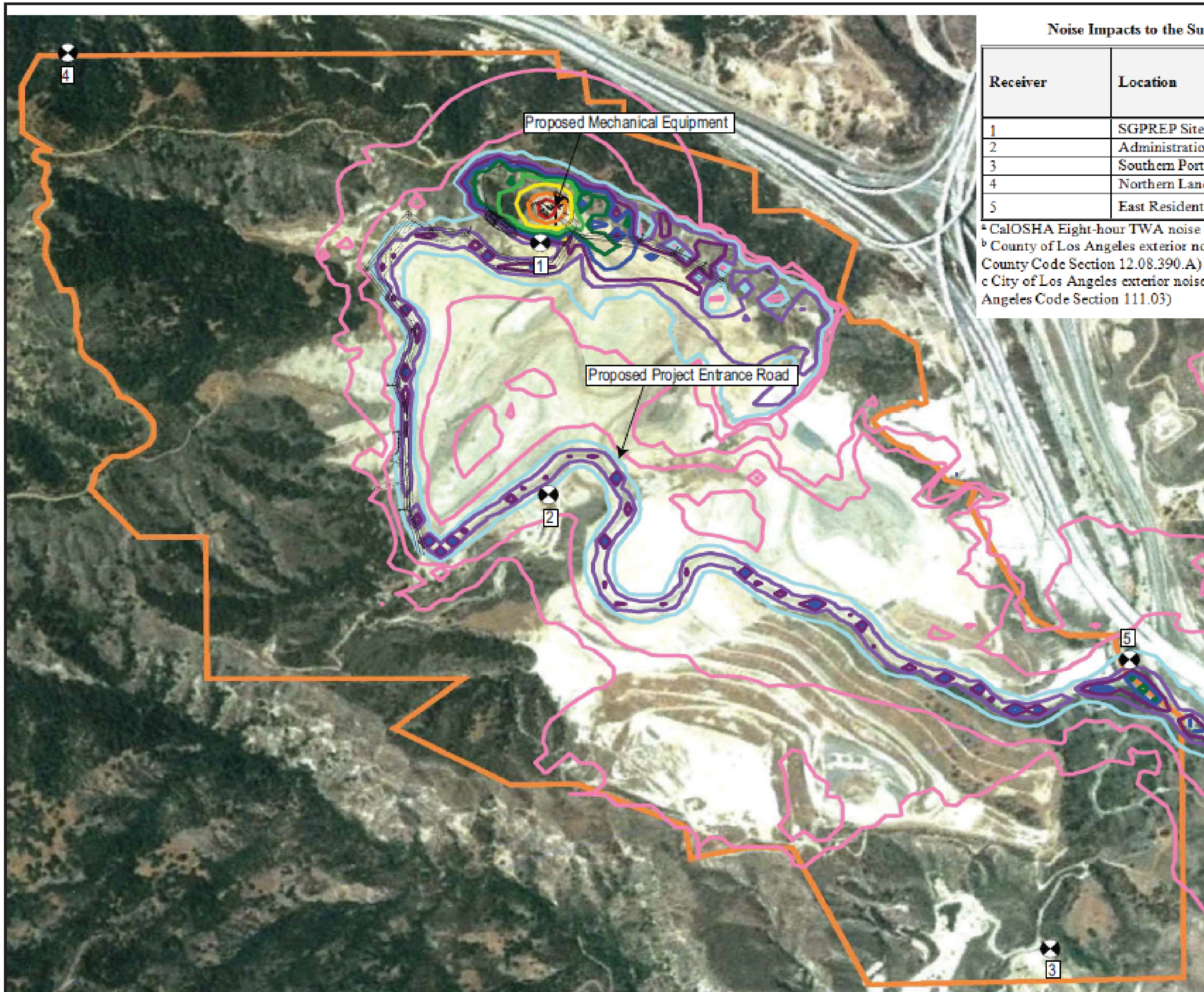
Number	Timeframe	Location	Operational Noise ~~Level~~ Impacts (dBA)	Noise Threshold Limit (dBA)
1	Day/Night	~~SGPREP~~SGP Facility	48.6	90[a]
2	Day/Night	Administration Building	43.2	90[a]
3	Day	Southern Portion of Landfill Property	24.1	50~~/~~[b] ~~40[b]~~
3	Night	Southern Portion of Landfill Property	24.1	40[b]
4	Day	Northern Landfill Property Line	21.3	50~~[c]~~ ~~/40[b]~~
4	Night	Northern Landfill Property Line	21.3	45[c]
5	Day	San Fernando Road Trailers	47.2	50[b]
5	Night	San Fernando Road Trailers	34.5	40[b]

Notes:
[a] CalOSHA Eight-hour TWA noise exposure limit
b City of Los Angeles exterior noise limits for residential daytime and nighttime (City of Los Angeles Code Section 111.03)
c County of Los Angeles exterior noise limits for residential daytime and nighttime (Los Angeles County Code Section 12.08.390.A)
~~[b] Most stringent (lowest) of County and City of Los Angeles exterior noise limits for residential daytime and nighttime (Los Angeles County Code Section 12.08.390.A and City of Los Angeles Ordinance No. 144.331)~~

Noise Impacts to the Surrounding Area from the Project Operations

Receiver	Location	Operational Noise Impacts (dBA)	Noise Threshold Limit (dBA)
1	SGPREP Site	48.6	90[a]
2	Administration Building	43.2	90[a]
3	Southern Portion of Landfill Property	24.1	50 / 40[c]
4	Northern Landfill Property Line	21.3	50 / 45[b]
5	East Residential Receptor	47.2	50 / 40[c]

[a] CalOSHA Eight-hour TWA noise exposure limit
[b] County of Los Angeles exterior noise limits for residential daytime and nighttime (Los Angeles County Code Section 12.08.390.A)
c City of Los Angeles exterior noise limits for residential daytime and nighttime (City of Los Angeles Code Section 111.03)



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NOISE IMPACT CONTOURS FROM THE PROPOSED PROJECT OPERATIONS

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FIGURE 4-2

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Table 4-12 shows that the noise impacts within the landfill property from the proposed project daily equipment and traffic operations would range from 21.3 dBA at the northern landfill property line to 48.6 dBA at the ~~SGPREP~~ SGP Facility without mitigation. Because none of the noise levels would exceed significance thresholds, the noise impacts within the landfill property associated with the project's operational activities are shown to be less than significant and no mitigation would be required.

Outside the landfill property, the nearest residential receptor is located approximately ~~8,250 feet~~26 meters ~~(1.6 miles)~~ east of~~from~~ the proposed ~~project~~ water supply pipeline/telecom line installation site. Due to attenuation of noise over distance, noise levels at the nearest residential receptor would be ~~lower than 24.1~~approximately 47.2 dBA during the daytime and 34.5 dBA during the nighttime~~, the calculation estimate of the noise levels at the southern portion of the existing landfill property~~. Therefore, noise impact levels are considered to be less than significant for daytime (50 dBA) and nighttime operations (40 dBA) at residential designated zones. ~~There are no other sensitive receptors identified within one mile of the proposed project site.~~ Therefore, the noise impacts to the adjacent properties are considered to be less than significant.

The employees working within the active SCLF operational areas and within the current landfill facility administration buildings are also considered sensitive noise receptors. The CalOSHA standards regulate an individual worker's noise exposure level based on an eight-hour work day. The exposure level is based on the noise level of the source and the duration that the worker is exposed to the noise. Based on the overall worst-case noise emission levels of the proposed mechanical equipment and the hours of the facility's operation, calculations show that workers located within the refuse acceptance area and the administration buildings would be exposed to noise impacts of 43.2 dBA. Workers that would be present at the SGPREP would be exposed to noise impacts of 48.6 dBA. The result of this worst-case calculated noise level shows that the landfill and SGPREP workers would not be exposed to an eight-hour TWA noise exposure limit of 90 dBA, as described by CalOSHA regulations. Therefore, the noise impacts to workers are considered less than significant.

4.7.3.2 Ground-borne Vibration and Noise Impacts

According to the NOP/IS prepared for the proposed project, the proposed project could expose persons to, or generate, excessive ground-borne vibration or ground-borne noise levels. The overall vibration impact from the proposed construction and operations at the project site is determined to be less than significant and, therefore, the project will not require any form of vibration mitigation as a result of this study.

The operation and construction of the proposed project would include the use of equipment that would generate ground-borne vibration. Possible sources of vibration may include any hard-mounted turbine units, the SGPREP flare, graders, dump trucks, backhoes, compactors, pile driving, and other vibration-intensive equipment.

A review of vibration impacts due to the proposed project indicates that this impact would be considered less than significant due to the fact that the proposed project site is located within an operational landfill with large earth moving equipment operating on a daily basis. In fact, the majority of equipment that would be used during construction of the proposed facility would be smaller than that currently used to manage the large amount of waste within the landfill operations. According to Federal Transit Administration (FTA) guidelines, a vibration level of 65 VdB[30] is the threshold of perceptibility for humans. For a significant impact to occur, vibration levels must exceed 80 VdB during infrequent events (FTA 1995). Vibration impacts associated with construction operations would primarily affect those persons located closest to the proposed facility. There are no existing residences located within the vicinity of the project site. However, ~~three~~ four locations were selected for the evaluation of vibration impacts including the northern property line (approximately 4,370 feet from the project site), the southern property line (approximately 7,850 feet from the ~~project site~~SGP Facility), the trailers located at the landfill entrance (approximately 6,290 feet from the SGP Facility), and the existing administration building (approximately 2,350 feet from the project site). Based on the levels published by the FTA (FTA 2006) and the type of equipment proposed for use at the SGPREP, coupled with the distance to the evaluated locations, the calculations (~~see~~ Appendix I) show that the vibration impacts will be approximately ~~20.0~~19.7 VdB at the northern property line, ~~14.4~~12.1 VdB at the southern property line, 15.0 VdB at the trailers located at the landfill entrance, and ~~28.1~~27.8 VdB at the administration building and thus would be below the maximum vibration level of 80 VdB. Therefore, impacts due to vibration are considered to be less than significant.

4.7.3.3 Permanent Noise Increase Impacts

According to the NOP/IS prepared for the proposed project, the proposed project could result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Results show that the overall noise impact from the proposed operations to current community ambient noise levels is determined to be less than significant and, therefore, the project will not require any form of noise mitigation as a result of this study.

The ambient noise measurements collected on site from Thursday, October 15, 2009 to Sunday, October 18, 2009 are summarized in Table 3-~~8~~7. Based on the difference between the current ambient noise conditions compared to the calculated noise levels for the proposed facility equipment operations, as summarized in Table 4-13, permanent increases to the ambient noise levels within the SCLF boundaries would be less than the 3 dBA threshold. No increases would occur outside the SCLF boundaries. Therefore, all future project-related noise impacts relative to the current community ambient noise conditions are considered to be less than significant.

[30] VdB is a unit that denotes 20 times the logarithm of the ratio of the measured particle velocity to a reference particle velocity (usually 10^{-8} m/s).

TABLE 4-13

Current Ambient Conditions versus Calculated Project Noise Levels

Number	Location	Current Measured Ambient Noise Levels (dBA)	Calculated Noise Levels (dBA)	Combined Noise Level (dBA)	Increase to Ambient Noise Level (dB)	Significant Impact
1	SGPREP	54.3	48.6	55.3	1.0	No
2	Administration Building	59.2	43.2	59.3	0.1	No
3	Southern Portion of Landfill Property	52.8	24.1	52.8	0.0	No
4	Northern Landfill Property Line	54.3*	21.3	54.3	0.0	No
5	East Residential Receptor	52.8**	47.2	53.9	1.1	No

*Ambient noise levels are assumed to similar to measurement location 1.

**Ambient noise levels are assumed to similar to measurement location 3.

~~for measurement locations 1 and 4 are assumed to be similar because they are in similar locations.~~

4.7.3.4 Construction Noise Impacts

According to the NOP/IS prepared for the proposed project, the proposed project could result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. The overall noise impacts from the temporary construction or periodic service operations at the project site is determined to be less than significant and, therefore, the project would not require any form of temporary noise mitigation as a result of this study.

Throughout the construction of the proposed project noise impacts from the operation of construction machinery are expected. This evaluation includes an assessment of the anticipated construction noise impact to the sensitive receptor locations to ensure compliance with relevant sections of the County and City of Los Angeles Construction Noise Ordinances.

The construction noise impact analysis is based on the phased construction schedule for the proposed project which incorporates six sequential construction phases. The construction of the SCE Switchyard and Subtransmission Line is expected to be conducted during the six-phase schedule. The SCE Subtransmission Line construction would begin during Phase III and be completed during Phase V. The SCE Switchyard construction would begin and be completed during Phase V. This analysis evaluates the six construction phase scenarios, including the SCE Switchyard and Subtransmission Line, and is based upon the noise emission data from the equipment manufacturer and expected utilization within each phase.

The noise impact results for the individual phases are presented below and are the result of creating a detailed site-specific noise model. Modeling of the project site and surrounding environment was accomplished using Cadna (Computer Aided Noise Abatement) Ver. 3.7, which is a model-based computer program developed for predicting noise impacts in a wide variety of conditions. Cadna allows for the input of project information such as noise source data, barriers, structures, and topography to create a detailed CAD model, and uses the most up-to-date calculation standards to predict outdoor noise impacts to property lines and adjacent surrounding areas.

The noise model assumes worst-case conditions with all equipment running simultaneously. All sound pressure levels within the equipment noise emission database are standardized at a distance of 50 feet from the noise source. The noise evaluation for each phase is based on the construction operations for a one-hour time period. The percent of operating equipment used is based on typical land use development construction practices and professional experience with past construction projects. The noise calculations of each phase would provide a realistic prediction of the noise impact range to be expected from typically intermittent mechanical equipment operations.

Phase I

Phase I would be implemented over the ~~first 11~~initial three to four months and would entail replacement of surface water drainage ditches with buried piping, and constructing/maintaining temporary roads for continued service needs by the landfill~~delivery of imported soil~~. ~~Approximately 72,500 cubic yards of soil would be delivered during Phase I of construction~~. Dump trucks would haul the asphalt and concrete debris from the demolition of roads and concrete ditches to a recycling facility and deliver bedding/fill material for the buried piping. Flatbed trucks would be used to deliver pipe segments to the project site. A total of ~~72~~ 90 trips per day would occur during this phase of construction due to ~~34~~ 15 dump trucks carrying asphalt debris, 10 dump trucks carrying bedding/fill material, 10 flat-bed trucks carrying pipe segments and 10 worker commuter vehicles going to and from the project site. The proposed construction equipment to be used in the construction of Phase I is summarized in Table 4-14.

TABLE 4-14

Phase I Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Dozer	1	~~60~~40%	85.0
Excavator	1	60%	85.0

Note:
Operations usage percentage refers to the percent of construction time equipment is in use. Therefore, an operation usage percentage of 60% equates to 6 hours per day based on a 10 hour work day.

The noise impacts from the Phase I construction activities were evaluated at the four worst-case sensitive receptor locations placed within the landfill property. The worst-case noise impact calculations from the Phase I construction activities to the sensitive receptors are summarized in Table 4-15.

TABLE 4-15

Phase I Temporary Construction Noise Impacts

Number	Location	Distance from SGP Facility to Receptor (feet)	Construction Noise Impacts (dBA)
1	SGP Facility~~REP~~	0	~~44.0~~4.3
2	Administration Building	2,350	55.~~5~~4
3	Southern Portion of Landfill Property	7,850	31.6
4	Northern Landfill Property Line	4,370	~~11.0~~15.4
5	San Fernando Road Trailers	6,323	55.7

Los Angeles County restricts nighttime construction noise impacts at residential property lines to 50 dBA LEQ and at commercial property lines to 60 dBA LEQ. The City of Los Angles restricts construction noise impacts to 75 dBA LEQ at residential property lines. The results in Table 4-~~14~~ 15 show that the construction noise levels at the SCLF property lines would range from ~~11.0~~15.4 dBA at the northern landfill property line to 55.7~~5~~ dBA at the ~~administration building~~San Fernando Road trailers. These noise impacts would comply with the City of Los Angles and the County of Los Angles noise ordinances. The San Fernando Road trailers receptor is located within the City of Los Angles and will comply with the City's noise ordinance. Because noise levels at the nearest sensitive residential receptors would be lower than the established City and County noise limits, the ~~those levels,~~ noise impacts are considered to be less than significant and no mitigation would be required for the Phase I temporary construction operations. ~~Additionally, trucks delivering imported soil would mimic current trash truck and semi-truck routes, exiting Interstate 5 and going directly into the landfill entrance.~~ Currently, trucks exit Interstate 5 and utilize either San Fernando Road or the Old Road to access the landfill entrance, thereby avoiding nearby residential areas. ~~Additionally, the following mitigation measures identified in the MMRS would also apply directly to imported fill material delivery trucks for the proposed project:~~

> ~~**MMRS 9.01**: Landfill access for the disposal of refuse will be limited to the following: (1) The landfill shall be closed on Sunday. (2) Refuse may be accepted at the landfill scales between the hours of 6:00 a.m. to 6:00 p.m. Monday through Friday, and 7:00 a.m. to 2:00 p.m. on Saturday, except as needed to accommodate City post-holiday disposal requirements. The landfill entrance gate at San Fernando Road shall be open to waste-hauling vehicles at 5:00 a.m. Monday through Friday, and at 6:00 a.m. on Saturday, except as needed to accommodate post-holiday disposal requirements, to provide for onsite queuing of vehicles. Further, refuse or dirt may be accepted at other times, upon notification that the LEA determines that extended hours are necessary to handle emergency disposal for the preservation of the public health and safety.~~
>
> ~~**MMRS 9.02**: Small commercial and private users who would use the landfill would be encouraged by the permittee to use alternate routes other than Balboa Boulevard, because this roadway is near residential areas.~~
>
> ~~**MMRS 9.03**: All of the proposed project's service vehicles, construction equipment, and diesel powered generators would be equipped with low-noise mufflers and air flow silencers on intake systems (if available) and would be properly maintained.~~

~~Complying with the above mitigation measures is expected to minimize potential noise impacts that could be generated by haul trucks.~~ A graphical representation of the noise impacts from the Phase I construction activities are presented on Figure 4-3.

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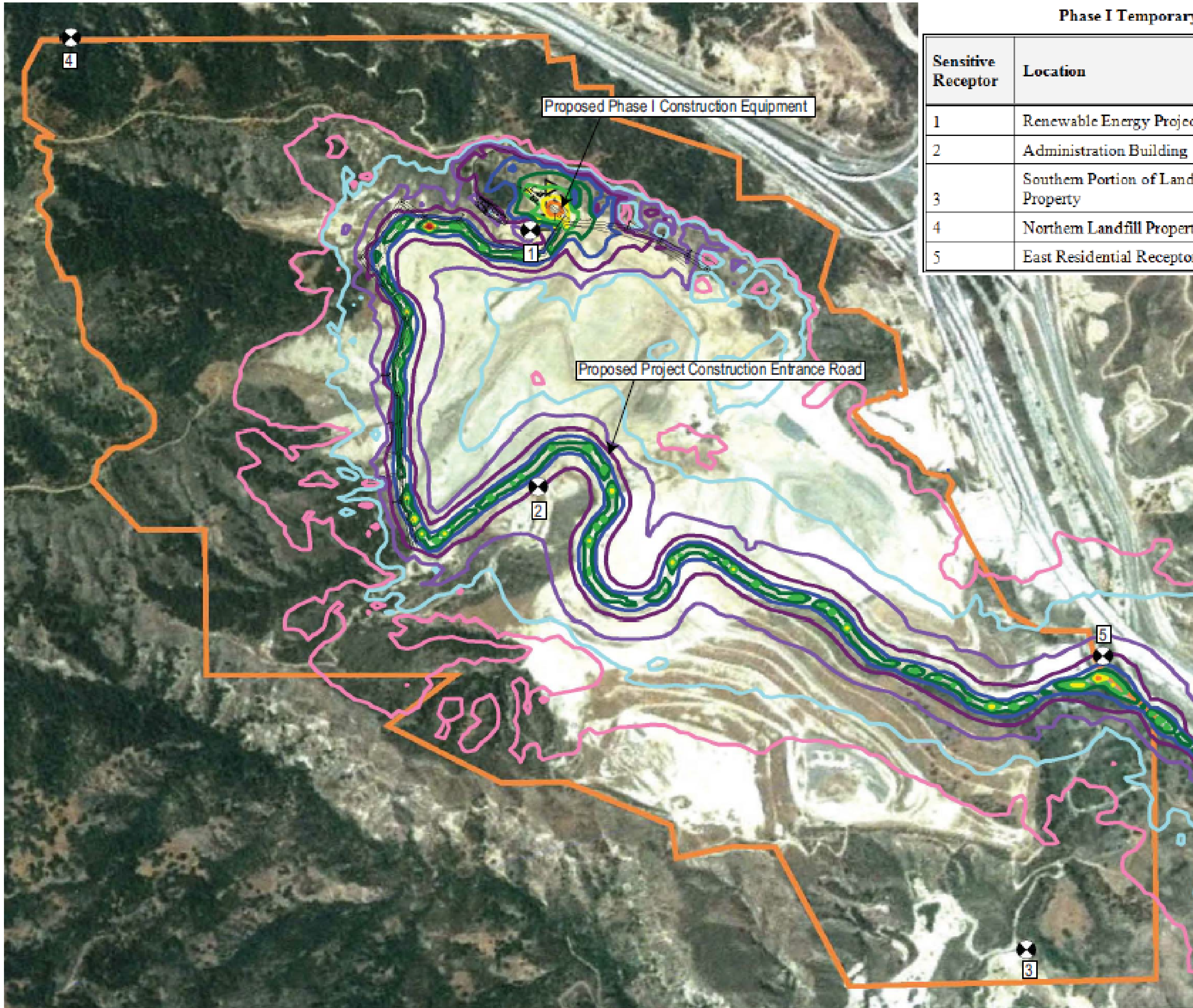

Phase I Temporary Construction Noise Impacts

Sensitive Receptor	Location	Distance from SGP Plant to Receptor (miles)	Construction Noise Impacts (dBA)
1	Renewable Energy Project Site	0	48.3
2	Administration Building	2,350	55.4
3	Southern Portion of Landfill Property	7,850	31.6
4	Northern Landfill Property Line	4,370	15.4
5	East Residential Receptor	6,323	55.7

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NOISE IMPACT CONTOURS FROM PHASE I CONSTRUCTION

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FIGURE 4-3

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Phase II

Phase II would be implemented over the five months following Phase I construction and would involve earth moving equipment that would be used for excavation, site preparation, and civil construction. Approximately 120,000 cubic yards would be hauled from elsewhere on the landfill to the project site. A total of ~~80~~ 20 trips per day would occur during this phase of construction due to ~~30 dump trucks and~~ 10 worker commuter vehicles going to and from the project site. The proposed construction equipment to be used in the construction of Phase II is summarized in Table 4-16.

TABLE 4-16

Phase II Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Quarry Dump Trucks~~Generator~~	~~2~~3	~~60~~80%	84.0~~82.0~~
Dozer	1	80%~~60~~	85.0
Excavator	1	80%~~60~~	85.0
~~Survey Truck~~Sheepfoot Compactor	~~2~~1	~~60~~80%	80.0~~55.0~~
~~Flat Bed~~Water Truck	1	80%~~60~~	84.0

The noise impacts from the Phase II construction activities were evaluated at the four worst-case locations placed within the SCLF property, as discussed in Phase I. The worst-case noise impact calculations from the Phase II construction activities are summarized in Table 4-17.

TABLE 4-17

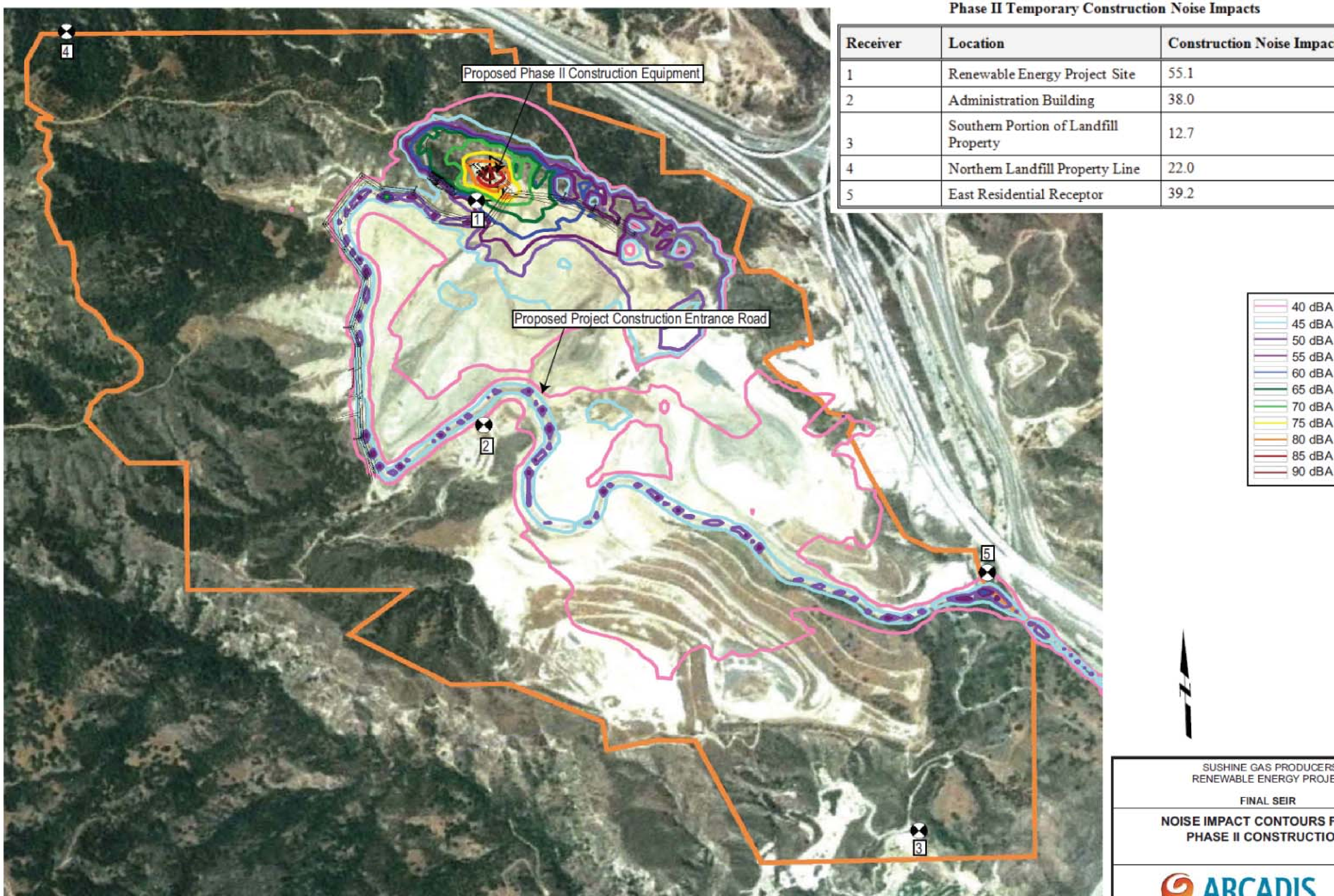
Phase II Temporary Construction Noise Impacts

Number	Location	Construction Noise Impacts(dBA)
1	~~SGPREP~~SGP Facility	~~50.4~~55.1
2	Administration Building	~~55.0~~38.0
3	Southern Portion of Landfill Property	~~31.2~~12.7
4	Northern Landfill Property Line	~~18.0~~22.0
5	Renewable Energy Project Site	39.2

Los Angeles County restricts nighttime construction noise impacts at residential property lines to 50 dBA L_{EQ} and at commercial property lines to 60 dBA L_{EQ}. The City of Los Angles restricts construction noise impacts to 75 dBA LEQ at residential property lines. The results in Table 4-17 show that the construction noise levels at the property lines would range from ~~18.0~~12.7 dBA at ~~northern~~ southern landfill property line to 55.1~~0~~ dBA at the ~~landfill administration building~~SGP Facility. Because noise levels at the nearest sensitive residential receptors would be 39.2 dBA~~lower than these levels~~, noise impacts are considered to be less than significant and no mitigation would be required for the Phase II temporary construction operations. A graphical representation of the noise impacts from the Phase II construction activities are presented on Figure 4-4.

Phase II Temporary Construction Noise Impacts

Receiver	Location	Construction Noise Impacts(dBA)
1	Renewable Energy Project Site	55.1
2	Administration Building	38.0
3	Southern Portion of Landfill Property	12.7
4	Northern Landfill Property Line	22.0
5	East Residential Receptor	39.2



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NOISE IMPACT CONTOURS FROM PHASE II CONSTRUCTION

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FIGURE 4-4

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Phase III

Phase III would be implemented over the one to two months following Phase II construction and would entail laying foundations and underground piping, including delivery of various construction materials. Phase III would also include the start of construction activities associated with the SCE Subtransmission Line. The construction activities associated with the SCE Subtransmission Line during Phase III would include line survey, construction of the access road, and TSP footing installation. A total of 120 trips per day would occur during this phase of construction due to approximately 20 concrete trucks and 40 worker commuter vehicles (30 for the SGP Facility and 10 for the SCE Subtransmisison Line) going to and from the project site. The proposed construction equipment to be used in the construction of Phase III is summarized in Tables 4-18 and 4-19.

TABLE 4-18

Phase III Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Generator	2	60	82.0
Backhoe	1	60	80.0
Excavator	1	60	85.0
Crane	1	60	85.0
Scraper	1	60	85.0
Water Truck	1	60	84.0
Pick-up Truck	2	60	55.0
Rubber Tired Loader	1	60	80.0

TABLE 4-19

Phase III SCE Subtransmission Line Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Water Truck	1	100	84.0
Crawler D6	1	100	85.0
Crawler D8	1	100	85.0
Grader	1	50	85.0
Crane	3	100	85.0
Backhoe	2	100	80.0
Drilling Rig	1	100	85.0
Concrete Truck	1	100	85.0
Pick-up Truck	2	100	55.0

The noise impacts from the Phase III construction activities were evaluated at the four worst-case locations placed within the landfill property, as discussed in Phase I. The worst-case noise impact calculations from the Phase III construction activities are summarized in Table 4-20.

TABLE 4-20

Phase III Temporary Construction Noise Impacts

Number	Location	Construction Noise Impacts (dBA)
1	~~SGPREP~~SGP Facility	64.8
2	Administration Building	57.6
3	Southern Portion of Landfill Property	~~30.2~~29.5
4	Northern Landfill Property Line	24.1
5	San Fernando Road Trailers	53.6

Los Angeles County restricts nighttime construction noise impacts at residential property lines to 50 dBA L_{EQ} and at commercial property lines to 60 dBA L_{EQ}. The City of Los Angles restricts construction noise impacts to 75 dBA LEQ at residential property lines. The results in Table 4-20 show that the construction noise levels at the property lines range from 24.1 dBA at the northern landfill property to 64.8 dBA at the SGPREP. ~~The renewable energy project site is not located near the landfill property line and noise levels encountered at this location, 30.2 dBA~~The noise levels at the nearest residential sensitive receptor~~,~~ ~~would be even less at the nearest sensitive receptor due to the attenuation of noise over distance and, therefore,~~ would not violate the City of Los Angeles and Los Angeles County noise ordinances. Employees associated with SCLF operational areas and administration buildings as well as to the construction of the project site would not be exposed to an eight-hour TWA noise exposure limit of 90 dBA as described by CalOSHA regulations. Furthermore, it is the responsibility of the licensed contractor to comply with all CalOSHA hearing regulations during the construction of the proposed project. Noise levels at the nearest residential receptors would be lower than these levels; therefore, noise impacts are considered to be less than significant and no mitigation would be required for the Phase III temporary construction operations. A graphical representation of the noise impacts from the Phase III construction activities are presented on Figure 4-5.

Phase III Temporary Construction Noise Impacts

Receiver	Location	Construction Noise Impacts (dBA)
1	Renewable Energy Project Site	64.8
2	Administration Building	57.3
3	Southern Portion of Landfill Property	29.5
4	Northern Landfill Property Line	24.1
5	East Residential Receptor	53.6

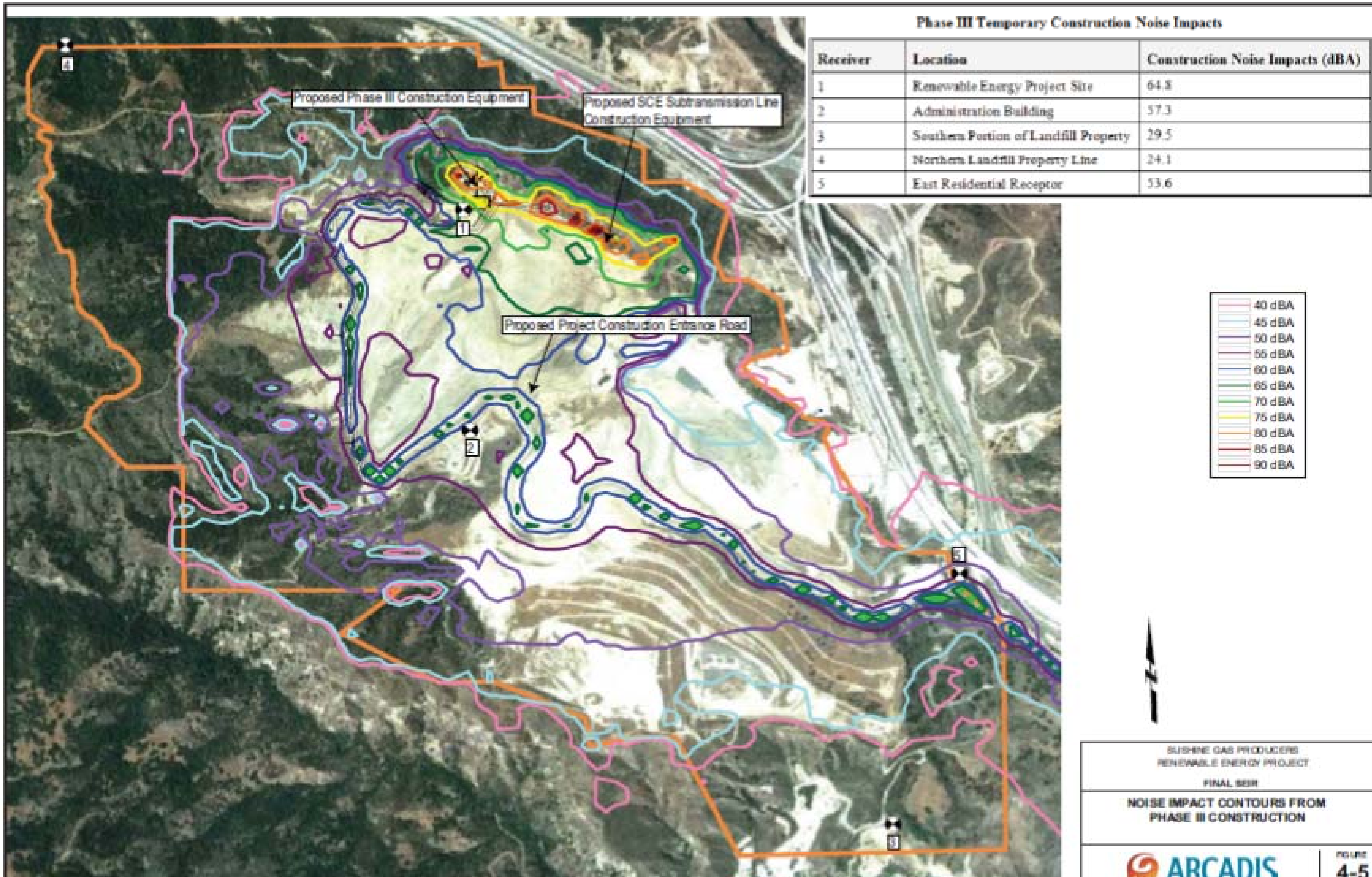

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FIGURE
4-5

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Phase IV

Phase IV would be implemented over the one to two months following Phase III construction and would entail the installation of the facility equipment. Phase IV would also include continued construction activities associated with the SCE Subtransmission Line. The construction activities associated with the SCE Subtransmission Line during Phase IV would include pole framing and setting as well as TSP footing installation. A total of 40 trips per day would occur during this phase of construction due to 20 worker commuter vehicles going to and from the project site (10 for the SGP Facility and 10 for the SCE Subtransmission Line). The proposed construction equipment to be used in the construction of Phase IV is summarized in Tables 4-21 and 4-22.

TABLE 4-21

Phase IV Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Generator	3	60	82.0
Excavator	1	60	85.0
Crane	1	60	85.0
Pick-up Truck	2	20	55.0
Forklift	1	60	85.0
Trailer Generator	1	60	82.0
Low Bed Truck	1	40	84.0
Flat Bed Truck	1	60	84.0

TABLE 4-22

Phase IV SCE Subtransmission Line Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Water Truck	1	100	84.0
Crane	3	100	85.0
Backhoe	2	100	80.0
Drilling Rig	1	100	85.0
Pick-up Truck	2	100	55.0
Heavy Truck	6	100	84.0

The noise impacts from the Phase IV construction activities were evaluated at the four worst-locations placed within the SCLF property, as discussed in Phase I. The worst-case noise impact calculations from the Phase IV construction activities are summarized in Table 4-23.

TABLE 4-23

Phase IV Temporary Construction Noise Impacts

Number	Location	Construction Noise Impacts (dBA)
1	~~SGPREP~~SGP Facility	69.0
2	Administration Building	55.1~~5~~
3	Southern Portion of Landfill Property	~~21.8~~15.7
4	Northern Landfill Property Line	25.9
5	San Fernando Road Trailers	42.9

Los Angeles County restricts nighttime construction noise impacts at residential property lines to 50 dBA L_{EQ} and at commercial property lines to 60 dBA L_{EQ}. The City of Los Angles restricts construction noise impacts to 75 dBA LEQ at residential property lines. The results in Table 4-23 show that the construction noise levels at the SCLF property lines range from 21.8 dBA at the southern portion of landfill property to 69.0 dBA at the renewable energy project site. ~~The renewable energy project site is not located near the landfill property line and noise levels encountered at this location, 21.8 dBA~~The noise level encountered at the nearest sensitive receptors~~,~~ ~~, would be even less at the nearest sensitive receptor due to the attenuation of noise over distance and, therefore,~~ would not violate the City of Los Angeles and the ~~L.A~~Los Angeles~~.~~ County ordinances. Employees associated with SCLF and SGPREP operational areas and administration buildings, as well as employees associated with construction of the proposed project site would not be exposed to an eight-hour TWA noise exposure limit of 90 dBA, as described by CalOSHA regulations. Furthermore, it is the responsibility of the licensed contractor to comply with all CalOSHA hearing regulations during the construction of the proposed project. Noise levels at the nearest sensitive residential receptors would be lower than these levels; therefore, noise impacts are considered to be less than significant and no mitigation would be required for the Phase IV temporary construction operations. A graphical representation of the noise impacts from the Phase IV construction activities are presented on Figure 4-6.

Phase IV Temporary Construction Noise Impacts

Receiver	Location	Construction Noise Impacts (dBA)
1	Renewable Energy Project Site	69.0
2	Administration Building	55.1
3	Southern Portion of Landfill Property	15.7
4	Northern Landfill Property Line	25.9
5	East Residential Receptor	42.9

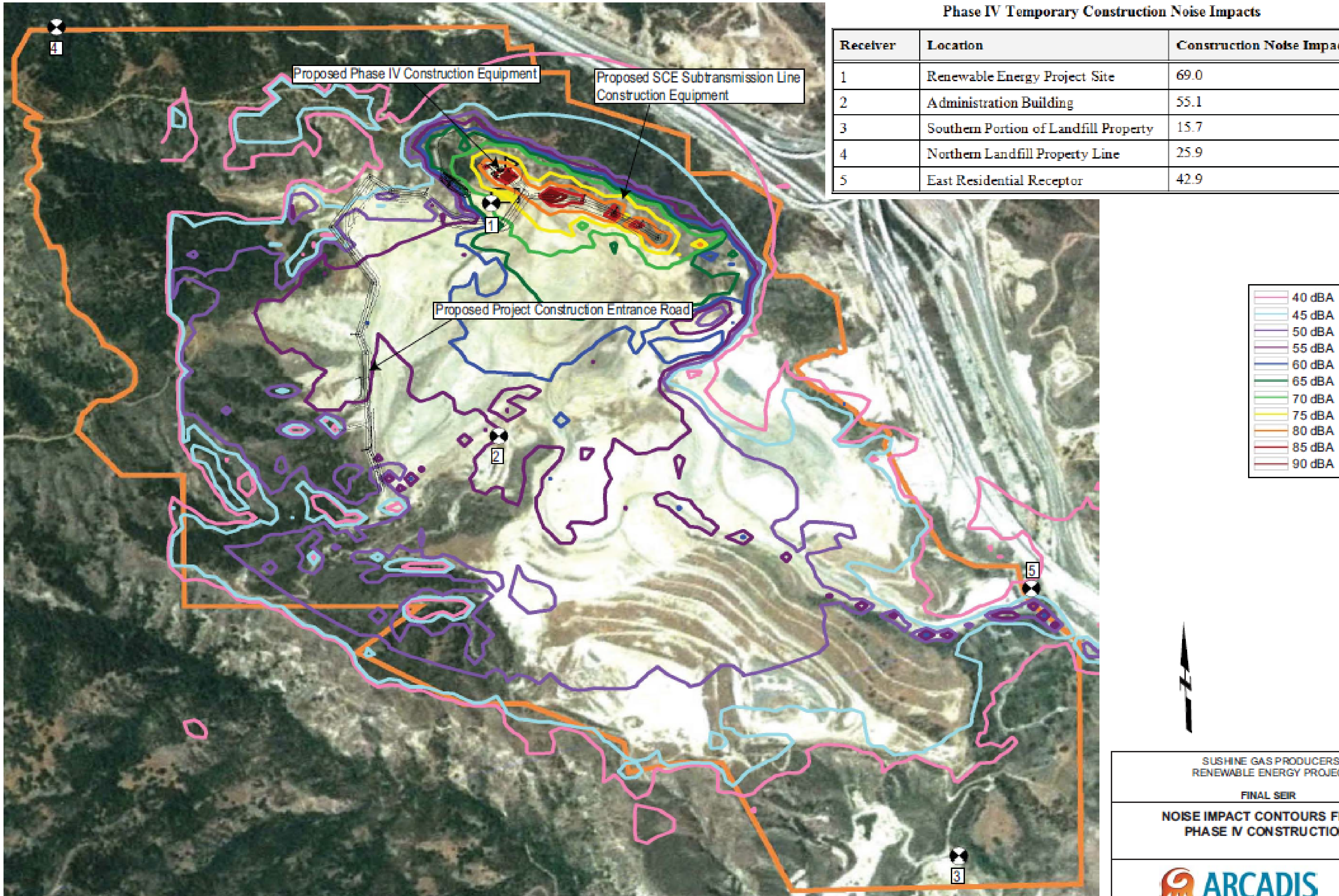

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FIGURE 4-6

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Phase V

Phase V would be implemented over the four months following Phase IV construction and would entail various construction activities such as installation of piping and wires. Installation of the ~~water pipeline~~water supply pipeline would extend to the entrance of the landfill (Figure 2-3). Phase V would also include construction activities associated with the SCE Subtransmission Line and Switchyard. The construction activities associated with the SCE Subtransmission Line during Phase V would include pole framing and setting, material delivery, conductor installation, and line restoration. The construction activities associated with the SCE Subtransmission Line would include the operation of a helicopter. The construction of the SCE Switchyard would start and be completed during the Phase V construction activities. A total of 60 trips per day would occur during this phase of construction, due to 10 cement trucks and 52 worker commuter vehicles (30 for the SGP Facility, 12 for the SCE Subtransmission Line and 10 for the SCE Switchyard) going to and from the proposed project site. The proposed construction equipment to be used in the construction of Phase V is summarized in Tables 4-24a-b, 4-25, and 4-26.

TABLE 4-24a

Phase V Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Generator	2	60	82.0
Crane	1	60	85.0
Paver	1	60	85.0
Vibratory Consolidating Paver	1	60	85.0
Roller	1	60	85.0
Flat Bed Truck	1	60	84.0

TABLE 4-24b

Phase V Water Supply Pipeline Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Trencher	1	60%	85.0
Tractor/Backhoe	1	60%	80.0
Saw	1	60%	90.0
Paver	1	60%	85.0

TABLE 4-25

Phase V SCE Switchyard Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Pick-up Truck	2	20	55.0
Dump Truck	2	60	84.0
Portable Trencher	1	80	85.0
Drill Rig	1	80	85.0
Tractor Loader	2	70	80.0
Forklift	1	60	85.0
Boom Crane Truck	1	40	85.0
Bobcat	1	80	85.0
Heavy Truck	4	40	84.0

TABLE 4-26

Phase V SCE Subtransmission Line Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Water Truck	1	100	84.0
Crane	3	100	85.0
Backhoe	2	100	80.0
Pick-up Truck	2	100	55.0
Heavy Truck	8	100	84.0
Forklift	1	50	85.0
Helicopter	1	40	78.0 dBA at 500 feet

The noise impacts from the Phase V construction activities were evaluated at the four worst-case locations placed within the SCLF property, as discussed in Phase I. The worst-case noise impact calculations from the Phase V construction activities are summarized in Table 4-27.

TABLE 4-27

Phase V Temporary Construction Noise Impacts

Number	Location	Construction Noise Impacts (dBA)
1	~~SGPREP~~SGP Facility	74.7
2	Administration Building	59.4
3	Southern Portion of Landfill Property	~~28.5~~31.1
4	Northern Landfill Property Line	30.~~3~~4
5	San Fernando Road Trailers	69.3

Los Angeles County restricts nighttime construction noise impacts at residential property lines to 50 dBA L_{EQ} and at commercial property lines to 60 dBA L_{EQ}. The City of Los Angles restricts construction noise impacts to 75 dBA LEQ at residential property lines. The results in Table 4-27 show that the construction noise levels at the property lines range from ~~28.5~~31.1 dBA at the southern portion of landfill property to 74.7 dBA at the ~~SGPREP~~SGP Facility. The noise impacts from the Phase V temporary construction activities ~~As already noted, the SGPREP site is not located near the landfill property line and noise levels from phase V encountered at the property line, 28.5, would be even less at the nearest sensitive receptor and, therefore,~~ would not violate the City of Los Angeles and the Los Angeles County noise ordinances. Employees associated with SCLF and SGPREP operational areas and administration buildings, as well as employees associated with the construction of the proposed project, would not be exposed to an eight-hour TWA noise exposure limit of 90 dBA, as described by CalOSHA regulations. Furthermore, it is the responsibility of the licensed contractor to comply with all CalOSHA hearing regulations during the construction of the proposed project. Noise levels at the nearest sensitive residential receptors would be lower than these levels; therefore, noise impacts are considered to be less than significant and no mitigation would be required for the Phase V temporary construction operations. A graphical representation of the noise impacts from Phase V construction activities are presented on Figure 4-7.

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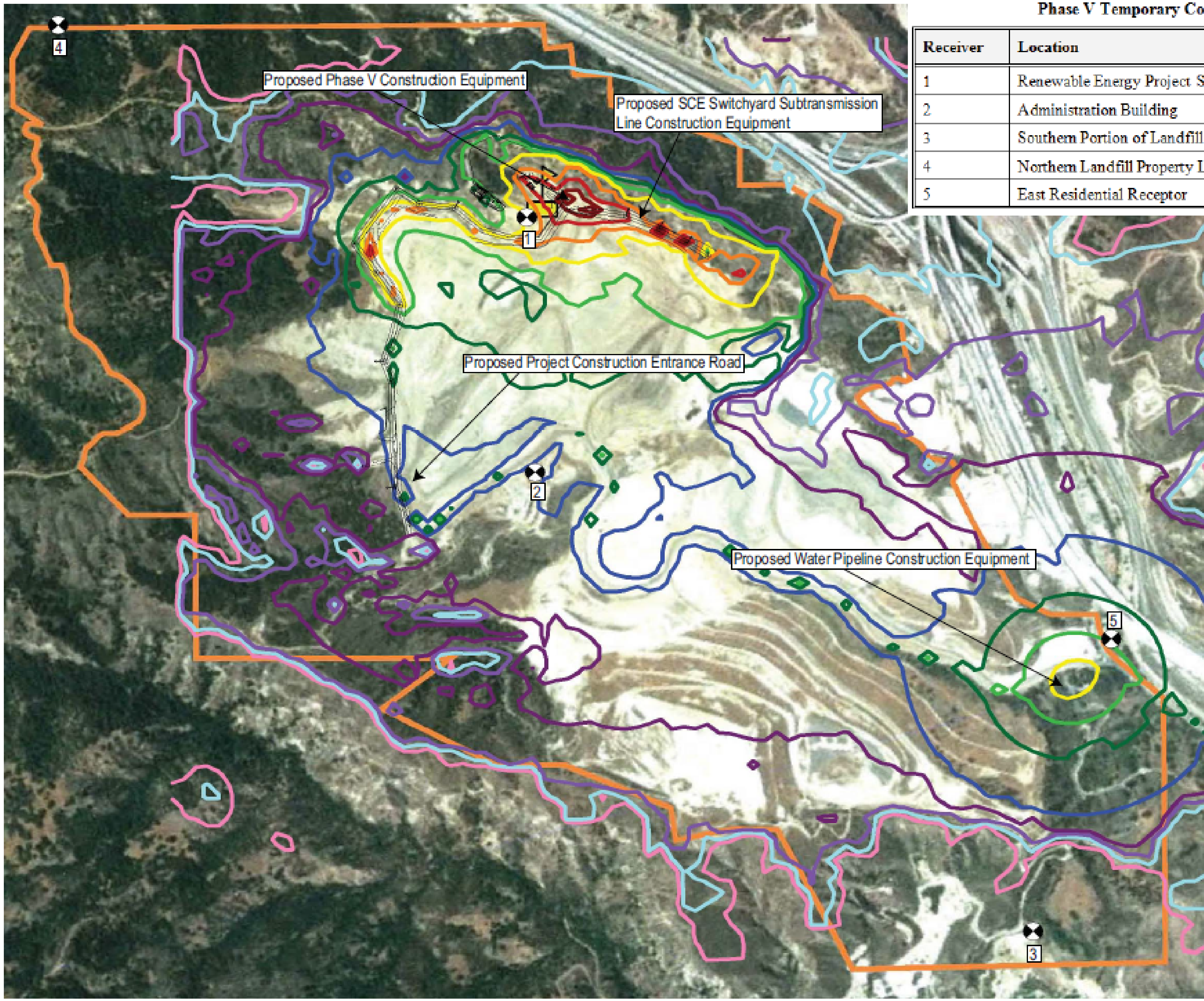

Phase V Temporary Construction Noise Impacts

Receiver	Location	Construction Noise Impacts (dBA)
1	Renewable Energy Project Site	74.8
2	Administration Building	59.3
3	Southern Portion of Landfill Property	31.1
4	Northern Landfill Property Line	30.4
5	East Residential Receptor	69.3

40 dBA
45 dBA
50 dBA
55 dBA
60 dBA
65 dBA
70 dBA
75 dBA
80 dBA
85 dBA
90 dBA

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FIGURE 4-7

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Phase VI

Phase VI would be implemented over the one to two months following Phase V construction and would entail miscellaneous work, including painting and commissioning of the plant. A total of 30 trips per day would occur during this phase of construction due to 15 worker vehicles. The proposed construction equipment to be used in the construction of Phase VI is summarized in Table 4-28.

TABLE 4-28

Phase VI Construction Equipment and Sound Pressure Levels

Equipment	Quantity	Operation Usage Percentage	Sound Pressure Level at 50 feet (dBA)
Generator	2	60	82.0
Flat Bed Truck	1	60	84.0

The noise impacts from the Phase VI construction activities were evaluated at the four worst-case locations placed within the SCLF property, as discussed in Phase I. The worst-case noise impact calculations from the Phase VI construction activities are summarized in Table 4-29.

TABLE 4-29

Phase VI Temporary Construction Noise Impacts

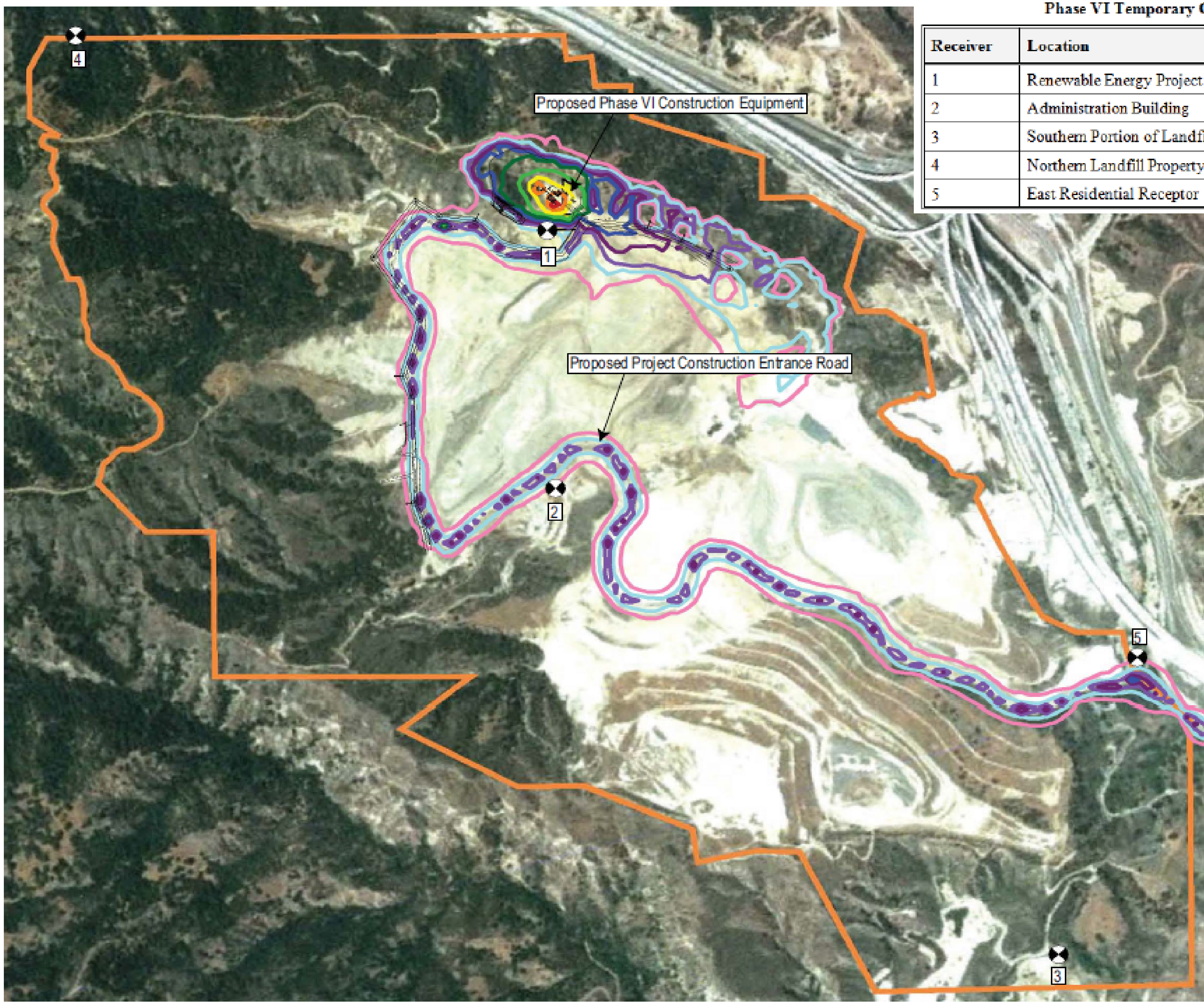
Number	Location	Construction Noise Impacts (dBA)
1	~~SGPREP~~SGP Facility	44.~~7~~5
2	Administration Building	~~44.6~~38.8
3	Southern Portion of Landfill Property	~~20.6~~14.5
4	Northern Landfill Property Line	~~17.0~~16.9
5	San Fernando Road Trailers	38.9

Los Angeles County restricts nighttime construction noise impacts at residential property lines to 50 dBA L_{EQ} and at commercial property lines to 60 dBA L_{EQ}. The City of Los Angles restricts construction noise impacts to 75 dBA LEQ at residential property lines. The results in Table 4-29 show that the construction noise levels at the SCLF property lines range from ~~17.0~~14.5 dBA at the ~~northern~~ southern landfill property line to 44.~~7~~ 5 dBA at the ~~SGPREP~~SGP Facility. ~~The renewable energy project site is not located near the landfill property line and noise levels encountered at this location, 20.6 dBA, would be even less at the nearest sensitive receptor due to the attenuation of noise over distance and, therefore,~~The noise levels at the nearest sensitive receptors would not violate ~~L.A.~~City of Los Angeles and Los Angeles County noise ordinances. ~~Because noise levels at the nearest sensitive residential receptors would be lower than these levels~~Therefore, noise impacts are considered to be less than significant and no mitigation would be required for the Phase VI temporary construction operations. A graphical representation of the noise impacts from Phase VI construction activities are presented on Figure 4-8.

Due to the isolated location of the proposed project and surrounding steep canyon topography, calculations show that the operational noise levels would be below all significant noise threshold limits at defined sensitive residential and commercial boundary receptors. Also, the temporary construction activities necessary to develop the proposed project are shown to be below all construction noise level thresholds for all six phases of development. Lastly, noise impact results show that workers exposed to the SCLF outdoor refuse collection area during normal work hours would not be exposed to the OSHA Eight-hour TWA noise threshold limit of 90 dBA and, therefore, the proposed project would not be subject to Hearing Conservation Plan requirements~~, as a result of this study~~.

Phase VI Temporary Construction Noise Impacts

Receiver	Location	Construction Noise Impacts (dBA)
1	Renewable Energy Project Site	44.5
2	Administration Building	38.8
3	Southern Portion of Landfill Property	14.5
4	Northern Landfill Property Line	16.9
5	East Residential Receptor	38.9



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4.7.4 MITIGATION MEASURES

No significant impacts associated with noise are expected from the proposed project, so no mitigation measures are required.

4.7.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The proposed project impacts for noise are expected to be less than significant.

4.8 GROWTH-INDUCING IMPACTS

CEQA defines growth-inducing impacts as those impacts of a proposed project that "could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth" (CEQA Guidelines §15126.2(d)).

The proposed project is not expected to foster population growth in the area, nor would additional housing or infrastructure be required. The proposed project would not cause an increase in the quantity of waste brought onto the landfill. The project involves the modification of the existing LFG collection system for use as an energy generation facility. No infrastructure development or improvement would be required in the surrounding community, and no population growth would be encouraged as a result of the proposed project. It is expected that construction workers necessary to build new, or modify existing equipment would be largely drawn from the existing workforce pool in southern California. Further, operation of the proposed project is expected to require a maximum of two to three full-time employees.

4.9 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED AND SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA requires an EIR to discuss significant environmental effects (CEQA Guidelines §15126.2(b)) and irreversible environmental changes (CEQA Guidelines §15126.2(c)), which would result from a proposed project, should it be implemented. Significant adverse impacts are impacts that would exceed established threshold levels. Irreversible changes include a large commitment of nonrenewable resources, committing future generations to specific uses of the environment (e.g., converting open spaces into urban development), or enduring environmental damage due to an accident.

The proposed project involves construction and operation, located within the landfill area that has been operating for decades. The proposed project would utilize LFG to produce renewable energy. There is no major commitment of nonrenewable resources or changes that would commit future generations to specific uses of the environment associated with the proposed project. Project impacts involving emissions of ~~CO and~~ $PM_{2.5}$, and cumulative impacts involving emissions of ~~CO,~~ $PM_{2.5}$~~,~~ and GHGs (see Section ~~5.3.4~~5.3.5) would be significant and unavoidable.

4.10 ENVIRONMENTAL EFFECTS FOUND NOT TO BE SIGNIFICANT

The environmental effects of the proposed project are identified and discussed in detail in the preceding portions of Chapter 4 of this ~~Draft~~Final SEIR and in the ~~Initial Study~~NOP/IS (Appendix A). The following topics of analysis in this ~~Draft~~ Final SEIR were found to have no potentially significant adverse effects, after mitigation:

- Cultural Resources
- Energy
- Geology and Soils
- Hydrology and Water Quality
- Noise

The following topics of analysis were found to have no potentially significant adverse effects in the NOP/IS (Appendix A), per the requirements of the CEQA Guidelines (§15128):

- Aesthetics
- Agricultural Resources
- Biological Resources
- Hazards and Hazardous Materials
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Recreation
- Solid and Hazardous Waste
- Transportation and Traffic

CHAPTER 5

CUMULATIVE IMPACTS

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5.0 CUMULATIVE IMPACTS

5.1 INTRODUCTION

The CEQA Guidelines require that EIRs discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," meaning that the project's incremental effects would be significant when viewed in connection with the effects of past, current, and probable future projects. CEQA Guidelines § 15130 (a) and (b) state:

"(a) An EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in section 15065(c). Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

1. As defined in Section 15355, a cumulative impact is an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.
2. When the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, the EIR shall briefly indicate why the cumulative impact is not significant and is not discussed in further detail in the EIR. A lead agency shall identify facts and analysis supporting the lead agency's conclusion that the cumulative impact is less than significant.
3. An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant. A project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. The lead agency shall identify facts and analysis supporting its conclusion that the contribution will be rendered less than cumulatively considerable.

(b) The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not be as detailed as it is for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact. The following elements are necessary for an adequate discussion of significant cumulative impacts:

1. Either:
    - A. A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or
    - B. A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas

> emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency."

The analysis of cumulative impacts in this chapter lists potentially cumulatively related projects, uses approach (A) above, ~~(the "list" approach). It focuses on the~~ and includes an analysis of impacts ~~of~~ from implementing~~ation of~~ the SGPREP concurrent with past, present, and probable future projects producing related impacts. The analysis will focus on whether impacts from the proposed project are considered to be cumulatively considerable and, therefore, contribute to significant cumulative impacts.

5.2 POTENTIALLY RELATED PROJECTS

There are a number of projects proposed for development in the vicinity of the SCLF that have been evaluated to determine if they contribute to cumulative environmental impacts in addition to those impacts incrementally generated by the proposed project. These projects include industrial projects as well as other types of land use projects planned in the City of Los Angeles and Los Angeles County, specifically in the districts of Grenada Hills and Sylmar. This impact~~s~~ analysis considers projects that may contribute to cumulative impacts in the vicinity of the proposed project within a two-mile radius. Depending on the type of project being evaluated, SCAQMD typically uses a one-mile radius, but due to the isolated nature of the proposed project and the fact that there are no related projects within a one-mile radius, the SCAQMD has extended the analysis radius to two miles. The discussion below lists projects that have been identified and may proceed in the foreseeable future (i.e., project information has been submitted to a public agency). The locations of these projects, termed "related projects," are shown on Figure 5-1 (Figure 5-1 from the Draft SEIR has been deleted and replaced to avoid confusion) and are referred to by number in the text below. For some related projects, there is insufficient environmental data with which to analyze cumulative impacts (see Section 5.2.1). For projects with sufficient environmental data, construction and operational impacts from these related projects were evaluated if the major portion of their construction and operation is expected to occur during the same construction or operations period as the proposed project and sufficient data were available to analyze.

Public agencies contacted to obtain information on related projects included the Los Angeles County Department of Regional Planning (Los Angeles County 2011b), the City of Los Angeles, Department of City Planning (City of Los Angeles 2010), the City of Santa Clarita, Department of Community Development (City of Santa Clarita 2010), and Caltrans (Caltrans 2011).

During the Draft SEIR public review period, additional potential cumulatively related projects were identified and, as a result, subsequent to release of the Draft SEIR for public review SCAQMD conducted additional research on related projects and potential cumulative effects to ensure that all potential cumulatively related projects had been identified. In addition to the agencies contacted during the preparation of the Draft SEIR, the SCAQMD contacted the following agencies to identify any projects currently under construction or in the initial planning stages: LADWP (LADWP 2011b), Metropolitan Water District of Southern California (MWD; MWD 2011), and CPUC (CPUC 2011). As a result of the further investigation, SCAQMD identified eight additional projects (two without sufficient environmental impact information and six with sufficient environmental impact information).

5.2.1 RELATED PROJECTS WITHOUT SUFFICIENT ENVIRONMENTAL IMPACT INFORMATION

There are projects in the vicinity of the proposed project that may have related impacts, but are early in the planning process and do not have environmental impact information available; therefore, these projects were not considered further. The projects without sufficient environmental impact information are projects listed by the City of Los Angeles Department of City Planning and Los Angeles County Department of Regional Planning. For the projects listed in Table 5-1, the Los Angeles County Planning Department was able to provide only the project name, a limited project description, a project location and a notation that CEQA documents are not available for these projects. The City of Los Angeles projects include the new community plans for Sylmar and Granada Hills, for which NOPs have been issued, but environmental documentation has not been prepared. The projects with enough available information to provide a project description are discussed in Section 5.2.2.

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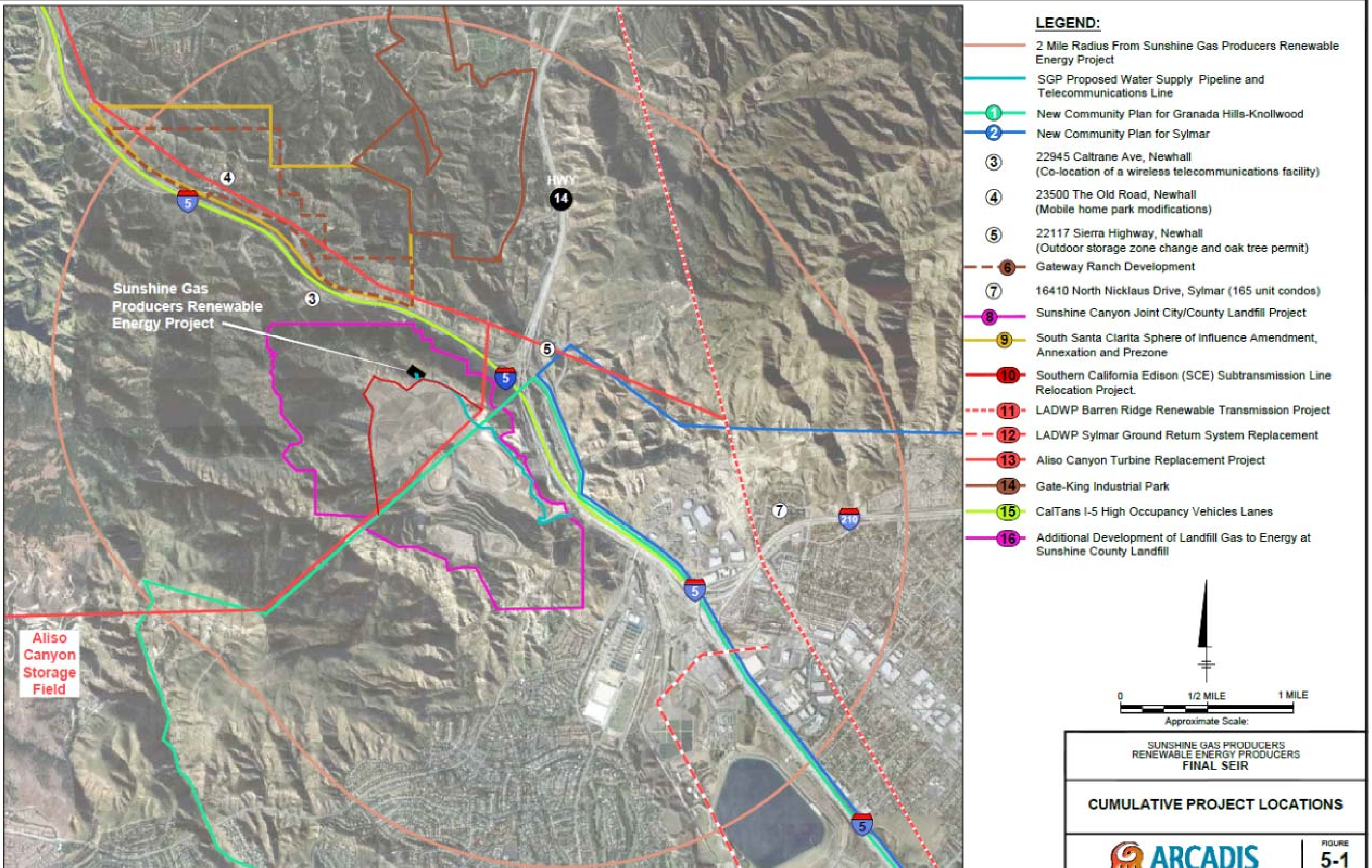

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CUMULATIVE PROJECT LOCATIONS

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FIGURE 5-1

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TABLE 5-1

Related Projects Without Sufficient Environmental Impact Information

Map No.	Project Location	Description	File Date	Distance from SGPREP (miles)
1	Granada Hills-Knollwood Community Plan Area [1]	New Community Plan for Granada Hills-Knollwood (Los Angeles County 2008a)	2/13/2008	0.5
2	Sylmar Community Plan Area [1]	New Community Plan for Sylmar (Los Angeles County 2008b)	2/19/2008	0.4
3	22945 Coltrane Ave, Newhall [2]	Co-location of a wireless telecommunications facility consisting of six panel antennas and one parabolic dish antenna mounted to an existing monopole	2/18/2009	0.85
4	23500 The Old Road, Newhall [2]	Non-conforming review to allow reduced requirements for density, parking, access points, driveway width and signage at an existing 85 unit mobile home park in A-2-1 Zone	7/12/2007	1.6
5	22117 Sierra Highway, Newhall [2]	Development program for outdoor storage of building supplies, services, equipment and vehicles. Zone change from C-3 and A-2-1 to M-1.5 DP. Oak tree permit with public hearing.	12/21/2005	0.88
6	Gateway Ranch Development (North of The Old Road) [2]	Proposed subdivision project to create 128 lots. Subcommittee Hearing review held in October 2010 - project on hold pending further information.	9/19/2010	1.5
7	16410 North Nicklaus Drive, Sylmar [1]	Tentative Tract Map (TT-60913-M1) for additional 9 Lots for construction of 165-unit residential condo on 136 acres	2/29/09	0.6

[1] Source: City of Los Angeles, Department of Planning, CEQA Documents website. http://cityplanning.lacity.org/ (City of Los Angeles 2011)

[2] Source: Los Angeles County, Department of Regional Planning, Systems Analysis Section, e-mail correspondence with Angelique Carreon, March 3, 2011. (Los Angeles County 2011b)

Shaded Rows indicate newly identified projects.

5.2.2 RELATED PROJECTS WITH SUFFICIENT ENVIRONMENTAL IMPACT INFORMATION

The ~~three~~ nine projects identified in this section, three projects from the Draft SEIR and six newly identified projects, have sufficient information available regarding their potential environmental impacts. Table 5-2 provides a summary of the projects discussed in this section. Table 5-3 provides a summary of the environmental impacts from the related projects with sufficient environmental information.

TABLE 5-2

Related Projects with Sufficient Environmental Impact Information

Map No.	Project Location	Description	Distance from SGPREP (miles)
8	Sunshine Canyon Joint City/County Landfill Project	Development, operation, maintenance, and monitoring of a Class III, nonhazardous solid waste landfill[a]	Within SCLF
9	South Santa Clarita Sphere of Influence Amendment, Annexation and Prezone	Annexation of approximately 595 acres currently located in the unincorporated portion of Los Angeles County	0.4
10	SCE Subtransmission Line Relocation (SLR) Project	Relocation of the existing 66kV subtransmission line (currently runs through the center of SCLF) to the perimeter of the disturbed area in the north of the SCLF	Within SCLF
11	LADWP Barron Ridge Renewable Transmission Project (BRRTP)	Subtransmission line installation located in Los Angeles and Kern Counties in order to transmit electricity from renewable energy sources in remote areas	0.85
12	LADWP Sylmar Ground Return System Replacement Project	Replacement of 31 miles of overhead power lines, underground cables and sub-sea cables that run from the Sylmar Converter Station to the Pacific Ocean	0.90
13	Aliso Canyon Turbine Replacement Project	Replacement of an existing gas turbine-driven compressor station with three variable frequency drive compression trains installed in a new compressor station includes modifications to existing subtransmission line within SCLF	Within SCLF
14	Gate King Industrial Park	Subdivision of 584 acres on 25 parcels into 60 lots for an industrial/commercial park, water tanks and permanent open space	0.6
15	Caltrans Golden State Freeway (I-5) and Antelope Valley Freeway (SR-14) Direct High Occupancy Vehicle (HOV) Connector	Building an elevated, two-lane HOV lane connector between the HOV lanes of I-5 and SR-14, for a distance of approximately thirteen miles	0.25
16	Additional Development of LFGTE Projects at the Sunshine Canyon Landfill	Potential future development of additional LFGTE projects at the Sunshine Canyon Landfill	Within SCLF

[a] Includes Order for Abatement to address SCLF odor issues.

Shaded rows indicate newly identified projects.

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TABLE 5-3

Environmental Impacts from Related Projects

Map No.	Project Location	Air Quality		Cultural Resources		Energy		Geology and Soils		Hydrology and Water Quality		Noise	
		Project Specific	Cumulative	Project Specific	Cumulative	Project Specific	Cumulative	Project Specific	Cumulative	Project Specific	Cumulative	Project Specific	Cumulative
8	Sunshine Canyon Joint City/County Landfill Project	S	S	MLTS	MLTS	LTS	LTS	MLTS	LTS	LTS	LTS	LTS	LTS
9	South Santa Clarita Sphere of Influence Amendment, Annexation and Prezone	MLTS	LTS	LTS	LTS	--	--	LTS	LTS	LTS	LTS	MLTS	LTS
10	SCE Subtransmission Line Relocation (SLR) Project[1]	LTS	LTS	LTS	LTS	--	--	LTS	LTS	LTS	LTS	LTS	LTS
11	LADWP Barron Ridge Renewable Transmission Project (BRRTP)	S	S	S	S	--	--	MLTS	LTS	MLTS	S	LTS	LTS
12	LADWP Sylmar Ground Return System Replacement Project[2]	PS	PS	PS	PS	--	--	LTS	LTS	PS	PS	PS	PS
13	Aliso Canyon Turbine Replacement Project	MLTS	MLTS	MLTS	MLTS	--	--	MLTS	MLTS	MLTS	MLTS	MLTS	MLTS
14	Gate King Industrial Park	S	LTS	MLTS	MLTS	--	--	MLTS	MLTS	MLTS	MLTS	MLTS	MLTS
15	Caltrans Golden State Freeway (I-5) and Antelope Valley Freeway (SR-14) Direct High Occupancy Vehicle (HOV) Connector	MLTS	LTS	MLTS	--	--	--	LTS	--	MLTS	LTS	MLTS	MLTS

Notes:
-- = not analyzed
NI = No Impact
LTS = Less than Significant
MLTS = Less than Significant with Mitigation
PS = Potential Significant Impact
S = Significant and Unavoidable
[1] Note: No environmental impact analysis has been conducted to date for the SCE-SLR project; however, operational emissions from this project would be similar to those for the SCE portion of the SGPREP and would not be significant.
[2] The environmental review completed for this project consists of an initial study, and does not include cumulative impacts.

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5.2.2.1 Sunshine Canyon Joint City/County Landfill Project (#~~6~~8)

The Sunshine Canyon Joint City/County Landfill Project consists of the development, operation, maintenance, and monitoring of a Class III, nonhazardous solid waste landfill (City/County Landfill). The purpose of the project is to combine the City and County landfills in order to increase the capacity to approximately 90 million tons without appreciably expanding the total footprint of the separate operations in the City and County.

The joint operation of the City/County Landfill began in 2009 and operates under CUP 00-194-(5), issued on January 29, 2007. The joint City/County Landfill footprint includes 18 million tons of capacity in the County landfill, the addition of 55 million tons within the City of Los Angeles, and the addition of 18 million tons in "the bridge area" in Los Angeles County. The average waste intake from the joint City/County Landfill is 11,000 tons per day (tpd), with a maximum permitted waste intake of 12,100 tpd (Solid Waste Facility Permit, Facility Number 19-AA-2000).

The SGPREP~~ project~~ would be located within the boundaries of the joint City/County Landfill property. Because of its size and proximity to the proposed project, it is likely that the joint City/County Landfill would have the greatest potential to generate cumulative impacts. Therefore, environmental impacts from the joint City/County Landfill project were evaluated in detail in the cumulative impacts analysis below.

The history of the environmental review of the joint City/County Landfill project is complex and included delays and litigation that spanned a number of years as discussed in Section 2.5. In the 1999 Final SEIR, the City analyzed impacts, including peak LFG production capacity in the future, and concluded that all impacts of the City/County Landfill project, except for the regional cumulative air quality impact, were less than significant after mitigation. ~~As to the air quality impact, t~~The City found that air quality ~~e~~ impacts could not be feasibly mitigated to less than ~~below a level of~~ significant~~ce~~ levels, and it adopted a Statement of Overriding Considerations (Los Angeles County Department of Regional Planning 2006) in compliance with CEQA.

5.2.2.2 Anticipated Modifications at SCLF to Comply with the Stipulated Third Amended Order for Abatement Addressing Odor Issues (#16)

In addition to the operations associated with the City/County Landfill project, SCLF operators are implementing modifications to address odor complaints from the local community. The SCLF has a history of odor complaints from the local community and, as a result, has been subject to NOVs from the SCAQMD. For example, from November 13, 2008 through October 25, 2011, 35 odor public nuisance NOVs have been issued against the SCLF. On April 22, 2010 a Board Hearing was held, which resulted in a Stipulated Order for Abatement for SCLF to reduce odors. Modifications to the Stipulated Order for Abatement were issued on March 24, 2010 and January 20, 2011. In response to continuing NOVs, SCLF operators submitted a STAOA to the Stipulated Order for Abatement dated December 3, 2011. The STAOA became effective December 6, 2011, the date it was signed by the SCAQMD's Hearing Board. All actions resulting in the STAOA occurred well after release of the Draft SEIR in May 2011.

The intent of the STAOA is to establish a schedule of required actions to bring the SCLF into compliance with applicable SCAQMD rules and regulations, in particular SCAQMD Rule 402 – Nuisance. The STAOA requires SCLF operators to expedite repairs and improvements to the

SCLF's gas collection system, increase landfill emissions monitoring, hire an independent consulting firm to conduct environmental monitoring in coordination with corrective action managers on duty 24 hours per day, seven days per week at SCLF and installing a temporary new flare and the new "Flare 9" to increase the collection and destruction of LFG.

Specifically, the STAOA required SCLF operators to submit an odor management plan by December 16, 2011, and begin implementing LFG collection improvements by December 16, 2011. LFG collection improvements include, but are not limited to: installing vertical wells; installing horizontal gas collectors; and using odor controls that, at a minimum, require completely covering odorous waste spoils, except during active loading/unloading activities, with foam or heavy-duty plastic sheeting approved by the SCAQMD.

In addition to modifications to improve the SCLF's LFG collection system, operators must obtain applicable permits to install a new flare to improve LFG destruction efficiency. Specifically, SCLF is currently proposing LFG collection and control system improvements to install a new state of the art John Zinc Company Ultra Low Emissions (ZULE) flare, proposed as "Flare 9." SCLF submitted an application for a permit to construct to the SCAQMD in October 2011. Flare 9 will be located in the same general area as Flare 8 and will be sized for a slight increase in LFG throughput compared to Flare 8 in order to assist SCLF in maintaining ongoing compliance with current federal, state and SCAQMD standards. In addition, Flare 9 is expected to achieve enhanced LFG destruction, resulting in lower emissions compared to Flare 8.

As discussed in the PTC application, the 1991 EIR and 1999 SEIR for the City/County Landfill project included the construction and operation of Flares 1, 3, and 8. For the purposes of satisfying CEQA, any emission increases due to the proposed installation of Flare 9 must be considered in light of the original (cumulative) emissions analysis in the original 1991 EIR. Based on operational emissions information in the PTC application for Flare 9, emissions from the new Flare 9 would not result in new significant adverse impacts or substantially increase the severity of impacts already concluded to be significant, or provide new information of substantial importance relative to the draft document. Therefore, the modifications to replace Flare 8 with Flare 9 are within the scope of the 1991 EIR analysis and would not require further CEQA review. In accordance with the STAOA, SCLF is required to complete the modifications to the gas collection and control system by July 2012. The proposed project turbines would be consistent with the improvements to the gas collection system, new flare capacity, and other modifications being undertaken by SCLF in accordance with the STAOA.

5.2.2.~~2~~3 South Santa Clarita Sphere of Influence Amendment, Annexation and Prezone (#~~7~~9)

The proposed South Santa Clarita project consists of a Sphere of Influence[31] (SOI) Amendment, Annexation and Prezone ("South Santa Clarita project") of approximately 595 acres currently located in the unincorporated portion of Los Angeles County. The southern border of the proposed South Santa Clarita project is approximately 0.4 mile~~s~~ north of the proposed SGPREP.

The project area, which is currently zoned a mix of Hillside Management, Heavy Agriculture, Transit Corridor and Urban 3, would be prezoned as Residential Estate (0 - 0.5 dwelling units per acre [du/ac]) and Residential Moderate (0 -11 du/ac) consistent with the City of Santa Clarita General Plan. The purpose of the ~~SOI amendment~~South Santa Clarita project and the City of Santa Clarita's desired action is to establish the probable ultimate southern boundary and urban service area of the City of Santa Clarita (City of Santa Clarita 1991). The ~~SOI amendment~~South Santa Clarita project reflects the most efficient provision of future services including police, fire and utilities, and establishes the responsibility to provide such services. The proposed South Santa Clarita~~SOI amendment~~ project would extend the City of Santa Clarita's ~~Sphere of Influence~~SOI and City boundaries to essentially the top of the watershed ridgeline separating the San Fernando and Santa Clarita Valleys. Maximum development potential under the proposed prezoning has been estimated at 58 single family homes although no development proposals ~~is~~ are currently associated with the proposed South Santa Clarita project.

The City of Santa Clarita ~~published~~ circulated a draft EIR in March 2009 (State Clearinghouse # 2007081014), and evaluated the potential for the proposed South Santa Clarita~~SOI amendment~~ project to result in environmental impacts in the following topic areas: Aesthetics, Agricultural Resources, Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Noise, Population and Housing, Public Services, Recreation, Transportation/Traffic, Utilities and Service Systems. In its draft EIR, the City of Santa Clarita found that the proposed South Santa Clarita project would not result in any significant project-specific or cumulative impacts on the environment with implementation of the specified mitigation measures.

~~No development proposals are currently associated with the proposed South Santa Clarita Annexation project. In addition, in its draft EIR, the City of Santa Clarita concluded that the South Santa Clarita Annexation project would not result in any significant impacts on the environment with the implementation of the specified mitigation measures.~~ Because all of the specific environmental impacts associated with the South Santa Clarita ~~Annexation~~ project were found to be less than significant, none of its environmental impacts are considered cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not likely contribute to cumulative impacts.

[31] A Sphere of Influence (SOI) is a plan for the probable, ultimate municipal boundaries and service area of a local agency, as determined by the Local Agency Formation Commission (LAFCO). Government Code Section 56427 provides that each LAFCO shall adopt an SOI for each local agency under that LAFCO's jurisdiction. Section 56428 provides that any local agency may request an amendment or revision to an adopted SOI or urban service area.

5.2.2.~~3~~4 SCE Subtransmission Line Relocation ~~(SLR)~~ Project (#~~8~~10)

SCE, pursuant to a request by Republic Services, Inc. (formerly BFI), is proposing to relocate an existing 66 kV line located in the center of the SCLF to provide for the needed expansion of the landfill's capacity. The proposed SCE–SLR project consists of the relocation of approximately 4,200 feet of the existing 66 kV subtransmission line, which currently runs through the center of SCLF (Figure 2-3~~6~~) to a new location that runs approximately 8,500 feet along the perimeter of the disturbed area of the landfill property within the County boundary (Figure 5-1). ~~The purpose for the proposed SCE SLR project is to relocate the existing transmission line.~~ The proposed ~~SCE~~ SCE-SLR would be located within the SCLF boundaries ~~and~~ approved by Los Angeles County. As shown on Figure 5-1, the proposed subtransmission line would be located adjacent to the proposed SGP Facility.

The proposed ~~SCE~~ SCE-SLR project would include the ~~relocation of the subtransmission line (approximately 8,500 feet), the~~ removal of existing support poles and wire, and installation of new wires, poles and footings along the new alignment. Construction would be expected to take less than six months;~~,~~ however, a scheduled start date has not been ~~made publicly available at this time~~determined due to SCE's separate permitting requirements at the CPUC. If determined to be necessary, a separate construction SWPPP will be prepared and a determination will be made as to whether the project falls under SCLF's existing NPDES.

The project, ~~is~~ as proposed, would be located in a ~~relatively minor occurring in a~~ previously disturbed area. ~~and its environmental impacts are not expected to be significant.~~ Additionally, if the 66 kV line is relocated, it will be aligned much closer to the SGPREP, and would result in a corresponding reduction in the length of the subtransmission line required to support the SGPREP, thereby reducing the environmental impacts associated with the subtransmission line for the SGPREP. ~~Because t~~The ~~final~~ alignment of the SCE--SLR transmission line is in the final stages of design~~not yet known~~, but it is not possible to determine the exact~~ly how much the~~ length of ~~the~~ subtransmission line that would be required for SGPREP ~~will be reduced~~ if the SCE-SLR project is implemented. As a result, the analysis for the proposed project assumes that the entire length of transmission line would be installed.

The 1999 Final SEIR identified the need for relocation of the SCE Subtransmission Line;~~,~~ however, the route of the relocation had not been finalized. SCE is in the process of preparing a PTC application, along with a~~A~~ required final Proponent's Environmental Assessment (PEA) in coordination with Republic Services, Inc., that SCE anticipates submitting to the CPUC in 2012 for approval and for which the CPUC will serve as Lead Agency pursuant to CEQA. PTC approval by the CPUC is not anticipated until 2013.~~has not been published~~.

5.2.2.5 LADWP Barron Ridge Renewable Transmission Project ~~(BRRTP)~~ (#11)

The BRRTP is a proposed LADWP power transmission project located in both Los Angeles and Kern Counties. The purpose of the BRRTP is to assist LADWP in meeting RPS goals by allowing interconnection to renewable energy sources, most of which are located in remote areas with limited electrical infrastructure. The BRRTP would include five project components: (1) expanding the existing Barron Ridge Switching Station, (2) constructing a new switching station in Haskell Canyon, (3) constructing 61 miles of new 230 kV double-circuit transmission line from Barron Ridge Switching Station to Haskell Canyon, (4) reconductoring 76 miles of the existing Barron Ridge – Rinaldi transmission line with larger capacity conductors, and (5) adding 12 miles of new 230 kV circuit to the existing double-circuit structures from Haskell Canyon to Castaic Power Plant. The BRRTP construction is anticipated to begin in late 2012 with a target in-service date of early 2015. Replacing the conductors on the existing 230 kV Barron Ridge – Rinaldi transmission line would include work approximately 0.85 mile to the east of the proposed SGPREP water supply pipeline installation (Figure 5-1).

A Draft Environmental Impact Statement (EIS)/EIR was prepared for the BRRTP by the US Department of Agricultural, Forest Service and the U.S. Department of the Interior, Bureau of Land Management as co-lead agencies under the National Environmental Policy Act (NEPA) and LADWP as the lead agency under CEQA. The Draft EIS/EIR released for public review on August 26, 2011, after release of the Draft SEIR for public review in May 2011, and identified the following significant adverse project-specific impacts:

- Air Quality and Climate Change – maximum daily construction emissions would exceed regional significance thresholds in 2013 and 2014, and emissions of NO_x above the significance threshold would occur in 2013 and/or 2014.
- Cultural Resources – effects on Old Ridge Route and its contributing elements (a historic resource listed on the National Register of Historic Places and the California Register of Historical Resources), and the Olive Power Plant 1 Transmission Line (eligible for listing on the National Register; listed on the California Register).
- Recreation – degradation of the Pacific Crest National Scenic Trail and contribution to the long-term loss or degradation of recreational opportunities by allowing unmanaged recreational uses.
- Transportation/Traffic – construction activities would exceed Level of Service standard "D." The impacted intersection nearest the site is that of Foothill Boulevard, east of Filbert Street, which is a two-lane roadway. The existing operations are at LOS "E" and would worsen to LOS "F" during construction of the BRRTP. This intersection is approximately one and a quarter miles southeast of the proposed SGPREP, to the east of I-5 and south of HWY 210. It is unlikely that the proposed SGPREP would impact this intersection based on its location relative to the freeway offramps that would be used by construction vehicles for the proposed SGPREP.
- Visual Resources – impacts to the Pacific Crest National Scenic Trail (outside and within Angeles National Forest); non-compatibility with Forest Service Scenic Integrity Objectives; and impacts on residences, travelers and recreationists as from visual contrasts.

The Draft EIS/EIR also identified cumulatively significant impacts to the following resource areas:

- Agriculture
- Air Quality and Climate Change (Construction PM_{10} contribution to exceeding regional thresholds)

- Biological Resources (slender mariposa lily, short-joint beavertail cactus, desert tortoise and California gnatcatcher)
- Visual Resources (increase in the number of structures and structure prominence)
- Water Resources (watersheds)

5.2.2.6 LADWP Sylmar Ground Return System Replacement Project (#12)

The LADWP is proposing to replace the Sylmar Ground Return System, which would consist of 31-miles of overhead power lines, underground cables and sub-sea cables that would run from the Sylmar Converter Station (approximately 0.9 mile southeast of the San Fernando Road entrance to SCLF) to the Pacific Ocean. The Sylmar Ground Return System is designed to carry electrical current when the Pacific Direct Current Intertie (PDCI; high voltage direct current transmission system key to the LADWP grid) is not functioning properly. The primary purpose of this project is to ensure PDCI continues to operate reliably. The existing Ground Return System has not been upgraded since the original PDCI was first energized in 1970, while the PDCI itself has been upgraded several times. Construction of the Sylmar Ground Return System is anticipated to take approximately 28 months; however, a start date has not been established at this time.

As Lead Agency under CEQA, the LADWP produced an NOP and an IS in September 2010 (LADWP 2010). The IS identified potentially significant impacts to the following resource areas:

- Air Quality – temporary increases in localized emissions during the project construction period.
- Biological Resources – construction impact on protected terrestrial native species and habitats, as well as marine species and habitats from laying cable on the ocean floor.
- Cultural Resources – trenching of underground cables could uncover previously undiscovered cultural resources.
- Greenhouse Gas Emissions – construction would result in a temporary increase in emissions, including GHG emissions.
- Hazards and Hazardous Materials – construction activities would result in lane reductions and restrictions and may impact adopted emergency response plans.
- Hydrology and Water Quality – construction activities could result in violation of water quality standards or waste discharge requirements for marine waters, or otherwise degrade the quality of marine waters.
- Noise – construction activities would include the use of heavy equipment and would include excavation activities near residential areas and schools.
- Traffic and Transportation – construction activities could require lane closures and result in increased traffic volumes.

Because the LADWP identified potentially significant impacts, an EIR will be developed for the Sylmar Ground Return System Replacement Project. However, a Draft EIR has not yet been circulated for public review so a final determination of significance has not been made for any of the impact areas identified in the above bullet points.

5.2.2.7 Aliso Canyon Turbine Replacement Project (#13)

Southern California Gas Company ("SoCalGas") is proposing to develop, construct and operate the Aliso Canyon Turbine Replacement Project located at the Aliso Canyon natural gas storage field in Northridge, California (located approximately one mile west of the SCLF western boundary). The primary component of this project is the replacement of an existing gas turbine-driven compressor station with three variable frequency drive compression trains installed in a new compressor station. The project includes the following components:

1. Construction of the proposed on-site central compressor station and installation of new equipment.
2. Relocation of an on-site office, crew-shift buildings and guard house.
3. Construction of a new on-site, four circuit, approximately 2,000-foot 12-kV Plant Power Line that would provide dedicated electric services to the proposed central compressor station. The Plant Power Line would be owned by SoCalGas and designed to San Diego Gas and Electric standards.
4. Construction of the proposed on-site SCE Natural Substation.
5. Construction of both on-site and off-site electrical modifications to two existing SCE 66-kV subtransmission lines (up to approximately 12 miles long) in order to serve the proposed Central Compressor Station's load. Modifications would also include replacement of existing towers and H-frame structures with new TSP, and installation of telecommunication lines on the poles. This project component would be constructed and owned by SCE.
6. Off-site substation modifications at three existing SCE substations (Newhall, Chatsworth, and San Fernando Substations) that support two existing SCE 66-kV subtransmission lines. This project component would be constructed and owned by SCE.

SoCalGas filed an application with the CPUC to construct the Aliso Canyon Project. The CPUC is the lead agency responsible for preparing a PEA for the Aliso Canyon Turbine Replacement Project in September 2009 (SoCalGas 2009). The PEA presents the subtransmission line route proposed in the SLR project (#10 above), and identifies proposed modifications to the subtransmission line within the SCLF boundaries. In April 2012, the CPUC published a Draft EIR for the project (CPUC 2012). In the Draft EIR, the CPUC concluded that the project would have no significant and unavoidable impacts on the environment. Mitigation measures were identified for aesthetics, air quality (to reduce cumulatively considerable net increase of any criteria pollutant for which the region is nonattainment), biological resources, cultural resources, geology and soils, greenhouse gases, hazards and hazardous materials, hydrology and water quality, noise, and public services and housing.

5.2.2.8 Gate King Industrial Park (#14)

The City of Santa Clarita certified a Final EIR for the proposed Gate King Industrial Park in June 2003. The project would consist of subdividing 584 acres on 25 parcels into 60 lots for an industrial/commercial park, water tanks and permanent open space. The project is located northwest of the I-5 and Antelope Valley (CA-14) Freeways, and approximately 0.6-mile north of the proposed SGPREP. As noted in the Final EIR, the Gate King Industrial Park project included areas of controversy regarding potential impacts to on-site oak trees, wildlife movement corridors, ridgelines and cultural resources (City of Santa Clarita 2003). The project would include a five-year construction period, with a total of 26 months of grading activities.

In the Final EIR, the City of Santa Clarita concluded that the proposed project would have significant and unavoidable impacts to air quality during construction and operations (reactive organic gases and NO_x), biological resources (on-site oak tree removal and disturbance, and wildlife disturbance), aesthetics (alteration of scenic views from public locations, and alteration of City-designated Primary and Secondary Ridgelines). The City of Santa Clarita determined that impacts to all other resources areas were concluded to be less than significant or less than significant with mitigation measures. Due to public controversy and ongoing litigation associated with the Gate King Industrial Park Final EIR, including concerns regarding oak tree impacts and water supply, development of the site has not begun.

5.2.2.9 Caltrans Golden State Freeway (I-5) and Antelope Valley Freeway (SR-14) Direct High Occupancy Vehicle Connector (#15)

Caltrans is currently constructing an elevated, two-lane HOV lane connector between the HOV lanes of I-5 and SR-14, for a distance of approximately 13 miles. The purpose of the project is to relieve traffic congestion, improve traffic flow, enhance safety and improve traffic operations for both freeways. This project would include the I-5 corridor located approximately ¼-mile north of SCLF. The HOV lane is approximately 60 percent complete. All major retaining walls and drainage systems, part of the concrete paving, a substantial portion of the foundation-related work, and most of the West Sylmar bridge widening are complete. Caltrans anticipates a project completion date of Fall 2012.

Caltrans certified a Final EIR in September 2009 (Caltrans 2009) that found all potential impacts would be less than significant with mitigation.

5.2.2.10 Additional Development of Landfill Gas to Energy at the Sunshine Canyon Landfill (#16)

Although SGP representatives have indicated that they have no plans to install additional electricity generating turbines, there is potential for constructing and operating additional LFGTE projects at the Sunshine Canyon Landfill. According to the current projections included in the STAOA, it is anticipated that there could be sufficient gas production available in the future to power four additional gas turbines and produce up to 19 MW of renewable energy. Although there is no project currently planned to develop the additional LFGTE resources at SCLF, to a certain extent impacts of such a project could be estimated based on the parameters of the current SGP project for some environmental topic areas to determine if a future LFGTE project would generate cumulatively considerable impacts, thus, contributing to significant adverse cumulative impacts. Because of the topographical features of the SCLF, e.g., ridgelines, valleys, steep slopes, etc., it cannot be known at this time where any future LFGTE project constructed at the SCLF would be located. Consequently, identifying a specific location for any future projects would be speculative. Therefore, it is not possible to evaluate potential impacts associated with a location choice, such as aesthetics, biological resources, cultural resources, geology/soils, etc.

For the purpose of the cumulative analysis, the additional development of the LFGTE projects at SCLF would be assumed to be similar to the SGP project, but at a slightly smaller scale, as only four additional LFGTE turbines could be built, compared to the five turbines planned for SGP. However, in order to remove contaminants from the LFG, an additional siloxane removal regeneration flare would also be assumed to be a part of the project.

For the purposes of analysis, it is assumed that this project would have similar ancillary support services as does the SGP. Ancillary support services would include, for example, additional utility infrastructure for power and water, as well as an additional administration building. In practice, support services may be combined, and assuming additional new construction for all ancillary support services would be a conservative assumption. Finally, to the extent that LFG would be combusted in the additional LFGTE project, it would not be combusted by LFG flares.

Additional environmental review would be required for any additional development of the LFGTE resources at SCLF. Since there are no known future LFGTE projects under consideration, there is currently no environmental documentation prepared on such a potential future project. Further, depending on the timing of any future LFGTE project, the lead agency responsible for preparing the CEQA document would likely need to consider the SGPREP in a cumulative impacts analysis.

5.3 AIR QUALITY

The geographic scope considered for potential cumulative impacts to regional air quality from criteria pollutants is the SCAQMD jurisdiction. The geographic scope considered for cumulative GHG impacts includes regional, statewide, ~~and~~ national, and international ~~considerations and~~ contributions to global emissions and climate change. Temporal ~~he scope of time~~ considerations~~ed~~ for ~~the~~ potential cumulative impacts to air quality anticipate~~s~~ construction to commence in ~~2011~~ 2012 and operations to begin in ~~2012~~2013. While the schedule for construction ~~timing~~ of related ~~SCLF and powerline rerouting~~ projects listed in Subsection 5.2.2 is uncertain, the cumulative impact assessment includes the conservative assumption that these projects ~~expected to fluctuate, the projects considered for cumulative impacts were conservatively anticipated to~~would occur simultaneously, with the exception of the modifications of the SCLF LFG collection and control system, which will be completed prior to initiation of SGPREP construction. The timing of any additional LFGTE development would not take place prior to the end of the construction of the SGP, as the additional gas resources would not be available in such a time frame. ~~during a similar time frame. However, because no developments~~ ~~projects are currently proposed for the SOI amendment area, it is not considered to be reasonably foreseeable that SOI-related construction would occur concurrently with the proposed project.~~The environmental analyses conducted for the following related projects identified significant impacts to air quality:

- LADWP BRRTP (Related Project # 11) – In the Draft EIS/EIR, project--specific impacts from construction PM_{10} and NO_x emissions, and cumulatively considerable impacts from construction PM_{10} emissions were identified.
- LADWP Sylmar Ground Return System Replacement (Related Project # 12) – In the IS, temporary increase in localized emissions during construction w~~ere~~as identified.
- Gate-King Industrial Park (Related Project # 14) – In the Final EIR, construction and operational VOC (the Gate-King Industrial Park Final EIR uses reactive organic gases (ROG) which can be used interchangeably with VOC) and NO_x emissions were determined to be significant.

5.3.1 CONSTRUCTION IMPACTS

As indicated in Chapter 3 of this Final SEIR, the Basin is classified as nonattainment for ozone, PM_{10}, and $PM_{2.5}$. As shown in Subsection 4.2.3.2, construction air quality impacts were quantified and demonstrated to be below the SCAQMD's applicable regional construction air quality thresholds of significance, with the exception of NO_x~~.~~ emissions. Significant NO_x emissions from construction would be mitigated through implementing Mitigation Measures A-1 (Tier 3 engines for SGP Plant Construction, if not available Tier 2 engines would be required~~, as feasible~~) and A-2 (purchase MSERCs for NO_x to offset all NO_x emissions in excess of the SCAQMD's regional NO_x construction air quality threshold of significance), which would reduce the project-specific construction air quality impacts to less than significant levels. ~~T~~Because NO_x construction emissions would exceed the regional NO_x construction significance threshold, ~~he~~ applying MSERCs is appropriate because they are derived from mobile sources and, therefore, are considered to be equivalent to regional emission reductions. Purchasing sufficient MSERCs is expected to ~~would provide~~ mitigate~~ion~~ ~~for~~ regional ~~construction~~ NO_x construction emissions to less than ~~that impacts in exceed~~ ~~ance of~~ the regional NO_x construction air quality threshold of significance.

The evaluation of cumulatively related projects indicated that some projects have the potential to create significant adverse construction air quality impacts (Subsection 5.2.2). Other cumulatively related projects are unlikely to create significant adverse cumulative construction air quality impacts because construction activities would not overlap with the proposed SGPREP construction activities. For example, if future LFGTE projects are to be developed at SCLF, it would be reasonable to assume that the construction impacts would be less than or equal to those estimated for the proposed SGPREP, as the future projected maximum production of LFG at SCLF would only be able to support a project that would be smaller than the proposed SGPREP, four turbines at most. As a result, any future LFGTE projects would likely generate construction air quality impacts less than impacts calculated for the proposed SGPREP, i.e., less than applicable regional construction air quality significance thresholds. It is possible that, depending on the location of any future LFGTE project, additional grading over and above that required by proposed SGPREP may occur. However, because the topography of the SCLF is not flat, but is largely comprised of ridges and valleys, the actual location of any future LFGTE projects cannot be predicted and, therefore, is considered to be speculative. In any event, construction of any future LFGTE projects would occur well after construction is completed for the proposed project and, therefore, construction air quality impacts would not overlap or contribute to cumulative construction air quality impacts in any way.

As already noted, implementing Mitigation Measures A-1 and A-2 would reduce the proposed SGPREP's project-specific regional NO_x construction air quality impacts to less than significant and, as a result, project-specific regional NO_x construction air quality impacts would not be considered cumulatively considerable as defined by CEQA Guidelines §15064(h)(1).

The analysis of localized construction air quality impacts in this Final SEIR ~~emission evaluation has~~ demonstrated that ~~the proposed~~ construction of the proposed project would not create any significant adverse localized construction air quality impacts from any pollutants that have the potential to create localized air quality impacts (Subsection 4.2.3.3) to any off-site sensitive receptors.

~~Implementing Mitigation Measures A-1 and A-2 would reduce project-specific construction air quality impacts to less than significant and as a result, project-specific construction air quality impacts would not be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1). L~~Project-specific localized ~~significance threshold~~ air quality impacts were ~~not cumulatively~~concluded to be less than significant~~, therefore,~~ because no significant adverse effects would occur off site that would contribute to an exceedance of the applicable localized significance~~t~~ thresholds.~~adverse impacts at the SOI area~~. By definition, if no localized air quality impacts occur beyond the boundaries of the proposed project, project emissions would not overlap with emissions from other projects at any sensitive receptors and, therefore, would not contribute to significant adverse cumulative air quality impacts, if any, from other projects. ~~Therefore~~Consequently, since localized air quality impacts are not considered to be cumulatively considerable, the proposed project ~~is not considered to~~would not ~~have~~ create significant adverse cumulative localized construction air quality impacts. Although other cumulatively related projects have the potential ~~the City/County Landfill was found~~ to create significant adverse project-specific or cumulative construction air quality impacts (Section 5.2.2), "the mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulatively considerable" (CEQA Guidelines § 15064(h)(4)).

Review of other cumulatively related projects, including the newly identified projects in Subsection 5.2.2, indicated that in some cases project-specific and/or cumulative construction air quality impacts may be significant, in other cases they would not create significant adverse project-specific and/or cumulative construction air quality impacts. As indicated above and in Chapter 4, with mitigation, construction air quality impacts would not exceed any applicable construction air quality project-specific significance thresholds, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not contribute to significant adverse cumulative construction air quality impacts. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative construction air quality impacts presented in the Draft SEIR.

5.3.2 OPERATIONAL EMISSION IMPACTS

The operational criteria pollutant air quality analysis in Section 4.2 showed that ~~CO and~~ $PM_{2.5}$ emissions would exceed the applicable regional thresholds of significance for operation. The proposed project would comply with SCAQMD Regulation XIII (New Source Review)~~,~~ which ensures that any emission increase greater than one pound per day of nonattainment air contaminants from the operation of any new, relocated or modified source does not impede the progress of attaining NAAQS or CAAQS. As discussed in the air permit documentation (Appendix E), ~~BACT~~ the emission control efficiency for the proposed project ~~would meet~~ goes substantially beyond current BACT/LAER requirements (i.e., is lower emitting) ~~on the proposed~~compared to controlled emissions from other similar ~~LFG fueled~~LFGTE generation facilities~~y for nonattainment pollutants~~, especially ~~(~~PM_{10}/$PM_{2.5}$~~)~~[32], and ~~any~~ other nonattainment pollutant precursors (SO_x, NO_x and VOC as precursors to particulate matter and ozone). In addition to ~~meeting~~ exceeding current BACT requirements, modeling of the proposed project showed that ~~impacts to~~ localized air quality impacts would be less than significant (Subsections 4.2.3.6 and 4.2.3.7).

Because the proposed project qualifies as an essential public service, pursuant to SCAQMD Rule 1304, the proposed SGPREP is exempt from federal offset requirements. However, the SCAQMD must demonstrate compliance with federal offset requirements for all major sources, including the SGPREP, so emission credits~~offsets~~ ~~utilized are~~ from the Priority Reserve for NO_x, SO_x and VOC ~~to ensure~~ emissions would be allocated to the proposed project to demonstrate compliance with federal offset requirements. ~~do not exceed thresholds of significance. These~~ Priority Reserve credits ~~offsets are~~ allocated by the SCAQMD ~~and~~ represent regional emission reductions that are typically generated through the over-control of existing equipment or from equipment that is no longer in operation for which the operator did not obtain ERCs.

~~Based on the utilization~~ Allocating ~~of offsets~~ emission credits from the Priority Reserve to the proposed project would also serve to mitigate regional operational air quality impacts ~~,~~from the proposed SGPREP ~~would have~~to less than ~~significant project-specific~~the applicable regional operational ~~impacts to air quality from~~significance thresholds for NO_x, SO_x and VOC emissions. Project-specific impacts from ~~CO and~~ $PM_{2.5}$ (for sources under 100 tons per year) are not subject to offset requirements and~~,~~ therefore, Priority Reserve ~~offsets~~ emission credits would not be applied to the proposed project, which means that $PM_{2.5}$ ~~reduce~~ emission impacts ~~to less than~~would continue to be significant. As a result, project-specific operational air quality impacts from ~~CO and~~ $PM_{2.5}$ are cumulatively considerable as defined by CEQA Guidelines §15064(h)(1). Therefore, the project is considered to have significant adverse cumulative operational air quality impacts from criteria pollutants.

With regard to potential cumulative operational air quality impacts from the proposed project, especially operational impacts associated with the SCLF, it is necessary to consider the proposed SGPREP within the context of the previously prepared CEQA documents prepared for SCLF, in particular the 1999 Final SEIR. The 1999 Final SEIR included an analysis of combustion impacts at SCLF from flares at peak LFG production, approximately 20,835 scfm (4,167 scfm x five flares). The 1999 Final SEIR also contemplated a future LFGTE project if economically

[32] BACT for $PM_{2.5}$ has not been established by SCAQMD, however, because the vast majority of PM_{10} from combustion is $PM_{2.5}$, PM_{10} BACT is also considered to be BACT for $PM_{2.5}$ and, therefore, would also reduce $PM_{2.5}$ emissions.

viable. The project-specific analysis of operational air quality impacts for the proposed SGPREP is considered to be a conservative analysis because it treated gas turbine combustion emissions as new emissions. In the context of cumulative impacts with the SCLF, as long as total combustion emissions from all sources at the SCLF are less than or equal to approximately 20,835 scfm, they are within the scope of the air quality analysis in the 1999 Final SEIR and, therefore, have already been accounted for in a certified CEQA document.

Once the proposed project is operational, the amount of LFG flared in the existing SCLF flares would be discontinued (except during periods of turbine engine downtime or maintenance). To ensure that combustion emissions during operation of the proposed SGPREP and existing flare emissions at the SCLF do not exceed combustion emissions analyzed in the 1999 Final SEIR, the SCAQMD will impose a permit condition on changes to the SCLF's Title V permit renewal to implement the projects included in the STAOA (project #16) to limit total LFG combusted at the SCLF flares and the proposed SGPREP to less than or equal to 16,100 scfm.[33]

Eventually, the amount of LFG generated and collected by the landfill is expected to exceed the fuel requirement of the proposed project and the SCLF enclosed flares will be required to operate consistently at a reduced level to control the excess LFG collected by the LFG collection system. Total LFG combustion, however, could not exceed the proposed condition on the SCLF Title V permit renewal of 16,100 scfm. To ensure that total LFG combustion at SCLF does not exceed this amount, a permit condition will be placed on the SCLF's Title V Permit as described above. Therefore, the total emissions associated with combustion of LFG collected by the LFG collection system (from the proposed project and SCLF) were evaluated in the 1999 Final SEIR.

Development of future LFGTE projects would result in an increase in emissions of criteria pollutants from the energy producing turbines, but would also result in a concurrent reduction in emissions from the flares in the future, as the gas would be diverted from the flares to the turbines and used only as backups when the turbines are not operating. For the purposes of this analysis, future potential LFGTE projects are assumed to be similar to the proposed project.

A comparison of emissions from Flare 9 to LFG turbine emissions from the proposed SGPREP, used as a surrogate project for a future LFGTE project, is shown in Table 5-4. Table 5-4 shows the emissions limits for both the newly permitted flare (Flare 9) and the turbines for the proposed SGPREP, including the emissions associated with the siloxane regeneration flare. Table 5-4 also shows the peak LFG production at SCLF that may be used for additional LFGTE projects and the incremental emission rate that may result from the combustion of the LFG in turbines rather than in the flare with the most stringent permitted emissions rates. Further, Table 5-4 shows the emission credits that would be allocated to the proposed project from the Priority Reserve. As shown in Table 5-4, based on the utilization of emission credits from the Priority Reserve, the

[33] To ensure that total LFG combustion at SCLF (flares and proposed turbines) does not exceed total LFG combustion analyzed in the 1999 Final SEIR (20,835 standard cubic feet per minute (scfm) at an assumed LFG methane content of 40 percent), as part of the current Title V permit renewal process for SCLF, a new Title V Facility-wide Condition will be included as a condition of the Title V permit. The new permit condition would not allow total LFG combustion at SCLF (flares and proposed turbines) to exceed 16,100 scfm based on a 50 percent methane concentration, which is equivalent to 20,835 scfm at an assumed LFG methane content of 40 percent. Due to the fluctuating nature of methane content in LFG the SGPREP Title V condition is given in MMBTU/Hr and equates to a flow rate of approximately 10,170 scfm of gas at 40% methane, which is the average methane content of LFG at SCLF, which is approximately equal to 8,500 scfm of gas at 50% methane identified in the Draft SEIR, plus or minus one percent methane.

additional LFGTE projects would have less than significant project-specific operational impacts to air quality from NO_x, SO_x, PM_{10} and VOC emissions. Project-specific operational impacts to air quality from CO emissions would be less than significant. Impacts from $PM_{2.5}$ are not subject to offset requirements and, therefore, Priority Reserve emission credits would not be applied to reduce impacts to less than significant. As a result, operational air quality impacts from $PM_{2.5}$ would continue to be cumulatively considerable as defined by CEQA Guidelines § 15064(h)(1).

Table 5-4

Potential Incremental Emissions from a Future LFGTE Project

	Units	NO_x	CO	PM_{10}	$PM_{2.5}$	VOC(3)	SO_x(3, 6)
Flare Emissions Factors(1)	lb/MMBTU	0.025	0.06	0.012	0.012	NA	NA
Turbine Emission Factors(2)	lb/MMBTU	0.067	0.068	0.02	0.02	NA	NA
FlareEmissions Factors(4)	lb/MMscf	NA	NA	NA	NA	1.95	12.40
TurbineEmission Factors(4)	lb/MMscf	NA	NA	NA	NA	1.95	12.40
Flare Emissions(5)	lb/day	120	288.1	57.6	57.6	24.0	152.1
Turbine Emissions(5)	lb/day	308.8	313.4	92.2	92.2	24.0	152.1
Incremental Emissions before Priority Reserve Offsets	lb/day	188.8	25.3	34.6	34.6	0	0
Incremental Emissions after Priority Reserve Offsets	lb/day	0	25.3	0	34.6	0	0
Significance Threshold	lb/day	55	550	150	55	55	150
Significant?	lb/day	No	No	No	No	No	No

Notes:
NA = Not Available
lb/MMBTU = pounds per million British thermal units
lb/day = pounds per day
(1) Based on Flare 9 permit limits
(2) Based on SGP proposed permit limits
(3) A function of LFG composition; VOC, as C_6H_{12}, assumes 98% destruction in both flare and turbine
(4) Based on LFG sampling data used in calculations presented in Flare 9 Permit Application
(5) Based on a maximum of 194 MMBTU/hr gas
(6) Based on inlet sulfur content of the gas

Review of other cumulatively related projects, including the newly identified projects in Subsection 5.2.2, indicated that they would potentially create significant adverse operational air quality impacts. As indicated above and in Chapter 4, project-specific operational NO_x, SO_x, CO, PM_{10} and VOC emissions would not exceed the applicable operational project-specific thresholds, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not contribute to significant adverse cumulative operational air quality impacts. However, project-specific operational air quality impacts from $PM_{2.5}$ would continue to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1) and, therefore, cumulatively significant. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative operational air quality impacts presented in the Draft SEIR.

~~Additionally, s~~Some percentage of electricity generated by SGPREP may displace electrical generation from higher emitting fossil fueled generation facilities in the area, at least in the near term, and some percentage would be expected to accommodate population growth. In the near term the proposed SGPREP ~~would be capable of dispatching electricity to the system in real time and~~ could reduce the need to dispatch fossil fuel generated power plants. To the extent that the proposed project displaces electricity generation in the region and electricity generation emissions are less than utility power generating emissions on a megawatt to megawatt basis, from an area-wide perspective, the proposed project could result in a net decrease in overall emissions of criteria pollutants, which would be a beneficial cumulative air quality impact of the proposed project in the near term. However, no credit was taken for offsetting emissions from higher emitting fossil fueled generation facilities in the area.

5.3.3 TOXIC AIR CONTAMINANTS

The project-specific analysis of the contribution of TACs ~~also~~ concluded that health impacts from the proposed project resulting from exposure to TACs would be less than significant. The proposed project would comply with SCAQMD Rule 1401, which requires that new stationary source emission units that emit ~~toxic air contaminants~~TACs must demonstrate compliance with specified limits for cancer risk and non-cancer health risks~~HI~~ (both chronic HI and acute HI). As discussed in Sections 4.2.3.6 and 4.2.3.7, the proposed project would not exceed cancer risk or HI thresholds of significance for sensitive receptors or off-site workers. The proposed project could not obtain permits if it exceeded applicable limits under SCAQMD Rule 1401.

The impacts from TACs are localized impacts. As indicated in Section 5.2, ~~with the exception of the City/County Landfill and Santa Clarita SOI,~~ several related projects with sufficient environmental information are located ~~over~~ within one mile ~~away from~~ of the SGPREP, including the City/County Landfill, Santa Clarita SOI, the SCE-SLR, the Aliso Canyon Turbine Replacement, Gate-King Industrial Park, the Caltrans I-5 HOV lane, and potential future LFGTE projects. Environmental analyses prepared for these projects ~~The 1999 Final SEIR for the City/County Landfill~~ identified off-site risk impacts from TACs to be less than significant or no impact.[34]

Because TAC emissions from the proposed SGPREP, potential future LFGTE projects, and the SCLF could overlap, a more detailed TAC emissions impact was conducted. Table 5-5 provides a conservative estimate of the cumulative impacts from the SGPREP and City/County Landfill (maximum values of risk indicators were used regardless of receptor location). The risks imposed by additional LFGTE projects are assumed to be approximately the same as the risks from proposed SGPREP. Risks are estimated using dispersion modeling of the emissions of

[34] Note: No environmental impact analysis has been conducted to date for the SCE-SLR project; however, operational emissions from this project would be similar to those for the SCE portion of the SGPREP and would not be significant.

TACs from a source and the dispersion of those emissions from the source. The location of potential future LFGTE projects will impact the estimation of risks from any such project. For the purposes of this analysis, it is assumed that the location of the potential future LFGTE projects are located a similar distance from sensitive receptors as is SGP. As shown in Table 5-5, the cumulative impacts (overlapping risk impact concentrations) from the proposed project and City/County Landfill would be below the thresholds of significance. The other ~~line rerouting~~related projects ~~has no~~were not found to have significant TAC emissions during operation ~~and residences that would be associated with the SOI Amendment project do not typically emit TACs~~.

TABLE 5-~~3~~5

Cumulative Residential Carcinogenic, Chronic and Acute Health Risks

	MICR	HIA	HIC
SGPREP	$0.\cancel{0}7 \times 10^{-\cancel{6}7}$	0.064	0.00121
City/County Landfill (1)	0.96×10^{-6}	0.16	0.011
Potential Future LFGTE(2)	0.7×10^{-7}	0.06	0.00121
Cumulative Total	$1.\cancel{0}1 \times 10^{-6}$	0.~~017~~224	0.012
Threshold of Significance	10×10^{-6}	1.0	1.0
Significant?	No	No	No

(1) ~~(1)~~ Source: City of Los Angeles. 1999 Final Subsequent Environmental Impact Report. Appendix D-3.

(2) Although smaller, it is assumed that cancer and non-cancer health risk ~~ssumed to be~~ would be the same as SGP~~P~~REP

Analysis of TACs is a localized analysis. As a result, the cumulative total effects are considered to be conservative because there is some double counting of impacts from the combustion of LFG. Because~~As~~ the proposed project's human health impacts from exposure to TACs would be ~~were found to be~~ less than significant, and the cumulative impacts from the proposed project and the City/County Landfill from TACs would be ~~were found to have~~ less than significant, ~~impacts from TACs,~~ TAC emission impacts from the proposed project are not considered to be cumulatively considerable and, therefore, would not result in ~~is not considered to cause~~ significant adverse cumulative operational air quality impacts from TACs.

Review of other cumulatively related projects, including the newly identified projects in Subsection 5.2.2, indicated that in some cases project-specific and/or cumulative TAC impacts may be significant, in other cases they would not create significant adverse project-specific and/or cumulative TAC impacts. As indicated above and in Chapter 4, TAC emissions from the proposed project would not exceed the applicable project-specific TAC significance thresholds, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not contribute to significant adverse cumulative TAC impacts. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative TAC impacts presented in the Draft SEIR.

5.3.4 ODOR IMPACTS

As discussed in Subsections 3.2.1.5 and 4.2.3.8, several operations at the SCLF may create odors such as waste unloading and movement, decay of waste at the working face, and LFG that evades the collection system. These activities are a part of SCLF operations and not associated with the proposed project because the proposed project involvement with the SCLF LFG starts after collection of the LFG. LFG destruction devices such as the proposed SGPREP turbines or the existing flares are not considered to be a source of odors at landfills. Odoriferous emissions, if any, from the proposed SGPREP turbines would not be any greater than odoriferous emissions from the flares as long as the turbines comply with applicable LFG control requirements. In addition, the temperature and high flow rates of the combustion exhaust serve to enhance the dispersion of any odoriferous compounds that may remain after LFG destruction by either the flare or the turbine, which further reduces potential odor impacts.

As discussed in Subsection 4.2.3.8, the proposed project does not affect in any way the amount of refuse collected at the SCLF, production of LFG, or any odors associated with LFG. The project-specific odor impacts were determined in Subsection 4.2.3.8 to be less than significant.

As discussed above, and in Subsection 3.2.1.5, the adjacent communities to the SCLF have filed a number of complaints with the SCAQMD regarding odors from the landfill operations. The volume of complaints reported to the SCAQMD concerning the SCLF increased dramatically in recent years. As a result, in comparison with a single NOV issued by SCAQMD in 2008, seven NOVs were issued by SCAQMD in 2009, six were issued by SCAQMD in 2010, 30 were issued by SCAQMD in 2011[35], and six were issued by SCAQMD through the end of March 2012. In response, the SCAQMD issued an Order for Abatement in March 2010, which was subsequently amended in July 2010, January 2011, and most recently in December 2011 (STAOA). The Order for Abatement identified numerous factors as potential contributors to the odor issues including, increases in delivered tonnage of trash; size and location of the landfill working face; Monday morning deliveries containing trash that was picked up the prior Friday or Saturday, allowing decomposition to begin prior to disposal; trash trucks on the mile long haul road emitting odors from both trash and leaking liquids; LFG emissions from either the surface of the landfill or LFG control equipment; and the type of cover on the working face. The STAOA details the impact of the performance of the gas collection system at SCLF on odors from SCLF, and identifies required remediation measures, such as: installing additional LFG collection wells; additional surface LFG monitoring; an additional physical or computer modeling study; hiring corrective action managers at SCLF; hiring an independent environmental consultant to monitor odors and other environmental parameters; installing a new flare; and conducting additional environmental monitoring.

Other related projects described in Subsection 5.2.2, were all found to have less than significant odor impacts.

As indicated above and in Chapter 4, odor impacts from the proposed project would not exceed the applicable project-specific odor impact significance thresholds, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not contribute to significant adverse cumulative odor impacts. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative odor impacts presented in the Draft SEIR.

[35] Note, two additional NOVs were issued by SCAQMD in 2011 for violations of SCAQMD Rule 1150.1, rather than SCAQMD Rule 402 (odors).

5.3.5 GREENHOUSE GAS EMISSIONS AND GLOBAL CLIMATE CHANGE

5.3.~~.4~~.5.1 Environmental Setting

Global climate change refers to changes in average climatic conditions on the earth as a whole, including temperature, wind patterns, precipitation and storms. Global warming, a related concept, is the observed increase in the average temperature of the earth's surface and atmosphere.

One identified cause of global warming is an increase of GHGs in the atmosphere. The six major GHGs identified by the Kyoto Protocol are CO_2, methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF_6), haloalkanes (HFCs), and perfluorocarbons (PFCs). In addition, the State of California considers nitrogen trifluoride (NF_3) a GHG (SB 104). The GHGs absorb longwave radiant energy reflected by the earth, which warms the atmosphere. GHGs also radiate longwave radiation both upward to space and back down toward the surface of the earth. The downward part of this longwave radiation absorbed by the atmosphere is known as the "greenhouse effect." Some studies indicate that the potential effects of global climate change may include rising surface temperatures, loss ~~in~~ of snow pack, sea level rise, more extreme heat days per year, and more drought years.

Events and activities such as the industrial revolution and the increased combustion of fossil fuels (e.g., gasoline, diesel, and coal) are strongly linked to the increase in atmospheric levels of GHGs. As reported by the CEC's California Climate Change Portal, California contributes 1.4 percent of the global and 6.2 percent of the national GHG emissions (~~California Climate Change Portal~~ CEC 2010b). Approximately 80 percent of GHG emissions in California are from fossil fuel combustion and over 70 percent of GHG emissions are carbon dioxide emissions.

The CEC published the *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004* in December 2006 (CEC 2006). This report indicates that California emitted between 425 and ~~to~~ 468 million metric tons of GHG in 1990. On a per capita basis, California is second lowest in the nation in CO_2 emissions, with only the District of Columbia being lower. Between 1990 and 2000, California's population grew by 4.1 million people and during the 1990 to 2003 period, California's gross state product[36] grew by 83 percent (in dollars, not adjusted for inflation). However, California's GHG emissions were calculated to have grown by only 12 percent during the same period. The report concluded that California's ability to slow the rate of growth of GHG emissions was largely due to the success of its energy efficiency, renewable energy programs, and commitment to clean air and clean energy. In fact, the State's programs and commitments were calculated to have lowered its GHG emissions rate of growth by more than half of what it would have been otherwise.

Global Warming Potentials (GWPs) are one type of simplified index based upon radiative properties that can be used to estimate the potential future impacts of emissions of different gases upon climate systems in a relative sense. GWP is based on several factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO_2 as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO_2. These factors are combined to generate a single scaling factor to determine the

[36] Gross state product is defined as the sum of all value added by industries within the state and serves as a measurement of the economic output of a state.

equivalent amount of CO_2 (CO_2e) that would generate the same GWP for each gas. For carbon dioxide, this scaling factor is 1.0. The factors for CH_4 and N_2O are 21 and 310, respectively, while sulfur hexafluoride is 23,900 times ~~more effective~~greater than carbon dioxide.

Table 5-46 presents the baseline (2007 - 2009) GHG emissions. As with the criteria pollutant evaluation, baseline GHG emission rates were based on direct measurements taken from ~~for years~~ 2007 through 2009 for the existing three enclosed SCLF flares ~~located at the proposed site~~.

TABLE 5-46

Baseline GHG Emission Rates

Processes / Scenario	CO_2 (MT/day)	CH_4 (MT/day)	N_2O (MT/day)	Total CO_2e (MT/day)	Tons CO_2e (MT/year)
SCLF Flare Baseline[1]	208	0.38	0.0026	217	79,269

Notes:
1 Baseline GHG emissions for Oct 2007 through Sep 2009 (SCLF flares)

5.3.~~4~~.5.2 Regulatory Background

Federal

The U.S. EPA's ~~Final Mandatory Reporting of~~ Prevention of Significant Deterioration and Title V Greenhouse ~~Gases~~ Gas Tailoring Rule (adopted October 2009) requires reporting of GHG emissions from large sources and suppliers in the United States (U.S. EPA 2010~~b~~). Under this rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the U.S. EPA. This rule does not apply to mobile sources of GHGs.

On May 13, 2010, the U.S. EPA issued a final rule that establishes an approach to addressing GHG emissions from stationary sources under the CAA permitting programs. This final rule ("GHG Tailoring Rule") sets thresholds for GHG emissions that define when permits under the New Source Review PSD and Title V Operating Permit programs are required for new and existing industrial facilities.[37]

U.S. EPA will phase in the CAA permitting requirements for GHGs in two initial steps. The first step (January 2, 2011 to June 30, 2011) would only apply to sources currently subject to PSD permitting to report GHG emissions, and would only require GHG BACT (G-BACT) for facilities with greater than 75,000 tons per year (tpy) GHG increases. Step 2 (July 1, 2011 to June 30, 2013) permitting requirements would apply to new facilities with GHG emissions of 100,000 tpy GHG on a carbon dioxide equivalent (CO_2e) basis. Permits under Step 2 would require the use of G-BACT to minimize GHG emissions.

Step 1 would only impact facilities currently permitted under PSD or Title V. In Step 2, U.S. EPA estimates that about 550 sources nationwide will need to obtain Title V permits for the first time due to their GHG emissions. The majority of these newly permitted sources will likely be solid waste landfills and industrial manufacturers. There will be approximately 900 additional

[37] At the November 5, 2010 SCAQMD Public Hearing, the SCAQMD Governing Board adopted amendments to Regulation XVII that incorporated federal PSD GHG requirements and adopted amendments to Regulation XXX that incorporated federal Title V GHG requirements.

PSD permitting actions nationwide each year triggered by increases in GHG emissions from new and modified emission sources.

Additional steps may be added, but if established, additional steps would not require permitting for sources with GHG emissions below 50,000 tpy, and would not be implemented until September 2016 (U.S. EPA 2010). Based on GHG estimates discussed in Section 5.6.2, even if this permitting requirement were in effect, it is unlikely that the proposed project would require such a permit.

State

In response to growing scientific and political concerns regarding global climate change, California has adopted a series of laws to reduce both the level of GHGs in the atmosphere and to reduce emissions of GHGs from commercial and private activities within the state.

In June 2005, Governor Schwarzenegger signed Executive Order S-3-05, which established GHG emissions reduction targets for the state, as well as a process to ensure that the targets are met. As a result of this executive order, the California Climate Action Team (CAT), led by the Secretary of the California Environmental Protection Agency, was formed. The CAT published its report in March 2006, in which it laid out several recommendations and strategies for reducing GHG emissions and reaching the targets established in the Executive Order (CAT 2006).

The GHG reduction targets in Executive Order S-3-05 are:

- By 2010, reduce to 2000 emission levels;
- By 2020, reduce to 1990 emission levels; and,
- By 2050, reduce to 80 percent below 1990 levels.

In September 2006, Governor Schwarzenegger signed California's Global Warming Solutions Act of 2006 (AB32) which established a comprehensive program of regulatory and market mechanisms to achieve quantifiable reductions of GHGs in California. AB32 requires CARB to:

- Establish a statewide GHG emissions cap for 2020, based on 1990 emissions, by January 1, 2008 (completed);
- Establish a mandatory reporting and verification program for significant sources of GHG emissions by January 1, 2008 (completed);
- Adopt an emissions reduction plan by January 1, 2009, indicating how emissions reductions will be achieved via regulations, market mechanisms, and other actions (completed); and
- Adopt regulations to achieve the maximum technologically feasible and cost-effective reductions of GHGs by January 1, 2011 (ongoing).

CARB approved a mandatory GHG reporting program in December 2007 (effective December 2009) requiring stationary source operators in California with GHG emissions of at least 25,000 tpy CO_2e to report their emissions annually. SB1368, a companion bill to AB32, requires the CPUC and the CEC to establish GHG emission performance standards for the generation of electricity, whether generated inside the state or generated outside and then imported into

California. SB1368 provides a mechanism for reducing the emissions of electricity providers, thereby assisting CARB to meet its mandate under AB32.

SB97, passed in August 2007, is designed to work in conjunction with CEQA and AB32. SB97 requires the California Office of Planning and Research (OPR) to prepare and develop guidelines for the mitigation of GHG emissions or the effects thereof, including but not limited to, effects associated with transportation and energy consumption. These GHG guidelines were adopted by the California Natural Resources Agency on December 30, 2009 and became effective March 18, 2010.

Regional

The SCAQMD adopted a "Policy on Global Warming and Stratospheric Ozone Depletion" on April 6, 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the AQMP. In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy primarily focused on phasing out the use of CFCs and hydrochlorofluorocarbons (HCFCs) in the region.

On December 5, 2008, the SCAQMD adopted an interim GHG Significance Threshold (using a tiered approach for determining significance) for industrial projects in which it is the lead agency. The objective of the SCAQMD’s interim GHG significance threshold proposal is to achieve a GHG emission capture rate of 90 percent from all new or modified industrial projects. A GHG significance threshold based on a 90 percent emission capture rate is considered appropriate to address the long-term adverse impacts associated with global climate change because most projects will be required to implement GHG reduction measures. Further, a 90 percent GHG emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. The following bullet points describe the basic structure of SCAQMD’s tiered interim GHG significance threshold for stationary sources (SCAQMD 2008a).

- **Tier 1 –** Exemption under CEQA. If the project does not qualify for an exemption, then it would move to the next tier.
- **Tier 2 –** Consistent with a GHG reduction plan. The GHG reduction plan must, at a minimum, comply with AB32 GHG reduction goals; include emissions inventory agreed upon by either CARB or the SCAQMD; have been analyzed under CEQA and have a certified Final CEQA document; and have monitoring and enforcement components. If the proposed project is consistent with the qualifying local GHG reduction plan, it is not significant for GHG emissions. If the project is not consistent with a local GHG reduction plan, there is no approved plan, or the GHG reduction plan does not include all of the components described above, the project would move to Tier 3.
- **Tier 3 –** Screening significance threshold level to determine significance using a 90 percent GHG emission capture rate. The screening threshold for industrial projects has been identified as 10,000 metric tons (MT)/year. If a project's GHG emissions exceed the GHG screening threshold, the project would move to Tier 5.

- **Tier 4 –** Pending further evaluation and direction from the SCAQMD's Governing Board. Currently, Tier 4 would establish a decision tree approach that would include compliance options for projects which have incorporated design features into the project and/or implement GHG mitigation measures; demonstrate a 30 percent reduction for normal business as usual practices; demonstrate early compliance with AB32 control measures; or comply with sector-based performance standards. (Other efficiency standard approaches are currently under evaluation.)
- **Tier 5 –** Projects exceeding the 10,000 MT/year significance threshold are required to implement GHG mitigation measures. If projects implement off-site GHG mitigation measures such as purchasing offsets, the project must purchase sufficient offsets for the life of the project (30 years) to reduce GHG emissions to less than the applicable GHG screening threshold level.

5.3~~.4~~.5.3 Significance Criteria

Criteria pollutant significance thresholds are based on daily emissions because attainment or nonattainment is generally based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one hour and eight hour). ~~For example~~However, because the half-life of CO_2 is approximately 100 years, the effects of GHGs are longer-term, affecting global climate for a relatively long time frame. As a result, the SCAQMD's current position is to evaluate GHG effects over a longer time frame than a single day.

SCAQMD's numerical significance threshold identified for GHG emissions from industrial projects is 10,000 MT CO_2e per year. SCAQMD policy requires that construction GHG emissions are amortized over a 30-year project lifespan. The annualized construction GHG emissions result is then added to the operational emissions and the total sum is compared to the GHG significance threshold. This analysis conservatively considers both stationary and mobile (i.e., off-road equipment) sources.

5.3~~.4~~.5.4 Environmental Impacts

Construction and operation of the proposed project would generate GHG emissions in an amount that exceeds the SCAQMD GHG significance threshold. The contribution to cumulative GHG impacts from the project is considered significant as explained in the following subsection.

Construction

Construction GHG emissions in the form of CO_2, methane and nitrous oxide (N_2O) would be generated by the off-road equipment and on-road vehicles during the construction phase of the project. CO_2 and methane emissions were estimated using SCAQMD off-road and on-road (SCAQMD 2008b and 2008c, respectively) emission factors. N_2O emissions were estimated based on the ratio of N_2O-to-CH_4 emissions listed in California Climate Action Registry (CCAR) General Reporting Protocol Table C.6 for diesel-fueled construction equipment (CCAR 2009), with the exception of the construction helicopter emissions. The GHG emission factors and calculations for construction activities ~~can be found~~are presented in Appendix D-3 of this Final

SEIR. The proposed project is expected to generate a total of approximately 1,~~237~~ 155 metric tons of GHG emissions (CO_2 equivalent emissions) from all construction phases. The GHG construction emissions are amortized for a period of 30 years, resulting in an estimated ~~41~~ 39 metric tons of CO_2 equivalent per year of GHG emissions (Table 5-~~4~~7).

Operations

The LFG recovered from the SCLF that is processed to remove water and contaminants such as siloxane is primarily composed of CH_4 and CO_2. During the combustion process, the LFG methane is mixed with air (oxygen) and oxidized to form CO_2, which releases energy (heat). The global warming potential (GWP) for CO_2 is 1.0; the GWP for methane is 21. Therefore, the collection and combustion of LFG methane reduces GHG emissions based on the reduction in GWP. In addition, small amounts of N_2O would be generated from the combustion process. Because the GWP for N_2O is 310, it was included in this evaluation. The analysis assumes complete combustion of the CH_4 to CO_2 and H_2O. It is possible that incomplete combustion of a portion of the CH_4 could result in the formation of CO, which is not a GHG. Therefore, by assuming complete combustion, the estimated CO_2 will be conservative. As discussed in the air permit documents dated April 22, 2010, based on the Climate Action Reserve *Landfill Project Protocol, Version Three* guidance document, the default methane destruction efficiency is 0.995 for both the existing SCLF flares and proposed gas turbines. Therefore, the calculated GHG emission rate for the combustion of an equal volume of LFG methane in either device is nearly identical. In other words, increase in GHG emissions occurs as a result of increasing quantities of LFG, not due to flare versus turbine technology.

Total GHG Contribution

Table 5-~~5~~7 presents the total contribution of GHG emissions from the proposed project (amortized construction plus operation at capacity) compared to baseline (2007 - 2009). As with the criteria pollutant evaluation, baseline GHG emission rates were based on direct measurements taken for years 2007 to 2009 for the existing three enclosed SCLF flares.

TABLE 5-~~5~~7

Comparison of Baseline and Proposed Project Scenarios Total Mitigated Greenhouse Gas Emission Rates

Processes / Scenario	CO_2 (MT/day)	CH_4 (MT/day)	N_2O (MT/day)	Total CO_2e (MT/day)	Tons CO_2e (MT/year)
SCLF Flare Baseline [1]	208	0.38	0.0026	217	79,269
Proposed Project Turbines [2]	301	0.60	0.0037	314	114,635
Solid Waste Generation[3]	0	1.13×10^{-4}	0	2.37×10^{-3}	0.87
Water Use[4]	2.0×10^{-4}	8.3×10^{-9}	2.2×10^{-9}	2.02×10^{-4}	0.074
Construction - SGP[5]	2.3	2.0×10^{-4}	9.8×10^{-5}	2.3	26
Construction - SCE[6]	3.4	2.4×10^{-4}	1.4×10^{-4}	3.5	13
~~Construction~~[5]	~~10~~	~~8.7×10^{-4}~~	~~4.7×10^{-4}~~	~~10.3~~	~~41~~
Construction – SGP: Mitigation	-	-	-	-	-39
Proposed Project Emissions					114,636 ~~677~~
Difference					35,367~~408~~
Significance Threshold					10,000
Significant?					Yes

Notes:

1. Baseline GHG emissions for Oct 2007 through Sep 2009 (SCLF flares).
2. Proposed Project Turbine GHG emissions at capacity (Assume average 245.2 MMBTU/hr heat input, not to exceed 247 MMBTU/hr on a 24-hour average).
3. Solid waste emissions calculated based on CO_2e emission factor and converted to methane emissions.
4. Water usage emissions based on GHG emissions for pumping water to the site.
5. Daily construction emissions represent the maximum daily emissions. Annual construction emissions amortized over 30 years.
6. Daily construction emissions represent the maximum daily emissions for the SCE Switchyard and Subtransmission Line. Annual construction emissions amortized over 30 years.
7. Mitigation Measure GHG-3 requires that the project proponent (or its successors) shall contribute $36,000 to the SCAQMD's Greenhouse Gas Reduction Program, which is approximately double the amount of the Rule 2702 Participation Fee of $15 per metric ton, to ensure that all construction GHG emissions as quantified in the Final SEIR are mitigated. The project proponent shall pay the GHG mitigation fee to the SCAQMD before starting project construction.
8. Regardless of the LFG treatment technology used (existing flares versus proposed turbines), the quantity of LFG will continue to increase, which will result in an increase in GHG emissions. The main difference in GHG emissions between the existing flaring and operation of the proposed turbines is the increase in GHG emissions from operation of the proposed project (water conveyance and waste generation and decomposition, which are relatively minor contributors), as well as construction (which would be temporary) of the SGP facility and SCE infrastructure. The increase in GHG emissions from these sources alone is the sum of solid waste generation (0.87 MT/year), water use (0.074 MT/year), and construction (26 MT/year for SGP and 13 MT/year for SCE, which equals 39 MT/year – note, as discussed in Note 7 above, the construction GHG emissions would be mitigated pursuant to Mitigation Measure GHG-3).

As specified in CEQA Guidelines § 15064.4, the significance of impacts is based on the extent to which the proposed project may increase, or reduce, GHG emissions as compared to the existing environmental setting. Table 5-~~4~~7 indicates that compared to baseline conditions, the proposed project would increase GHG emissions by approximately 35,~~408~~ 367 MT/year which would exceed the significance threshold of 10,000 MT/year. Therefore, even without including the GHG emissions from the SCLF, the unmitigated cumulative increase of GHG emissions from the proposed project ~~is considered to~~would be cumulatively considerable and, therefore, significant.

GHG emissions from related projects (Subsection 5.2.2), were found to be less than significant or less than significant with mitigation, with the exception of the LADWP Sylmar Ground Return System Replacement Project. The IS for the LADWP Sylmar Ground Return System Replacement Project found that GHG emissions from the proposed project could have potentially significant impacts, and would be further analyzed in an EIR, so a final determination of significance has not been made for any of the impact areas identified in the above bullet points.

The calculated difference in GHG emissions during operation between the proposed project and baseline is primarily due to the greater amount of LFG that ~~will~~ would be processed through the turbines at peak LFG usage as compared with the flares during the baseline period. Further, regardless of the LFG treatment technology used (existing flares versus proposed turbines), the quantity of LFG will continue to increase, which will result in an increase in GHG emissions. The main difference in GHG emissions between the existing flaring and operation of the proposed turbines is the increase in GHG emissions from operation of the proposed project (water conveyance and waste generation and decomposition, which are relatively minor contributors), as well as construction (which would be temporary and offset to zero by implementing the construction GHG mitigation described in Subsection 5.3.6.4) of the SGP facility and SCE infrastructure. The increase in GHG emissions from these sources alone would be well below the significance threshold of 10,000 MT/year. For a more complete discussion of the difference in GHG emissions between the proposed project and the baseline, please refer to the discussion of Alternative 1 in Chapter 6.

Review of other cumulatively related projects, including the newly identified projects in Subsection 5.2.2, indicated that in some cases project-specific and/or cumulative GHG emission impacts may be significant; in other cases they would not create significant adverse project-specific and/or cumulative GHG emission impacts. As indicated above, in spite of implementing GHG reduction mitigation measures GHG emissions from the proposed project would exceed the applicable GHG emissions significance threshold, would be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1) and, therefore, is concluded to be cumulatively significant. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative GHG emission impacts presented in the Draft SEIR.

If potential future LFGTE projects at the landfill are developed, GHG emissions associated with the additional combustion of LFG would be offset by the GHG emissions that would no longer be emitted from the flare combustion, as is generally the case for the proposed SGPREP. However, it is likely there would be additional GHG emissions associated with the construction of these potential future projects. There may also be a small amount of GHG emissions associated with the operation of additional LFGTE projects, such as that associated with worker commuting or sanitary waste water usage. It is assumed that GHG emissions from these ancillary sources would be equivalent to GHG emissions from similar sources quantified for the proposed project.

5.3.~~5~~6 MITIGATION MEASURES

5.3.~~5~~6.1 Construction Criteria Pollutant Emissions

The analysis of proposed project construction impacts to air quality from criteria pollutants demonstrated that project-specific impacts would exceed the applicable regional NO_x

construction air quality impact significance threshold~~s~~, but mitigation measures ~~were identified that c~~would reduce construction NO_x air quality impacts to less than significant levels (Mitigation Measures A-1 and A-2). Project-specific air quality impacts from construction ~~were not concluded to be cumulatively considerable; therefore, they~~ would not be cumulatively considerable and, therefore, would not be cumulatively significant. Therefore, no mitigation of cumulative impacts is required~~would not contribute to cumulatively significant construction emissions relative to other related projects. Consequently, cumulative impact mitigation measures are not required.~~

5.3.~~5~~6.2 Operational Criteria Pollutant Emissions

The analysis of the proposed project's operational impacts to regional air quality from criteria pollutants concluded that project-specific operational emissions impacts would exceed applicable regional operational air quality significance thresholds for NO_x, SO_x, ~~CO,~~ $PM_{2.5}$ and VOCs. As discussed in Section 4.2.3.4, Priority Reserve ~~offsets~~ emission credits allocated by SCAQMD to offset emission increases greater than one pound per day from the proposed project to satisfy federal offset requirements for major sources would also render the criteria pollutant impacts from NO_x, SO_x, PM_{10} and VOCs less than significant on the regional level, but because the Priority Reserve ~~offsets~~ emission credits would not apply to ~~CO and~~ $PM_{2.5}$, the operational pollutant impacts of ~~CO and~~ $PM_{2.5}$ would remain significant. Project-specific operational air quality impacts from ~~CO and~~ $PM_{2.5}$ ~~were concluded to~~would be cumulatively ~~significant~~considerable; ~~therefore,~~ cumulative $PM_{2.5}$ operational air quality impacts were concluded to be significant.

Based on vendor warranties, operational emissions from the proposed project would be substantially lower than current BACT requirements. In spite of this, a technology survey was conducted to determine if operational emissions could be reduced further (report included in Attachment A to Appendix J). No technologies were identified that could further reduce operational emissions without creating other potentially significant adverse environmental impacts that would be outside the scope of the environmental analysis in this Final SEIR. In addition, for most of the technologies surveyed, to achieve a measurable change in the operational emission rate would require installing large-scale equipment that could not be accommodated on site due to the space limitations imposed by topography. Therefore, no feasible mitigation measures were identified that could mitigate operational $PM_{2.5}$ emission impacts to less than significant levels. SGPREP operators have no control over cumulatively related projects, so they cannot dictate implementation of mitigation measures or other project changes to reduce their $PM_{2.5}$ emissions contributions.

5.3.~~5~~6.43 Operational TAC Emissions

The analysis of operational air quality impacts from TACs concluded that project-specific impacts would not exceed any applicable significance thresholds; therefore, mitigation measures were not required. Project-specific air quality impacts from operational TAC emissions were not concluded to be cumulatively considerable~~,~~ and, therefore, would not create cumulatively significant TAC emissions impacts during project operation relative to other related projects.

5.3.~~5~~6.~~5~~4 Greenhouse Gas Emissions and Global Climate Change

CEQA Guidelines §15126.4 requires an EIR to "describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy." Because GHG emissions contribute to global climate change, mitigation measures could be implemented locally, nationally, or internationally and still provide global climate change benefits.

SCAQMD has recommended the following mitigation ~~sources~~ measures as a basis from which to compile mitigation strategies[38]:

- Incorporate GHG reduction features into the project design (e.g., increase a boiler's energy efficiency, use materials with a lower global warming potential than conventional materials).
- Implement on-site measures that provide direct GHG emission reductions on site, such as replacing on-site combustion equipment (e.g., boilers, heaters, steam generators) with more efficient combustion equipment, installing solar panels on the roof, and eliminating or minimizing fugitive emissions.
- Implement neighborhood mitigation measure projects (e.g., install solar power, increase energy efficiency through replacing low efficiency water heaters with high-efficiency water heaters, increase building insulation, use fluorescent bulbs, replace old inefficient refrigerators with efficient refrigerators using low global warming potential refrigerants).
- Implement in-district mitigation measures such as any of the above identified GHG reduction measures, reducing vehicle miles traveled (VMT) through greater rideshare incentives, and transit improvements.
- Implement in-state mitigation measures, which could include any of the above measures.
- Implement out of state mitigation measure projects, which may include purchasing offsets if other options are not feasible.

In addition, SCAQMD has recommended the following sources for potential mitigation measures[39]:

CEQA Guidelines, Appendix F[40] – This appendix includes a list of general energy conservation measures that may be used as a basis to identify GHG reduction strategies. This appendix states that "the goal of conserving energy implies the wise and efficient use of energy," and lists "increasing reliance on renewable energy sources" as one means of achieving this goal. Specifically, Section D.4 of Appendix F lists "Alternate fuels (particularly renewable ones) or energy systems" as a potential mitigation measure for energy impacts.

[38] SCAQMD, Draft Guidance Document: Interim CEQA GHG Significance Threshold, October 2008. 3-16 and 3-17.
[39] SCAQMD, Draft Guidance Document: Interim CEQA GHG Significance Threshold, October 2008. 5-2 through 5-4.
[40] CEQA Guidelines as codified in 14 C.C.R. Appendix F.

California Air Pollution Control Officers Association (CAPCOA) White Paper[41] **–** This document provides a comprehensive discussion of GHG reduction strategies and specific mitigation measures are listed in Table 16 in Appendix B. The mitigation measures are grouped by emissions source type, such as transportation measures, parking measures, and commercial and residential design features. Among these, Measure MM E-5 specifies the use of an on-site renewable energy system as an energy efficiency mitigation measure.

CEC and CPUC[42] **–** These agencies are actively developing GHG emission reduction strategies that may also be used to develop GHG mitigation measures for specific energy production sources. In a 2005 update to their jointly published Energy Action Plan, CEC and CPUC stated that one key action for the promotion of renewable energy in California would be to "(d)evelop and implement forestry, agriculture, and waste management policies to encourage the generation of electricity from landfills, biomass and biogas."

In its Final Statement of Reasons in support of the amendments to the State CEQA Guidelines in response to SB 97, the California Natural Resources Agency (CNRA) stated that mitigation for GHGs may come in a variety of forms,[43] such as the following:

> **Mitigation Identified in an Existing Plan –** The first type of mitigation of GHG emissions that may be considered includes measures identified in an existing plan. This would encourage lead agencies to look to adopted plans for sources of mitigation measures that could be applied to specific projects. The relevant existing plan for this project would be the AB32 Scoping Plan adopted by CARB. This plan contains two proposed measures for reducing California GHG emissions that are relevant to this project. Measure 4 of the Scoping Plan lists compliance with the statewide Renewable Portfolio Standard of 33 percent by 2020 as a key component of achieving the goals of AB32, including increased use of LFG as a fuel. Measure 15 of the Scoping Plan, which was subsequently promulgated and adopted as a regulation, lists recycling and waste reduction as a target for GHG reductions, including plans for increased LFG capture and control.[44]
>
> **Project Design Features –** The second type of measure that a lead agency should consider is project design features that will reduce project emissions. Various project design features could be used to reduce GHG emissions from a wide variety of projects. Thus, project design can reduce GHG emissions directly through efficiency and indirectly through resource conservation and recycling.
>
> **Off-Site Measures –** The third type of measures addressing GHG emissions is off-site measures including, among others, the purchase of carbon offsets, community energy conservation projects, and off-site forestry projects.

The mitigation measures considered applicable to this project ~~is~~ are:

[41] California Air Pollution Control Officers Association, CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act. January 2008.

[42] California Energy Commission and California Public Utilities Commission, Energy Action Plan Ii: Implementation Roadmap for Energy Policies. September 21, 2005. 7.

[43] California Natural Resources Agency, Final Statement of Reasons For Regulatory Action: Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97. December 2009. 46-47.

[44] California Air Resources Board, Climate Change Scoping Plan: A Framework for Change. *Pursuant to AB 32, The California Global Warming Solutions Act of 2006*. December 2008. 44 and 62-63.

GHG-1~~)~~ ~~the~~ The use of LFG from the decomposition of waste materials deposited in the landfill to generate the fuel used in the project, and

GHG-2~~)~~ ~~the~~ The use of ~~this~~ LFG, a renewable fuel, to generate electricity could displace fossil-fuel generated electricity.

GHG-3) Pursuant to SCAQMD Rule 2702 – Greenhouse Gas Reduction Program, the project proponent (or its successors) shall contribute $36,000 to the SCAQMD's Greenhouse Gas Reduction Program, which is approximately double the amount of the Rule 2702 Participation Fee of $15 per metric ton, to ensure that all construction GHG emissions as quantified in the Final SEIR are mitigated. The project proponent shall pay the GHG mitigation fee to the SCAQMD before starting project construction.

By using LFG as fuel, the~~is~~ proposed project would not result in additional generation of GHGs that may be incurred by the use of other biofuels that have embodied GHG emissions, such as corn-derived ethanol. The combustion of increasing LFG in the proposed turbines versus the existing SCLF flares would, in general, not add new GHG emissions (for more information, see comparison of Alternative 1 to proposed project in Chapter 6). GHGs from the proposed project would include: turbine GHG emissions (identical to SCLF flares due to equivalent methane destruction efficiency), indirect GHG emissions associated with water supply, GHG emissions associated with the disposal of on-site waste (i.e., waste generated by on-site workers), and construction GHG emissions amortized over a 30-year project ~~span~~lifetime. With the addition of new mitigation measure GHG-3, however, all construction GHG emissions are expected to be mitigated through funding provided by the project proponent to the SCAQMD's Rule 2702 – Greenhouse Gas Reduction Program. In addition, the use of the biogenic methane for electricity, rather than flaring, would, to a certain extent, reduce reliance on fossil-fuel generated electricity.

The ~~two~~ three GHG mitigation measures discussed above that are applicable to the proposed project satisfy the recommendations of the SCAQMD and the CNRA in that:

1. They are on-site measures, including use of an on-site renewable energy system (SCAQMD)
2. They are incorporated into the project design (SCAQMD and CNRA)
3. They can be found in the Scoping Plan for AB 32, which is an existing plan (CNRA)
4. They can be found in the CAPCOA White Paper (SCAQMD)
5. They are recommended by the CPUC and CEC (SCAQMD)

The~~se~~ ~~two~~ three GHG mitigation measures identified above are considered to comprise all feasible mitigation by the SCAQMD. As a reminder, combustion of LFG, a biogenic gas, regardless of the combustion device, provides a GHG reduction benefit because combusting methane in the LFG, which has a global warming potential (GWP) of 21, produces CO, which is quickly converted to CO_2, which has a GWP of one. As a result, combusting LFG either through flaring or in the turbines provides a GHG reduction benefit, although combusting LFG in the turbines provides the additional benefit of generating electricity. Additional mitigation measures beyond the ~~two~~ three measures identified ~~here~~ above would not serve the ~~project~~ objective of incentivizing the use of ~~LFG-to-energy~~LFGTE ~~projects~~. Requiring additional mitigation measures would impose costs and burdens that would make this ~~LFG-to-energy~~LFGTE project infeasible. This project would also offset GHG emissions, as it would displace some higher GHG ~~intensity~~ intensive energy with energy produced from renewable resources (i.e., LFG). The offset GHG emissions that would result from the replacement of higher GHG ~~intensity~~ intensive energy cannot be quantified due to: 1) the uncertainty of the GHG ~~intensity of~~generated by the energy being replaced and 2) the uncertainty of how much of the project's energy is being used to accommodate growth in the region, and would therefore, be considered new energy rather than replacement energy.

5.3.~~6~~7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The cumulative ~~impacts from CO and~~ operational air quality $PM_{2.5}$ emission impacts are considered ~~to be~~ significant and unavoidable. The cumulative impacts from GHG emissions are considered ~~to be~~ significant and unavoidable, even after all feasible mitigation.

5.4 CULTURAL RESOURCES

CEQA Guidelines §15130(a) indicate that an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. Evaluation of all the related projects identified no significant adverse cultural resources impacts. Nonetheless, information is provided regarding cumulative projects in the interest of full disclosure.

The geographic scope considered for potential cumulative impacts to cultural resources includes the cumulative related projects identified in Section 5.2.2, including the newly identified projects. ~~No s~~Review of the available CEQA documents indicated that significant adverse cultural resources impacts were identified for the ~~proposed project or any of the related projects.~~ BRRTP (Project #11), which is approximately 0.85 mile at the nearest point to the SGPREP and the Sylmar Ground Return System Replacement project (Project #12), which is approximately 0.9 mile from the SCLF. The BRRTP would have specific effects on historical resources at that site~~,~~ and the Sylmar Ground Return System Replacement project could uncover undiscovered cultural resources during trenching activities. Project-specific impacts from the proposed project ~~and all related projects~~ were concluded to be less than significant; therefore, they are not cumulatively considerable. For this reason and because of the distance between the related projects, there would be no overlap of potential cultural resources impacts. As a result, cumulative impacts to cultural resources would not be significant.

5.4.1 CONSTRUCTION IMPACTS

As discussed in Section 4.3, mitigation measures adopted from the SLCF MMRS apply to the proposed project including the requirement to resurvey specific sections of the landfill prior to commencement of initial earth excavation, that an archeologist and paleontologist shall be on site during major infrastructure work, and archaeological resources recovered during earthwork activity shall be curated at a regional repository approved by the County. Implementation of the applicable measures in the MMRS would ensure that the project-specific impacts to cultural resources would be less than significant. Because the proposed project's construction impacts to cultural resources were found to be less than significant, and none of the related projects are expected to impact cultural resources in the same area, project-specific construction impacts to cultural resources are not cumulatively considerable as defined by CEQA Guidelines § 15064(h)(1). Therefore, construction of the proposed project ~~is not considered to~~would not have ~~significant adverse~~ cumulatively considerable impacts to cultural resources.

5.4.2 OPERATIONAL IMPACTS

The potential cultural resources impacts from the proposed project would occur primarily during construction and are discussed above. Once the proposed project becomes operational, no further ground disturbing activities would occur that have the potential to adversely affect cultural resources. Therefore, long-term cumulative cultural resources impacts once the project becomes operational would not be significant.

Review of other cumulatively related projects, including the newly identified projects in Subsection 5.2.2, indicated that BRRTP would have specific effects on historical resources at that site and the Sylmar Ground Return System Replacement project could uncover undiscovered cultural resources during trenching activities. Other cumulatively related projects would not create significant adverse project-specific and/or cumulative cultural resources impacts. As indicated above and in Chapter 4, impacts to cultural resources would not exceed the applicable cultural resources project-specific significance thresholds, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not contribute to significant adverse cumulative cultural resources impacts. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative cultural resources impacts presented in the Draft SEIR.

5.4.3 MITIGATION MEASURES

Because cumulative cultural resources impacts during construction and operation were ~~concluded to be less than significant~~less than cumulatively considerable and, therefore, not cumulatively significant, cumulative impact mitigation measures are not required.

5.4.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The cumulative impacts on cultural resources are considered to be less than significant without mitigation.

5.5 ENERGY

CEQA Guidelines §15130(a) indicates that an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. Evaluation of all the related projects identified no significant adverse energy impacts. Nonetheless, information is provided regarding cumulative projects in the interest of full disclosure.

The geographic scope considered for potential cumulative energy impacts includes the related projects identified in Subsection 5.2.2, which also includes the newly identified projects. No significant adverse energy impacts were identified for the proposed project or any of the related projects. Project-specific impacts from the proposed project and all related projects were less than significant; therefore, they are not cumulatively considerable. As a result, cumulative impacts to energy would not be significant.

5.5.1 CONSTRUCTION IMPACTS

The construction energy impacts analysis in Section 4.4.3.1 showed that construction of the proposed project would have a less than significant impact to energy resources. Energy impacts from the proposed project during construction and startup of the proposed project would require short-term use of some existing energy sources. The energy consumed by construction of the proposed project would take place over a period of about ~~27~~ 24 months. Construction equipment and haul trucks would consume fuel and construction-related equipment such as welding machines and power tools would consume electricity. The energy consumption for construction would represent a less than significant impact because construction activities would not result in long-term depletion of nonrenewable energy resources and would not permanently increase reliance on energy resources that are not renewable.

The construction energy impacts of the City/County Landfill were deemed less than significant. The proposed SCE SLR project would replace the SCE Subtransmission Line portion of the proposed SGPREP; therefore, the construction energy requirements would be similar to those identified in the Section 4.5 analysis. Therefore, the energy requirements of the proposed SCE SLR project would not be expected to result in significant adverse impacts.

5.5.2 OPERATIONAL IMPACTS

The operational energy impacts analysis in Section 4.4.3.2 showed that the proposed project operations would have a less than significant impact to energy resources as the proposed project would be the source of renewable energy. However, the proposed project would require one to three MW of capacity from SCE in order to start the first turbine, after which the facility would generate sufficient energy to provide for the internal use of the plant auxiliary equipment while still providing generated electricity to the grid. The proposed project would consume approximately 15 to 17 percent of the total energy generated, but would not consume additional energy from the grid.

The energy impacts from the ~~SCLF~~ City/County Landfill were found to be less than significant. ~~Because o~~Operation of the ~~SCE~~ SCE-SLR would not require the expenditure of energy; however~~, the energy impacts from~~ the proposed ~~SCE~~ SCE-SLR would ~~be~~ require minimal~~, and~~ energy expenditure for routine patrols and maintenance, which are expected to result in energy impacts that remain~~be~~ less than significant.

Similar to that for SGPREP as shown in Section 4.4.3.2, the operation of future LFGTE projects would have a less than significant impact to energy resources. Similar to SGPREP, the operation of additional LFGTE projects would require one to three MW of capacity from SCE in order to start the first turbine, after which the facility would generate sufficient energy to provide for the internal use of the plant auxiliary equipment while still providing electricity to the grid. Project-specific operational impacts to energy resources would be a beneficial energy resource and therefore have a less than significant impact to energy resources. As the proposed project energy impacts would be less than significant, energy impacts are not cumulatively considerable as defined by CEQA Guidelines § 15064(h)(1). Therefore, the project is not considered to have significant adverse cumulative energy impacts from operations.

As already noted above, review of other cumulatively related projects, including the newly identified projects in Subsection 5.2.2, indicated that they would not create significant adverse project-specific and/or cumulative energy impacts. As indicated above and in Chapter 4, energy impacts from the proposed project would not exceed the applicable project-specific energy impact significance thresholds, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not contribute to significant adverse cumulative energy impacts. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative energy impacts presented in the Draft SEIR.

5.5.3 MITIGATION MEASURES

The analysis of energy impacts from both construction and operations concluded that project-specific impacts would not exceed any applicable significance criteria; therefore, mitigation measures were not required for either construction or operations. Project-specific energy impacts from construction and operations were concluded to be less than significant; therefore, cumulative impacts were not concluded to cumulatively considerable and would not generate cumulatively significant energy impacts during construction or operation relative to the other related projects.

5.5.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The cumulative impacts on energy are considered to be less than significant without mitigation.

5.6 GEOLOGY AND SOILS

CEQA Guidelines §15130(a) indicate that an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. Evaluation of all the related projects identified no significant adverse geology and soils impacts. Nonetheless, information is provided regarding cumulative projects in the interest of full disclosure.

The geographic scope considered for potential cumulative geology and soils impacts includes the related projects identified in Section 5.2.2, which also includes the newly identified projects. No significant adverse geology and soils impacts were identified for the proposed project or any of the related projects. Project-specific impacts from the proposed project and all related projects were less than significant; therefore, they are not cumulatively considerable. As a result, cumulative impacts to geology and soils would not be significant.

5.6.1 CONSTRUCTION IMPACTS

As discussed in Section 4.5.3, impacts from construction of the proposed project to geology and soils were found to be less than significant. Construction of the proposed project would~~-~~ require implementing SCLF ~~MMSR~~ MMRS mitigation measures (Section 4.5.1) as necessary, which would require that all grading activities be in compliance with specific requirements provided in a comprehensive geotechnical report prepared specifically for the proposed project. Implementation of the applicable measures in the SCLF MMRS would ensure that the project-specific construction impacts would be less than significant, and therefore are not cumulatively considerable as defined by CEQA Guidelines § 15064(h)(1).

Construction impacts from ~~SCLF~~ City/County Landfill to geology and soils were found to be less than significant with mitigation. The ~~SCE~~ SCE-SLR project construction would be expected to comply with the SCLF MMRS, and potentially obtain an NPDES permit (reducing soil erosion impacts), and would be expected to have less than significant impacts to geology and soils. None of the related projects were found to have significant impacts on geology or soils following mitigation.

Construction of additional LFGTE projects at SCLF would likely have similar impacts to geology and soils as that of SGP as described in Subsection 4.5.3. The actual impacts would be a strong function of the location of the site of any additional LFGTE projects. Because of the topographical features of the SCLF, e.g., ridgelines, valleys, steep slopes, etc., it cannot be known at this time where any future LFGTE project constructed at the SCLF would be located. Consequently, identifying a specific location for any future projects would be speculative. Therefore, it is not possible to evaluate potential geology and soils impacts associated with a location choice; consequently, the project is not considered to have significant adverse cumulative geology or soils impacts from construction.

5.6.2 OPERATIONAL IMPACTS

Section 4.5.3 showed that impacts to geology and soils from the proposed project during operation would be less than significant. Seismic activity and soil stability impacts would be minimized through conformance with ~~California Building Code (~~CBC~~)~~ design criteria, specifically CBC earthquake design requirements based on the appropriate seismic design category (SDC) classification (California Building Code Standards Commission 2010~~CBC 2007~~). Facilities that meet CBC design standards have a built-in factor of safety to protect people and structures from risk of loss, injury, or death involving strong seismic ground shaking, or seismic-related ground failure including landslides, among other important geologic hazards. Consequently, erosion is not a potential project-specific geologic hazard for the project site during post-construction conditions. An additional comprehensive project-specific geotechnical study ~~would be~~has been conducted in accordance with SCLF MMRS requirements (Appendix H-3). As discussed in Section 4.5.3.2, soil erosion from operations would be less than significant through the implementation of mitigation measures identified in the SCLF MMRS and conformance to the ~~2007~~ 2010 (or current version pending future updates) CBC and 20~~08~~11 Los Angeles County Building Code (Los Angeles County ~~2008~~2011) slope stabilization and erosion control requirements. The proposed septic system would require authorization from the RWQCB and the Los Angeles County Department of Public Health.

The operational impacts to geology and soils ~~impacts~~ from the City/County Landfill were deemed less than significant after the application of mitigation measures. The proposed SCE, LADWP, and Caltrans ~~SLR~~ projects would not have operational impacts to geology and soil because no soil-disturbing activities would occur during operations ~~of the subtransmission line~~.

The operational impacts to geology and soils from future LFGTE projects would be similar to that of SGP, as analyzed in Subsection 4.5.3, and would likely be less than significant. However, the actual impacts would be dependent on the actual site chosen for any future project. As no site has been chosen, further analysis would be speculative.

Review of other cumulatively related projects, including the newly identified projects in Subsection 5.2.2, indicated that the proposed project would not create significant adverse project-specific and/or cumulative geology and soils impacts. As indicated above and in Chapter 4, geology and soils impacts would not exceed the applicable geology and soils impacts project-specific significance thresholds, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not contribute to significant adverse cumulative geology and soils impacts. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative geology and soils impacts presented in the Draft SEIR.

~~Consequently, the project is not considered to have significant adverse cumulative geology or soils impacts from operation, relative to the related projects.~~

5.6.3 MITIGATION MEASURES

The analysis of geology and soil impacts from both construction and operations concluded that project-specific impacts would not exceed any applicable significance criteria; therefore, mitigation measures were not required for either construction or operations. Project-specific geology and soil impacts from construction and operations were not concluded to be cumulatively considerable; therefore, the proposed project would not generate cumulatively significant geology and soils impacts during construction or operation relative to the other related projects.

5.6.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The cumulative impacts on geology and soil are considered to be less than significant without mitigation.

5.7 HYDROLOGY AND WATER QUALITY

CEQA Guidelines §15130(a) indicate that an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. Evaluation of all the related projects identified no significant adverse hydrology and water quality impacts. Nonetheless, information is provided regarding cumulative projects in the interest of full disclosure.

The geographic scope considered for potential cumulative hydrology and water quality impacts includes the related projects identified in Subsection 5.2.2, which also includes the newly identified projects. As discussed in Subsection 4.6.3, impacts from operation of the proposed project would not exceed applicable hydrology and water quality significance criteria. The analysis in Section 4.6.3 focused on impacts associated with the condensate treatment and water demand at the facility during operation, as all other hydrology and water quality impacts remain unchanged because they were found to have less than significant impacts in the NOP/IS. No significant adverse hydrology and water quality impacts were identified for the proposed project~~or any of the related projects. Project-specific impacts from the proposed project and all related projects were less than significant~~; therefore, hydrology and water quality impacts ~~they~~ are not considered to be cumulatively considerable as defined in CEQA Guidelines §15064(h)(1). As a result, cumulative impacts to hydrology and water quality from the proposed project would not be significant.

5.7.1 OPERATIONAL WASTEWATER IMPACTS

With respect to wastewater, as discussed in Section 4.6.3.1, the wastewater generated by the proposed project would consist of approximately ~~8~~3,500 gpd of additional condensate and between 500 and 1,000 gallons per quarter of wash water. Wastewater generated by the proposed project would be similar in composition to the gas condensate that is currently managed by the SCLF wastewater collection and treatment system. The SCLF treatment system has the capacity to process any increased wastewater generated from the proposed project. Wastewater would be treated by SCLF in accordance with the SCLF's WDR Order No. R4-~~2207-0023~~2008-0088 issued by the Los Angeles RWQCB. All treated wastewater is reused at SCLF for dust control and irrigation purposes and meets the provisions for on-site use of water provided in the WDR. Because the wastewater produced as part of the proposed project would be appropriately managed and treated on site in accordance with relevant wastewater discharge requirements, this impact is considered less than significant.

The project-specific wastewater impacts would be less than significant, and therefore, are not cumulatively considerable as defined by CEQA Guidelines § 15064(h)(1). The operational wastewater impacts of the most closely overlapping project, the City/County Landfill, were deemed less than significant due to the fact that the landfill will continue to reclaim and recycle the majority of its wastewater on site. The proposed ~~SCE~~ SCE-SLR and Aliso Canyon Turbine Replacement projects would not have wastewater impacts from operation of the subtransmission lines. Additionally, the Gate-King Industrial Park and Caltrans I-5 HOV Lane projects would have less than significant impacts from wastewater. The majority of impacts from the LADWP projects would be a result of construction activities; project-specific operational impacts to water quality were found to be less than significant for these projects.~~,~~ Consequently, the proposed project is not considered to have significant adverse cumulative wastewater impacts from operation relative to other related projects. As an upper bound, a future LFGTE project may generate wastewater similar to that described for the proposed SGPREP, as analyzed in Subsection 4.6.3.1. Because any wastewater would be appropriately managed and treated on site in accordance with relevant wastewater discharge requirements as would be the case for the proposed SGPREP, wastewater impacts would be considered to be less than significant, would not be considered cumulatively considerable (CEQA Guidelines §15064(h)(1), and would not contribute to significant adverse wastewater impacts.

5.7.2 OPERATIONAL WATER DEMAND IMPACTS

Water demand impacts were assessed in Subsection 4.6.3.2 of this ~~Draft~~ Final SEIR due to the addition of the water supply pipeline to the project description following the circulation of the NOP/IS. Water demand impacts from the proposed project operations would not exceed the applicable significance criteria. The proposed project would require approximately 40 to 60 gpd of water. This demand can be met by existing water supply capacity. ~~W~~Based on the water demand analysis in Subsection 4.6.3.2, project-specific water demand impacts from the proposed project would be less than significant.

The project-specific water demand impacts are less than significant, and therefore, are not cumulatively considerable as defined by CEQA Guidelines § 15064(h)(1). The water demand impacts of the City/County Landfill were found to be less than significant. ~~The~~ Review of the other cumulatively related projects, which includes the newly identified projects, indicates that with the exceptions of the BRRTP and the Sylmar Ground Return System Replacement project, operations of the other related ~~proposed SCE SLR~~ projects would ~~not~~ use minimal quantities of water. Consequently, the project is not considered to have significant adverse cumulative water demand impacts from operation. As an upper bound, the project specific water demands of additional future LFGTE projects would be similar to that assessed in Subsection 4.6.3.2. This demand could be met by existing water supply capacity, and would result in less than significant impacts.

Review of other cumulatively related projects, including the newly identified projects in Subsection 5.2.2, indicated that in some cases project-specific and/or cumulative hydrology and water quality impacts may be significant. For example, the BRRTP was found to have cumulatively considerable impacts to the watersheds and the Sylmar Ground Return System Replacement project could result in violation of water quality standards and waste discharge requirements during construction. Review of the remaining cumulatively related projects indicated that none would create significant adverse project-specific and/or cumulative hydrology and water quality impacts. As indicated above and in Chapter 4, hydrology and water quality impacts would not exceed the applicable hydrology and water quality project-specific significance thresholds for the proposed project, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not contribute to significant adverse cumulative hydrology and water quality impacts. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative hydrology and water quality impacts presented in the Draft SEIR.

5.7.3 MITIGATION MEASURES

The analysis of hydrology and water quality impacts from operations concluded that project-specific impacts would not exceed any applicable significance criteria; therefore, mitigation measures were not required. Project-specific hydrology and water quality impacts from operations were concluded to be less than significant; therefore, cumulative impacts were not concluded to be cumulatively considerable and would not generate cumulatively significant hydrology and water quality impacts during construction or operation relative to the other related projects.

5.7.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The cumulative impacts on hydrology and water quality are considered to be less than significant without mitigation.

5.8 NOISE

CEQA Guidelines §15130(a) indicates that an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable. Where a lead agency is examining a project with an incremental effect that is not cumulatively considerable, a lead agency need not consider the effect significant, but must briefly describe the basis for concluding that the incremental effect is not cumulatively considerable. Evaluation of all the related projects identified no significant adverse noise impacts. Nonetheless, information is provided regarding cumulative projects in the interest of full disclosure.

The geographic scope considered for potential cumulative noise impacts includes the related projects identified in Subsection 5.2.2. ~~No s~~Potentially significant adverse noise impacts were identified for ~~the proposed project or any of the related projects~~construction of the Sylmar Ground Return System Replacement project in the project's IS. However, p~~P~~roject-specific impacts from the proposed project ~~and all related projects~~ were less than significant; therefore, they are not cumulatively considerable. As a result, cumulative noise impacts would not be significant.

5.8.1 CONSTRUCTION IMPACTS

Subsections 4.7.3.2 and 4.7.3.4 showed that noise impacts from construction of the proposed project would not exceed applicable significance thresholds. The background ambient noise measurements included City/County Landfill operational noise levels. The analysis included consideration of both ground-borne vibration and ambient noise increase and found vibration and noise levels to be less than City of Los Angeles and Los Angeles County noise ordinance threshold levels and CalOSHA noise threshold limits. The ~~SCE~~ SCE-SLR project construction noise impacts would be comparable to the SCE transmission line construction noise impacts evaluated in Section 4.7.3, which were found to be less than significant. According to the IS prepared for the Sylmar Ground Return System Replacement, the project may have the potential to create significant adverse noise impacts during construction. These potential noise impacts are to be comprehensively analyzed in a draft EIR, where a final determination of significance would be made. All other related projects would have less than significant noise impacts from construction. Proposed project-specific impacts were found to be less than significant. The magnitude of the noise from the construction of any future LFGTE projects would be similar to that of the proposed SGPREP, as analyzed in Subsections 4.7.3.2 and 4.7.3.4. However, because of the topographical features of the SCLF, e.g., ridgelines, valleys, steep slopes, etc., it cannot be known at this time where any future LFGTE project constructed at the SCLF would be located. Consequently, identifying a specific location for any future projects would be speculative. Therefore, it is not possible to evaluate potential impacts associated with a location choice. Regardless, noise impacts from the proposed project are not cumulatively considerable as defined by CEQA Guidelines §15064(h)(1). Consequently, the project is not considered to have significant adverse cumulative construction noise impacts relative to related projects.

5.8.2 OPERATIONAL IMPACTS

As discussed in Subsections 4.7.3.1, 4.7.3.2, and 4.7.3.3, operation noise impacts would not exceed applicable significance thresholds. ~~A variety of~~Subsection 4.7.3 provides a summary of the detailed noise modeling calculations, which compared the proposed project to current ambient noise levels and showed that the proposed ~~renewable energy~~ project, under operation, would not generate significant adverse noise impacts to the adjacent surrounding residential community, ~~nor~~ the commercial areas, nor the administrative building and refuse collection area. Noise impacts to the surrounding area from the proposed project's operation were compared to Los Angeles County noise ordinance threshold levels and CalOSHA noise threshold limits and found to be less than significant. Additionally, ground-borne vibration and noise impacts from operations were assessed and found to be below the published FTA threshold of human perceptibility and therefore would be less than significant. Ambient noise level increase from operations was below both Los Angeles County noise ordinance threshold levels and CalOSHA noise threshold limits. The project-specific operational noise impacts are less than significant, and therefore, are not considered cumulatively considerable as defined by CEQA Guidelines §15064(h)(1). The operational noise impacts of the City/County Landfill were deemed less than significant with mitigation. ~~The proposed SCE SLR project would not be expected to generate noise during operations.~~ Operation of related projects would have less than significant noise impacts. While the magnitude of the noise from the operation of any future LFGTE projects would be similar to that of SGPREP, as analyzed in Subsections 4.7.3.1. 4.7.3.2, and 4.7.3.3, because of the topographical features of the SCLF, e.g., ridgelines, valleys, steep slopes, etc., it cannot be known at this time where any future LFGTE project constructed at the SCLF would be located. Consequently, identifying a specific location for any future projects would be speculative. Therefore, it is not possible to evaluate potential impacts associated with a location choice. ~~Consequently~~Regardless, the project is not considered to have significant adverse cumulative operational noise impacts relative to related projects.

Review of other cumulatively related projects, including the newly identified projects in Subsection 5.2.2, indicated that in one case project-specific and/or cumulative noise impacts may be significant. For example, the IS for the Sylmar Ground Return System Replacement project indicated that the project had the potential to create significant noise impacts; however, the full analysis of noise impacts has not yet been completed. No other related projects were identified that could not create significant adverse project-specific and/or cumulative noise. As indicated above and in Chapter 4, noise impacts for the proposed project would not exceed the applicable project-specific significance thresholds for noise, are not considered to be cumulatively considerable as defined by CEQA Guidelines §15064(h)(1), and, therefore, would not contribute to significant adverse cumulative noise impacts. Finally, incorporating and reviewing the six newly identified projects with environmental impact information into this cumulative impacts analysis does not change any of the significance conclusions regarding cumulative noise impacts presented in the Draft SEIR.

5.8.3 MITIGATION MEASURES

The analysis of noise impacts from both construction and operations concluded that project-specific impacts would not exceed any applicable significance thresholds; therefore, mitigation measures were not required. Project-specific noise impacts from construction and operations were not concluded to be cumulatively considerable; therefore, they would not generate cumulatively significant noise impacts during construction or operation relative to the other related projects.

5.8.4 LEVEL OF SIGNIFICANCE AFTER MITIGATION

The cumulative noise impacts are considered to be less than significant without mitigation.

CHAPTER 6

PROJECT ALTERNATIVES

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6.0 PROJECT ALTERNATIVES

6.1 INTRODUCTION

According to the CEQA Guidelines, alternatives should include feasible measures to attain the basic objectives of the proposed project and provide means for evaluating the comparative merits of each alternative. In addition, though the range of alternatives must be sufficient to permit a reasoned choice, the EIR need not include every conceivable project alternative (CEQA Guidelines §15126.6(a)). The selection and discussion of alternatives fosters informed decision making and public participation.

Pursuant to CEQA Guidelines §15126.6, this chapter identifies and compares the relative merits of a range of reasonable alternatives to the proposed project. The project alternatives include other possible means of feasibly attaining the objectives of the proposed project that would avoid or substantially lessen significant effects of the proposed project. The "No Project" alternative has also been evaluated as required pursuant to CEQA Guidelines §15126.6(e).

Alternatives presented in this chapter were developed by identifying alternatives that would achieve most of the objectives of the proposed project. Consequently, each project alternative described below is similar to the proposed project in most respects. The rationale for selecting specific components of the proposed project on which to focus the alternatives analysis rests on CEQA's requirements to present a range of reasonable project alternatives that could feasibly attain the basic objectives of the project, while generating fewer or less severe adverse environmental impacts. The objectives of the proposed project are as follows:

1. Continue to comply with SCAQMD Rule 1150.1 as LFG (primarily methane) volumes increase.
2. Maximize production of renewable energy utilizing LFG as a combustion fuel rather than simply flaring the LFG and wasting the energy content of LFG.
3. Maximize production of renewable energy provided to state utilities that can be used to meet the State of California's mandated Renewables Portfolio Standard (RPS).
4. Incentivize and encourage ~~LFG-to-energy~~LFGTE projects and other small scale renewable energy projects because such projects provide a stable source of renewable energy necessary to meet the goals of the RPS.
5. Provide a source of renewable energy as cost-effectively as possible.

Section 15126.6(f) of the CEQA Guidelines stipulates that the range of alternatives required in an EIR is governed by a rule of reason in that the EIR must discuss only those alternatives "necessary to permit a reasoned choice" and those that could feasibly attain most of the basic objectives of the proposed project. The identified feasible project alternatives, as well as the alternatives rejected as infeasible are discussed further in the following sections.

Aside from the alternatives described below, no other project alternatives were identified that would meet most of the objectives of the proposed project, while substantially reducing significant adverse environmental impacts.

6.2 ALTERNATIVES REJECTED AS INFEASIBLE

In accordance with CEQA Guidelines §15126.6(c), a CEQA document should identify any alternatives that were considered by the lead agency, but were rejected as infeasible during the scoping process and briefly explain the reason underlying the lead agency's determination. Section 15126.6(c) also states that among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives; (2) infeasibility; or (3) inability to avoid significant environmental impacts. Furthermore, CEQA Guidelines §15126.6(f)(2)(B) indicates that if the lead agency concludes that no feasible alternative locations for the project exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. As discussed below, one alternative location was considered, but upon further evaluation was rejected as infeasible.

An alternative was considered to transport the LFG via pipeline for use off site instead of using the ~~gas~~ LFG to generate electricity on site. To implement this alternative, a pipeline would originate at SCLF and terminate at the Berry Petroleum Production field located off Sierra Highway east of Santa Clarita, California. The pipeline route would extend from the north side of the landfill, across Interstate 5, south along The Old Road to the SR-14 exit ramp, and then ~~the pipeline would~~ follow the SR-14 exit ramp to the Sierra Highway overpass and down the hill to the Sierra Highway. The pipeline would follow the Sierra Highway from that location to the Berry Petroleum Production facility where it would be used as an alternative fuel in place of natural gas. This alternative would pose several technical challenges that may not be achievable, including the need to drill from the landfill under Interstate 5 and install the pipeline crossing an existing Los Angeles aqueduct supply line without interrupting the water supply. Due to the technical difficulties and risks posed by the pipeline, this alternative was determined to be infeasible. Any other off-site alternative would also pose a problem because the source of the LFG is relatively fixed (i.e., generated at the SCLF). Therefore, other off-site alternatives would be infeasible for many of the same reasons as transporting the LFG to the Berry Petroleum Production field.

6.3 DESCRIPTION OF PROJECT ALTERNATIVES

6.3.1 ALTERNATIVE 1 – NO PROJECT ALTERNATIVE

Consideration of the No Project Alternative is specifically required by Section 15126.6(e)(1)-(3) of the CEQA Guidelines. This alternative will be evaluated to compare the impacts of the proposed project with the impacts that could occur without implementation of the proposed project. The No Project Alternative would not include the project components described in Chapter 2. It would result in continued flaring of the LFG. Flaring volumes would increase as LFG production increases due to the decomposition of landfill material.

6.3.2 ALTERNATIVE 2 – REDUCED PROJECT SIZE ALTERNATIVE

A reduced project size alternative is considered for the purpose of reducing the project's potentially significant cumulative GHG impacts. This alternative would involve installing three turbines instead of the proposed five turbines. The reduced size alternative would not reduce the number of new employees (two to three) required to operate the facility. The disturbed area from construction would not be reduced and Alternative 2 would not alter the configuration of the SCE Switchyard or SCE Subtransmission Line as compared to the proposed project. Alternative 2 would result in combustion of LFG by the existing flares pursuant to Rule 1150.1 that would otherwise be directed to the two additional turbines included in the proposed project. The reduced number of turbines would result in a lower electricity generation compared to the proposed project~~,~~ -proportional to the decrease in turbines. Therefore, Alternative 2 would have a total gross electricity generation capacity of 14.7 MW, and a net output of 12 MW.

6.3.3 ALTERNATIVE 3 – ALTERNATE PLANT LOCATION

The potential for an alternate plant location within the SCLF boundaries was evaluated. Based on a review of the location of the existing SCLF flares and the topography of the site, it would be potentially feasible to locate the turbines on the ridge next to SCLF Flare 8. While this site is feasible, ~~to create a level area for the plant and roads sufficient to transport the equipment to the plant location,~~ substantial grading and slope stability activities would be required to create a level area for the plant and roads sufficient to transport the equipment to the plant location, resulting in greater construction intensity compared to the proposed project. No other locations within the SCLF boundaries would be suitable because there is not the necessary level area to accommodate the construction and operation of an ~~LFG-to-energy~~LFGTE facility and switchyard.

6.3.4 ALTERNATIVE 4 – ALTERNATE CONFIGURATION OF SUBTRANSMISSION LINES

Rather than connecting the proposed SCE Switchyard to the SCE subtransmission system with a new line (Figure 2-5), the proposed project could be connected to the SCE Subtransmission Line through an extension of the existing 66 kV subtransmission line. The extension would be from existing electric poles located on the southeast side of the landfill with new poles that would have two sets of power lines. Alternative 4 would only be feasible if the existing subtransmission line were to be relocated around the boundary of the landfill, which is a separate project that is currently under environmental review for SCLF and discussed in Chapter 5 – Cumulative Impacts (Related Project #10), but has not been approved at the time of this Final~~Draft~~ SEIR.

6.4 ENVIRONMENTAL IMPACTS FROM THE PROJECT ALTERNATIVES

6.4.1 ALTERNATIVE 1 – NO PROJECT ALTERNATIVE

Air Quality: Alternative 1 would avoid potential construction-related air quality impacts because no new facilities would be constructed, and the use of construction equipment would be avoided.

As indicated in Chapter 3, LFG from the SCLF would continue to increase because of the increase in the volume of waste due to future waste disposal. During future operations, LFG from SCLF must be collected and controlled pursuant to SCAQMD Rule 1150.1 regardless of whether the proposed project is constructed. Table 6-1a shows estimated criteria pollutant emissions from continued LFG combustion from the SCLF existing flares. Generally, the same amount of LFG would be combusted under the No Project Alternative compared to the proposed project. Because this amount of LFG would be greater than the amount of LFG that was flared under baseline conditions, emissions from Alternative 1 would exceed those of the baseline case. Table 6-1a shows that this difference would be less than the SCAQMD thresholds of significance for all criteria pollutants.

TABLE 6-1a

Alternative 1 Operation Criteria Pollutant Emission Inventory in 2025

Scenario	NO_x (lb/day)	CO (lb/day)	VOC (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)	SO_2 (lb/day)
SCLF Flare Baseline[1]	124	126	19	19	19	113
No Project Alternative[2]	178	182	28	27	27	163
Difference[3]	54	56	9	8	8	50
SCAQMD Threshold of Significance	55	550	55	150	55	150
Significant?	No	No	No	No	No	No

Notes:
1. Baseline emissions for Oct 2007 through Sep 2009
2. Continued flaring of the same amount of LFG that would otherwise be used by the proposed project at the proposed project's peak capacity (2025)
3. Difference estimated by subtracting SCLF Flare Baseline from the No Project Alternative

As shown in Table 6-1b, ~~emissions under Alternative 1 would be greater than those associated with the proposed project for NO_X, VOC, PM_{10} and SO_X due to the application of PR offsets for the proposed project.~~ CO and $PM_{2.5}$ emissions under Alternative 1 would be less than those associated with the proposed project as a result of the differences in combustion technology between flares and turbines, including a longer residence time in the combustion chamber and decreased flame stability for flares compared to turbines (Derenzo 2010; see Derenzo & Associates, "Sunshine Gas Producers, LLC Renewable Energy Project: Comparison of Criteria Pollutant and Greenhouse Gas Emission Rates," Appendix E-4). Table 6-1b shows criteria pollutant air quality impacts under the No Project Alternative would be less than significant, and impacts from the proposed project would be significant for ~~CO and~~ $PM_{2.5}$.

Table 6-1b

Comparison of Proposed Project to Alternative 1 Operation Criteria Pollutant Emission Inventory in 2025

Scenario	NO_x (lb/day)	CO (lb/day)	VOC (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)	SO_x (lb/day)
Proposed Project Increase from Baseline Before Offsets	261	268	88	94	94	262
Proposed Project Increase from Baseline After Offsets[1]	0	~~734~~268	0	0	94	0
No Project Alternative Increase from Baseline Before Offsets	54	56	9	8	8	50
No Project Alternative Increase from Baseline After Offsets[2]	0	56	0	0	8	50
SCAQMD Threshold of Significance	55	550	55	150	55	150

Notes:
1 Proposed project increase from baseline includes the application of PR offsets as project design features

2 SCLF currently applies emission reduction credits to NO_x, CO, VOCs and PM_{10}

In addition, Table 6-1c shows the difference between the No Project Alternative at permitted values, and the proposed project at currently permitted values to clarify the reason for the differences in estimated emissions, i.e. that a facility may have permit limits that far exceed actual expected emissions. As discussed in Subsection 4.2.3.4, SCAQMD permit conditions limiting stationary source equipment emissions are typically based on manufacturer's guarantees. Baseline emissions, in contrast, are based on actual emissions data that represent normal operating conditions recorded during a representative time period before release of the NOP/IS for public review. To ensure compliance with permit conditions, operators will typically operate equipment at less than maximum capacity allowed by permit conditions, i.e., manufacturers' guarantees. Although actual operational emissions increase, the difference between the proposed project and baseline during normal operations are anticipated to be less than the emissions increases when comparing the manufacturers' guaranteed (or permitted) emissions rates and the baseline. Emissions calculated using this more conservative approach are quantified and compared to the applicable operation air quality significance thresholds. Therefore, the following table compares the proposed project emissions calculated using manufacturer's guarantees (i.e. representative of permit conditions) to the No Project Alternative at existing permit conditions.

TABLE 6-1c
Comparison of Alternative 1 to Existing Permitted Limits Operation Criteria Pollutant Emission Inventory in 2025

Scenario	NO_x (lb/day)	CO (lb/day)	VOC (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)	SO_x (lb/day)
No Project Alternative at Existing Permit Limits Increase from Baseline	241	101	15	55	55	113
Proposed Project Increase from Baseline Before Offsets	261	268	88	94	94	262
Offsets Applied to Proposed Project	261	0	88	94	0	262
Proposed Project Increase from Baseline After Offsets[1]	0	268	0	0	94	0

Notes:
1 Proposed project increase from baseline includes the application of Priority Reserve offsets as project design features

Table 6-2a shows the GHG emissions that would occur if the LFG continued to be flared instead of being combusted in the proposed projects' gas turbines. The difference between emissions from Alternative 1 and the baseline would exceed the SCAQMD thresholds of significance for GHG emissions. Because this difference would exceed the SCAQMD threshold of significance for GHG emissions, GHG impacts from this alternative would be significant.

TABLE 6-2a

Alternative 1 GHG Emission Inventory in 2025

Scenario	CO_2 (MT/day)	CH_4 (MT/day)	N_2O (MT/day)	Total CO_2e (MT/day)	Tons CO_2e (MT/year)
SCLF Flare Baseline[1]	208	0.38	0.0026	217	79,269
No Project Alternative [2]	301	0.55	0.0037	314	114,635
Difference[3]					35,366
SCAQMD Significance Threshold					10,000
Significant?					Yes

Notes:
1. Baseline emissions for Oct 2007 through Sep 2009
2. Continued flaring of the same amount of LFG that would otherwise be used by the proposed project in 2012.
3. Difference by subtracting SCLF Flare Baseline from the No Project Alternative

As shown in Table 6-2b, GHG emissions under Alternative 1 would be slightly less than the proposed project because this alternative would avoid both operational emissions from employees' solid waste generation and water use and construction emissions. GHG emissions from LFG combustion would be the same as those of the proposed project because CO_2 and N_2O production would be the same for flares and turbines and because the assumed methane destruction efficiency (0.995) is the same for both technologies.

TABLE 6-2b

Comparison of Proposed Project to Alternative 1 GHG Emission Inventory

Scenario	Emission Source (Metric Tons CO_2e/year)					
	Solid Waste	Water Use	Construction[1]	LFG Combustion	SCLF Flare Baseline[2]	Total[3]
Proposed Project Increase from Baseline	0.~~86~~87	0.074	~~41~~0	114,635	79,269	35,~~408~~367
No Project Alternative Increase from Baseline	0	0	0	114,635	79,269	35,366
SCAQMD Significance Threshold						10,000

1. Implementing mitigation measure GHG-3 reduces GHG construction emissions to zero.~~Construction emissions amortized over a 30-year period per SCAQMD policy~~
2. Baseline emissions for Oct 2007 through Sep 2009
3. Total emissions calculated by summing emissions from solid waste, water use, construction, LFG combustion and subtracting SCLF Flare Baseline

Alternative 1 would increase TAC emissions and the associated health risks due to the increase in LFG compared to the baseline. The health risk impacts from Alternative 1 would be lower than the project-specific health impacts quantified for the proposed project (Table 6-3), because LFG combustion from flares produce slightly less TAC emissions than turbines. Health risks from Alternative 1 (both carcinogenic and noncarcinogenic) would be less than significant because they would be slightly less than those of the proposed project and the impacts from TAC emissions of the proposed project have also been found to be less than significant. Odors, if any from combustion of LFG in the existing flare, would not change from current conditions, and impacts would therefore also be less than significant, similar to combustion of LFG by the proposed project. Additionally, as discussed in Subsection 5.3.4, SCAQMD issued the STAOA, which requires further odor controls at SCLF.

TABLE 6-3

Comparison of Proposed Project to Alternative 1 Carcinogenic, Chronic and Acute Health Risks

Scenario	**MICR**	**HIA**	**HIC**
Proposed Project	0.07 x 10^{-6}	1 x 10^{-3}	7 x 10^{-2}
No Project Alternative[1]	0.03 x 10^{-6}	5 x 10^{-5}	8 x 10^{-5}

Note:
Results based on 1997 Draft SEIR for the SCLF flares with a combustion rate of 4,400 scfm and adjusted for the proposed project combustion rate of 8,100 scfm.

Cultural Resources: Alternative 1 would eliminate the disturbance of any soils due to construction activities because the proposed project would not be built. Therefore, there would be no impacts to cultural resources from this alternative. With the implementation of SCLF MMRS 5.01, 5.02, 5.05, and 7.05, the proposed project's impacts on cultural resources were considered to be less than significant.

Energy: Alternative 1 would continue to use the amount of electricity currently required by the SCLF; therefore, impacts would be less than significant. Alternative 1 would not allow the development of the proposed 20 MW renewable energy facility, eliminating the beneficial impacts from renewable energy generation provided by the proposed project. The proposed project energy impacts during construction were considered to be less than significant. Except for the initial demand for energy to start the first turbine, the SGPREP would provide electricity to the facility making it self sufficient regarding energy demand. Therefore, operational energy impacts from the proposed project would also be less than significant.

Geology and Soils: Alternative 1 would eliminate the disturbance of any soils due to construction activities because the proposed project would not be built. Therefore, there would be no impacts to geology and soils from this alternative. With the implementation of SCLF MMRS 1.02, 1.06, 1.07, 1.11, and 1.13, the proposed project impacts on geology and soils were considered to be less than significant.

Hydrology and Water Quality: Alternative 1 would eliminate the increase in water use and wastewater discharge associated with the proposed project. Alterative 1 would eliminate the need for additional full-time employees and would eliminate any increase in waste demand associated with the proposed project. ~~Alternative 1 would also eliminate the potential increase in wastewater generated from the proposed project of about 8,500 gallons per day of wastewater generated during the gas treatment process and an additional 500 to 1,000 gallons of wash water generated on a quarterly basis as part of equipment cleaning and maintenance.~~ Alternative 1 would generate less wastewater from gas treatment compared to the proposed project, as LFG can have a higher water content when used in flares versus turbines, however, additional wastewater would still be generated above baseline conditions as a result of increased LFG volumes. Thus, Alternative 1 would have a less than impact than the proposed project on~~no impacts on hydrology and water quality~~. With implementation of SCLF MMRS 2.03, 2.14, and 3.12, the proposed project impacts on hydrology and water quality were considered to be less than significant.

Noise: Alternative 1 would eliminate the increase in noise during both the construction and operational phases from the proposed project. Noise levels during the operational phases would increase slightly in the future under Alternative 1 relative to baseline conditions. This would be from the increased LFG generation and subsequent combustion by the existing flares, but the noise levels would be less than significant. With the implementation of SCLF MMRS 9.01, 9.02 and 9.03, the proposed project noise impacts were considered to be less than significant.

6.4.2 ALTERNATIVE 2 – REDUCED PROJECT SIZE ALTERNATIVE

Air Quality: Alternative 2 would decrease the construction duration due to the installation of less equipment and fewer ~~haul~~ truck trips. However, the number and use of construction equipment and ~~haul~~ truck trips during peak day activities would be the same as those of the proposed project. Therefore, the maximum daily construction emissions would not change compared to the proposed project. Consequently, the impact from construction emissions from Alternative 2 are expected to remain significant for NO_x but would also require the application of Mitigation Measures A-1 and A-2 to reduce significant NO_x impacts to less than significant.

As with the regional construction emissions, the localized air quality impacts from Alternative 2 would be the same as those of the proposed project and are expected to remain less than significant.

Table 6-4a shows criteria pollutant emissions for baseline conditions and Alternative 2 operation emissions, and compares their difference with the SCAQMD thresholds of significance. As with the proposed project, SCAQMD would use its PR offsets for NO_x, VOC, and SO_x to reduce impacts below the applicable significance thresholds. PM_{10} emissions would be below significance thresholds and PR offsets would reduce PM_{10} emissions to zero, so these emissions would also be less than significant. Therefore, NO_x, VOC, PM_{10} and SO_x operational emissions would be less than significant from this impact after application of PR offsets. Operational CO emissions from Alternative 2 would also be less than significant. As shown in Table 6-4a, operational $PM_{2.5}$ from Alternative 2 would exceed the applicable significance threshold. Therefore, operational emissions would be significant for this impact.

TABLE 6-4a

Alternative 2 Operation Criteria Pollutant Emission Inventory in 2025

Scenario		NO_x (lb/day)	CO (lb/day)	VOC (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$[3] (lb/day)	SO_x (lb/day)
a	SCLF Flare Baseline[1]	124	126	19	19	19	113
b	Excess Flared[2]	71	73	11	11	11	65
c	Total Reduced Project Size Alternative 2	~~383~~231	~~515~~236	64	68	68	225
b+c-a =d	Subtotal Reduced Project Size Alternative Emission Increases	~~330~~179	~~462~~183	56	60	60	177
e	Offsets Applied	~~330~~179	0	56	60	0	177
d-e	Remaining Reduced Project Size Alternative Emissions	0	~~462~~183	0	0	60	0
	SCAQMD Threshold of Significance	55	550	55	150	55	150
	Significant?	No	No	No	No	Yes	No

Notes:
1. Baseline emissions for Oct 2007 through Sep 2009
2. Excess LFG that would need to be combusted in a flare because Alternative 2 would be unable to combust the excess LFG

in the three turbines
3. Emissions associated with three turbines at peak capacity (2025)

TABLE 6-4b

Comparison of the Proposed Project and Alternative 2 Operation Criteria Pollutant Emission Inventory in 2025

Scenario	NO_x (lb/day)	CO (lb/day)	VOC (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)	SO_2 (lb/day)
Proposed Project Increase from Baseline After Offsets[1]	0	~~734~~268	0	0	94	0
Reduced Size Project Alternative Increase from Baseline After Offsets[1]	0	183~~462~~	0	0	60	0
SCAQMD Threshold of Significance	55	550	55	150	55	150

Notes:
1 Proposed project increase from baseline and reduced project alternative increase from baseline includes the application of PR offsets for NO_x, VOC, and SO_x as project design features

Ambient air quality impacts from Alternative 2 are expected to be less than the impacts from the proposed project because fewer turbines would operate under Alternative 2.

Table 6-5a compares the estimated difference between GHG emissions for Alternative 2 and the baseline emissions with the SCAQMD thresholds. The GHG emissions impacts would be significant from this alternative.

TABLE 6-5a

Alternative 2 GHG Emission Inventory in 2025

Scenario		CO_2 (MT/day)	CH_4 (MT/day)	N_2O (MT/day)	Total CO_2e[1] (MT/day)	Tons CO_2e (MT/year)
a	SCLF Flare Baseline[2]	208	0.38	0.0026	217	79,269
b	Excess Flared[3]	121	0.22	0.0015	126	45,854
c	Reduced Size Project Alternative[4]	~~187~~181	0.33	0.~~0025~~0022	~~195~~188	68,~~807~~782
c+b-a	Difference [5]					35, 367~~392~~
	SCAQMD Significance Threshold					10,000

Notes:
1. Daily total CO_2e is rounded to the nearest digit in this table. However, additional decimal places were carried over to calculate the annual CO_2e
2. Baseline emissions for Oct 2007 through Sep 2009
3. Excess LFG that would need to be combusted in a flare because Alternative 2 would be unable to combust the excess LFG in the three turbines
4. Emissions associated with three turbines at peak capacity (2025). Note, construction GHG emissions would be mitigated according to GHG-3 for the Reduced Project Alternative.
5. Difference estimated by summing the reduced project alternative and excess flared and subtracting SCLF Flare Baseline

Table 6-5b shows the GHG emissions generated from Alternative 2 would be slightly lower than those generated by the proposed project, but still significant. The difference in total GHG emissions is a result of fewer GHG emissions generated during construction because fewer turbines would be installed for Alternative 2.

TABLE 6-5b

Comparison of Proposed Project to Alternative 2 GHG Emission Inventory

	Emission Source (Metric Tons CO_2e/year)					
Scenario	**Solid Waste**	**Water Use**	**Construction[1]**	**LFG Combustion[2]**	**SCLF Flare Baseline[3]**	**Total[4]**
Proposed Project Increase from Baseline	0.87~~6~~	0.074	~~41~~39	114,635	79,269	35,~~408~~367
Reduced Project Alternative Increase from Baseline	0.87~~6~~	0.074	~~25~~0	114,635	79,269	35,~~392~~367
SCAQMD Significance Threshold						10,000

1. Implementing mitigation measure GHG-3 reduces GHG construction emissions to zero.~~Construction emissions amortized over a 30-year period per SCAQMD policy~~
2. LFG combustion from both the turbines and flares
3. Baseline emissions for Oct 2007 through Sep 2009
4. Total emissions calculated by summing emissions from solid waste, water use, construction, LFG combustion and subtracting SCLF Flare Baseline

Alternative 2 would result in lower TAC emissions and the associated health risks based on the reduction of five turbines to three turbines but these lower TAC emissions would be somewhat offset by the TAC emissions associated with the corresponding increase in LFG flaring. As discussed in the Alternative 1 analysis, health risk impacts from the TAC emissions from the existing flares would be lower than health risk impacts from the turbines. Because the health risks (both carcinogenic and noncarcinogenic) from Alternative 2 would be less than those of the proposed project and the impacts from the proposed project were considered to be less than significant, impacts from this alternative would also be less than significant.

Cultural Resources:

Alternative 2 would install fewer turbines than the proposed project, but the disturbed area for construction would be the same. Therefore, impacts to cultural resources from Alternative 2 would be the same as those of the proposed project, which were considered to be less than significant.

Energy: Alternative 2 would require up to 2 MW of capacity to start the three turbines. Energy impacts from Alternative 2 would be less than significant because this electricity use would be less than that of the proposed project, and impacts of the proposed project on energy supplies were considered to be less than significant. Additionally, Alternative 2 would decrease the amount of renewable energy available and would reduce the benefit associated with a ~~LFG-to-energy~~LFGTE project.

Geology and Soils: Alternative 2 would disturb soils due to construction activities within the construction area. Because the construction area would be the same as the proposed project, geology and soils impacts associated with Alternative 2 would be the same as those of the proposed project, which were considered to be less than significant.

Hydrology and Water Quality: ~~Alternative 2 would require approximately the same volume of water during construction to control fugitive dust as the proposed project. Hydrology and water quality impacts during construction were considered to be less than significant for the proposed project; therefore, construction impacts from this alternative were also considered to be less than significant. Similarly,~~ Alternative 2 water use would be the same as that of the proposed project because it would include the same number of new employees. Alternative 2 would treat less LFG than the proposed project. The LFG treatment process generates wastewater from the compressor system condensate and the siloxane removal system. Therefore, Alternative 2 would discharge less wastewater than the proposed project. The operational impacts associated with Alternative 2 are considered to be less than significant because water and wastewater use would be less than those of the proposed project and the proposed project impacts on hydrology and water quality were considered to be less than significant.

Noise: Alternative 2 would result in construction-related noise from workers, equipment installation and noise associated with the operation of the turbines. The number and use of construction equipment and haul truck trips during peak day activities would be approximately the same as those of the proposed project, because the construction area would be the same. Therefore, noise impacts from construction would be similar to the proposed project. The noise impacts associated with operation of the Alternative 2 are considered to be less than significant because less noise would be generated from fewer turbines than the proposed project, and noise impacts from the proposed project were considered to be less than significant.

6.4.3 ALTERNATIVE 3 – ALTERNATE PLANT LOCATION

Air Quality: Under Alternative 3, the turbines would be located on the ridge at SCLF Flare 8. The SCE Switchyard would not be relocated under Alternative 3, but would remain at the same location as identified for the proposed project and would still be constructed during the same phases as the for the proposed project. In order to use the SCLF Flare 8 area for the turbines, additional roadway modifications would need to be completed to allow heavy equipment to access the alternative location, however, the new location would require less fill material and would therefore reduce the ~~number of heavy-duty truck trip soil deliveries and fill compaction~~duration of grading. While off-road mobile source emissions would increase somewhat due to roadway modifications, ~~on-~~off-road emissions would decrease somewhat due to ~~fewer heavy-duty truck trips~~the reduced duration of grading. Worker commute trips associated with the additional roadway construction activities would increase in Phase I compared to the proposed project. The net effect ~~of increased construction emissions versus reduced on-road mobile source emissions~~ on total construction emissions is expected to be a slight increase or remain the same as compared to the proposed project. ~~The duration of Phase I would be roughly the same as the proposed project, therefore, there would be no additional phase overlap.~~ Additionally, the SCE Subtransmission Line, water supply pipeline and telecom line would increase in length by approximately 500 feet and would have a corresponding increase in associated construction emissions. Therefore, similar to the proposed project, the construction impacts under Alternative 3 are expected to be significant for NO_x but could be mitigated to a less than significant level with the application of Mitigation Measures A-1 and A-2.

The location of the additional roadway construction would be greater than 500 meters from the nearest sensitive receptor. Accordingly, the localized air quality impacts from Alternative 3 may be slightly greater than those of the proposed project, due to the increased construction at the ~~SGPREP~~ SGP Facility site, but would remain less than significant at the nearest sensitive receptor.

Regardless of the location, the turbines would run at the same rate and would be expected to have the same emissions as the proposed project. Therefore, the operational mass emission rates associated with Alternative 3 are expected to be equivalent to the proposed project and significant for ~~CO and~~ $PM_{2.5}$.

Ambient air quality impacts from the pollutants emitted from the turbines under Alternative 3 are expected to be similar to those of the proposed project, because the difference in height between the Alternative 3 site and that of the proposed project would be small relative to the surrounding elevation and Alternative 3 would be located within 500 feet of the proposed project location. Although the Alternative 3 location is slightly higher and within 500 feet of the proposed location, air dispersion in complex terrain is difficult to predict. The resulting impacts may be slightly higher or slightly lower, but should be below a level of significance.

GHG emissions impacts from Alternative 3 would be equivalent to the proposed project because construction and operational emissions would be similar. Therefore, like the proposed project, GHG emission impacts would be significant.

As described above, under Alternative 3, dispersion of ~~toxic air contaminants~~TACs is likely to be similar to that of the proposed project. In addition, the Alternative 3 location is approximately the same distance from sensitive receptors as the turbines under the proposed project. Therefore, impacts from ~~toxic air contaminants~~TACs and odors are expected to be similar to the proposed project, and less than significant.

Cultural Resources: Alternative 3 would require additional grading and excavating compared to the proposed project and therefore would have slightly greater potential to affect cultural resources. The alternate plant location would be within 500 feet of proposed project location and no cultural resources are known to be located within the area affected by Alternative 3; therefore, with the current state of knowledge, impacts to cultural resources would be similar to those of the proposed project, which were considered to be less than significant.

Energy: Alternative 3 would involve slightly more energy during construction than the proposed project due to the additional grading required. Because the additional amount of energy required would be small compared to that of the proposed project, and because energy impacts from construction of the proposed project were considered to be less than significant, impacts from construction of Alternative 3 would also be less than significant. During operation, Alternative 3 would require the same amount of electricity for startup as the proposed project and would generate the same amount of electricity as the proposed project because the same operating equipment would be used. Energy impacts from operation of the proposed project were considered to be less than significant. Therefore, energy impacts from operation of Alternative 3 would be similar to the proposed project, and would also be less than significant.

Geology and Soils: The relocated construction area would require the construction of the gas turbines at Flare ~~location~~ 8. The north-facing slope of Flare ~~location~~ 8 has historically exhibited some slope instability~~, and the stability is slightly below LA County's design criteria~~. Accordingly, construction in this area would require additional grading to protect the site. The extent of that grading is unknown at this time~~, and the ability to fully mitigate for slope instability is unknown~~. Therefore, without potentially substantial grading and other slope stability measures, soil erosion could occur under Alternative 3 and, as a result, Alternative 3 could result in ~~a~~ significant and unavoidable impacts to geology/soils ~~impacts~~. In the absence of substantial site stabilization measures, this geology/soils impact ~~would~~ could be a new significant adverse impact compared to the proposed project, because impacts from the proposed project on geology and soils were considered to be less than significant.

Hydrology and Water Quality: ~~Alternative 3 would require approximately equivalent volumes of water during construction to control fugitive dust. Similarly,~~ Alternative 3 water use and wastewater discharge would be similar to that of the proposed project because it would include the same number of new employees, facilities, and operating equipment. Therefore, impacts to hydrology and water quality from Alternative 3 would be similar to those of the proposed project and would also be less than significant.

Noise: Alternative 3 would generate noise levels at the facility similar to those of the proposed project because it would use the same operating equipment. Alternative 3 would relocate the turbines within 500 feet of the proposed project and would be approximately the same distance to the sensitive receptors and ambient noise measurement locations compared to the proposed project. Due to the slightly elevated height of the turbine equipment under Alternative 3 as compared to the proposed project, noise levels at the northern boundary receptors are estimated to be greater than those of the proposed project by up to 10 dB. The resulting level of 31.3 dB would not exceed the noise threshold limits. Because Alternative 3 would be located farther from the sensitive residential receptors to the south than the proposed project, noise levels at sensitive receptors outside the landfill boundary would be slightly reduced. Impacts from the proposed project at those receptors would be less than significant; therefore, noise impacts from Alternative 3 would also remain less than significant.

6.4.4 ALTERNATIVE 4 – ALTERNATE CONFIGURATION OF SUBTRANSMISSION LINES

Air Quality: Alternative 4 would generate emissions from the construction of the SGP Facility and SCE Switchyard. Similar to the proposed project, construction of the SCE Switchyard would likely occur over the course of approximately two to three months and would run concurrently with Phase V of the SGPREP construction. Construction emissions from Alternative 4 would be less than those of the proposed project because there would be a decrease in construction emissions from fewer workers and less equipment installation ~~due to~~by eliminating the construction of the SCE Subtransmission Line. Therefore, construction impacts during construction activity Groups 4 through 17 would be less compared to the proposed project due to the elimination of construction activities associated with the subtransmission line. However, because emissions from the SGP Facility and SCE Switchyard alone would exceed the significance thresholds for NO_x, the reduced construction emissions are expected to remain significant~~,~~ unless mitigated. Operational emissions of criteria pollutants would be the same as those of the proposed project because the same number of turbines would generate the same emissions as the proposed project. GHG emission impacts would be slightly less than those of the proposed project due to the elimination of construction activities associated with the subtransmission line, but would still exceed the GHG significance threshold. Toxic air contaminant and odor impacts would be the same as those of the proposed project, and would be less than significant.

Cultural Resources: Alternative 4 would have the potential for disturbance of historical or archaeological resources due to construction activities. Because the proposed project impacts on cultural resources were considered to be less than significant, and the area affected by Alternative 4 would be less than that of the proposed project, the impacts to cultural resources from Alternative 4 would also be less than significant.

Energy: Alternative 4 would use and generate an amount of electricity similar to that of the proposed project because both projects consist of five turbines used to generate electricity. There would be less construction activity under Alternative 4~~,~~ due to the elimination of the construction activities associated with the subtransmission line. Accordingly, there would be less diesel fuel used in the construction phase of the project. Because energy impacts of the proposed project would be less than significant, energy impacts from Alternative 4 would also be less than significant.

Geology and Soils: Alternative 4 would have lower potential for disturbance of soil as compared to the proposed project, due to the elimination of the construction activities associated with the subtransmission line. Because the proposed project's impacts on geology and soils were considered to be less than significant, and the area affected by Alternative 4 would be less than that of the proposed project, the impacts on geology and soils from Alternative 4 would also be less than significant.

Hydrology and Water Quality: ~~There would be less water use during construction under Alternative 4, due to the elimination of the construction activities associated with the subtransmission line.~~ Alternative 4 would have the same operational change water use and wastewater discharge relative to the proposed project. Therefore, wastewater impacts would be equivalent to the proposed project. Because the hydrology and water quality impacts of the proposed project would be less than significant, the impacts on hydrology and water quality from Alternative 4 would also be less than significant.

Noise: Alternative 4 would result in a decrease in construction-related noise from fewer workers and less equipment installation due to the elimination of construction activities associated with the subtransmission line. Noise impacts from the operation of Alternative 4 would be equivalent to that of the proposed project, as there would be the same operating equipment in the same location and the same number of new employees. Because the noise impacts of the proposed project would be less than significant, noise impacts from Alternative 4 would also be less than significant.

6.5 CONCLUSION

Table 6-6 provides a general comparison of the potential environmental impacts of the various alternatives relative to the proposed project. Pursuant to CEQA Guidelines §15126.6(e)(2), if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives. A comparison of the relative merits of the project alternatives compared to the proposed project (Table 6-6), shows that the environmentally superior alternative would be the No Project Alternative, as explained in the following paragraph. After the No Project Alternative, the environmentally superior alternative is considered to be Alternative 2, the Reduced Project Alternative, as discussed below.

TABLE 6-6

Environmental Impacts of Alternatives as Compared to Proposed Project

Environmental Topic	Proposed Project	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Air Quality					
Construction	MNS	NS(-)	MNS(-)	MNS(+)	MNS(-)
Operation	S	NS(-)	S(-)	S(=)	S(=)
~~Toxic Air Contaminants~~TACs	NS	NS(-)	NS(-)	NS(-)	NS(=)
Greenhouse Gas	S	S(<=)	S(<=)	S(=)	S(=)
Cultural Resources	NS	NS(-)	NS(=)	NS(=)	NS(-)
Energy	NS	NS(-)	NS(-)	NS(=)	NS(=)
Geology/Soils	NS	NS(-)	NS(=)	PS(+)	NS(-)
Hydrology/Water Quality	NS	NS(-)	NS(-)	NS(=)	NS(=)
Noise					
Construction	NS	NS(-)	NS(=)	NS(=)	NS(-)
Operation	NS	NS(-)	NS(-)	NS(=)	NS(=)

Notes:
MNS = Mitigated, Not Significant
NS = Not Significant
PS = Potentially Significant, if not mitigated
S = Significant
(-) = Potential impacts are less than the proposed project.
(+) = Potential impacts are greater than the proposed project.
(=) = Potential impacts are approximately the same as the proposed project.
(<=) = Potential impacts are less than or nearly equal to the proposed project.

The No Project Alternative (Alternative 1) is the environmentally superior alternative because it would eliminate the proposed project's potentially significant adverse impacts related to air quality during construction (which would be mitigated to less than significant levels by implementing mitigation measures). Alternative 1 would generate slightly less GHG emissions compared to the proposed project, but GHG emission impacts from Alternative 1 would also exceed the GHG significance threshold because of increasing LFG quantities over time. Potential adverse impacts to cultural resources, energy, geology/soils, hydrology/water quality, and noise would not occur. Although the No Project Alternative is technically feasible, it would fail to meet four of the five project objectives. Under the No Project Alternative, continued flaring would allow the landfill to continue to comply with SCAQMD Rule 1150.1 as methane volumes increase, thereby fulfilling the first project objective. The No Project Alternative would not fulfill the last four project objectives because it would not: maximize production of renewable energy (objective #2) using LFG as its fuel rather than simply flaring the LFG, it would not provide state utilities with renewable energy that can be used to meet the State of California's mandated RPS (objective #3), it would not incentivize or encourage small scale of ~~LFG-to-energy~~LFGTE projects that could contribute a stable a stable source of renewable energy to help meet the goals of RPS (objective #4), and it would not provide a cost-effective source of renewable energy (objective #5).

The Reduced Project Size Alternative (Alternative 2) would result in lower, but significant impacts to air quality during construction compared to the proposed project. Alternative 2 would also require implementing mitigation measures A-1 and A-2 to reduce construction air quality impacts to less than significant. It would also result in significant adverse impacts from cumulative GHG emissions that would be slightly less than (based on fewer construction GHG emissions), but nearly identical to, those of the proposed project because the same amount of LFG would be combusted to continue complying with SCAQMD Rule 1150.1. Alternative 2 would have impacts similar to the proposed project for cultural resources, geology/soils, and hydrology/water quality.~~, and~~ Alternative 2 would have similar impacts noise impacts during construction as the peak number of pieces of construction equipment would be essentially the same as the proposed project. The overall~~lower~~ impacts for energy ~~and noise~~would be less than the proposed project because construction activities and the number of pieces of construction equipment would be essentially the same as the proposed project, however the duration may be very slightly reduced because of the reduction of two turbines.

Although Alternative 2 is the environmentally superior alternative, as described above, it does not achieve project objectives #2, #3, or #4 as effectively as the proposed project~~ and would not achieve project objective #5~~. The reasons for this determination are based on the following. Alternative 2 would not maximize production of renewable energy and, therefore, would not contribute as much to California's RPS. Objective 2 identifies the goal of *maximizing* production of renewable energy from LFG, rather than simply flaring the LFG, which does not provide a useful byproduct. Because Alternative 2 includes only three turbines, compared to the five included in the proposed project, this Alternative would generate only 60 percent as much energy as the proposed project. In turn this means that 40 percent of the LFG which could be used to generate electricity would be flared. While this is an improvement over the No Project Alternative, which would continue to flare 100 percent of the LFG, this alternative would not meet Objective #2 as effectively as the proposed project. Likewise, for Objective #3, which identifies the goal of maximizing production of renewable energy to meet the RPS, Alternative 2 would have a substantial reduction (40%) in the total output of renewable energy, and therefore would not maximize renewable energy production. Lastly, the effort associated with planning, constructing, permitting and operating the facility would be very similar regardless of three versus five turbines, however, as discussed with Objectives #2 and #3, the benefits associated with providing renewable energy to the RPS would be reduced by 40 percent. This reduction would, in turn, also reduce the incentive to building LFGTE and other small scale renewable energy (Objective #4).

~~Building and operating the Reduced Size Alternative would incur approximately the same costs as constructing and operating the proposed project. For example, engineering costs to design either the proposed project or Alternative 2 would be essentially the same. Because construction activities and numbers of construction equipment would be essentially the same for both the proposed project and Alternative 2, construction costs would be very similar. The cost of the interconnection with the SCE system and on-site support structures and equipment would have approximately the same costs for the proposed project and Alternative 2. The primary costs savings that would occur under Alternative 2 would be from purchasing three turbines instead of five turbines and there could be lower operating costs as well. Given these factors, the profit margin resulting from the production of less electricity, nominal capacity of approximately 12 MW for Alternative 2 compared to 20 MW for the proposed project, would likely make the project unviable. This is further exacerbated by the fact that a project with lower profit margin compared to the proposed project would have difficulty attracting financing. Therefore, although Alternative 2 is technically feasible, it may not be economically viable, which means it would not meet project objective #5.~~

The Alternate Plant Location Alternative (Alternative 3) would have impacts similar to those of the proposed project for air quality, cultural resources, energy, geology/soils, hydrology/water quality, and noise. Alternative 3 would increase air quality impacts during construction, but would reduce the ~~toxic air contaminant~~TAC emissions impact from the relocation of the site. This alternative would produce an amount of renewable energy similar to that of the proposed project and would generally achieve all five objectives of the proposed project. However, this alternative would generate a new potentially significant impact to geology and soils due to potential soil erosion associated with the new site location that would not be generated by the proposed project, which does not wholly fulfill the objectives of an alternatives analysis, that is, to reduce environmental impacts.

The Alternate Configuration of Subtransmission Lines Alternative (Alternative 4) would reduce construction emissions during Phase V due to the elimination of the SCE Subtransmission Line from this project. Air quality impacts would still be significant, but could be mitigated to less than significant through implementing mitigation measures A-1 and A-2. Impacts to cultural resources~~,~~ and noise from construction would be slightly reduced compared to the proposed project and would be less than significant. Other impacts would be similar to those of the proposed project. This alternative would produce an amount of renewable energy similar to that of the proposed project and would generally achieve all five objectives of the proposed project.

Although Alternative 4 is a feasible alternative, existing and new transmission lines are under the control of SCE. Consequently, neither the project proponent nor the SCAQMD can implement this alternative without forming agreements and obtaining approvals from SCE. The project proponent will maintain contact with SCE and if SCE decides to approve this subtransmission line, the project proponent and the SCAQMD will consider revising the project description to incorporate this alternative at that time and preparing any necessary CEQA analysis.

Based on the above comparisons of the project alternatives to the proposed project, Alternative 2 is considered to be the environmentally superior alternative, but it may not be an economically viable alternative, which means it would not meet project objective #5. Similarly, it would not: maximize production of renewable energy (objective #2) using LFG as its fuel rather than simply flaring the LFG, it would not provide state utilities with renewable energy that can be used to meet the State of California's mandated RPS (objective #3), and it would not incentivize or encourage small scale of ~~LFG-to-energy~~LFGTE projects that could contribute a stable a stable source of renewable energy to help meet the goals of RPS (objective #4).

Although Alternatives 3 and 4 generally achieve the project objectives, their environmental impacts are generally equivalent to those of the proposed project for most environmental topic areas, or are slightly less than those of the proposed project, except that Alternative 3 would create a new potentially significant adverse geology and soils impact. On balance, the proposed project effectively achieves all project objectives, while minimizing environmental impacts.

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CHAPTER 7

REFERENCES

References
Organizations and Persons Consulted
List of Environmental Impact Report Preparers

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7.0 REFERENCES

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A-Mehr, Inc. (A-Mehr). 2006. Geologic Report and Slope Stability Analyses Sunshine Canyon County Extension Landfill Phases V-VII. Report prepared for Browning-Ferris Industries. November.

———. 2008. Final Report of Construction Quality Assurance for Sunshine Canyon County Extension Landfill Phase V-A. Report prepared for Browning-Ferris Industries. November.

AMEC Geomatrix, Inc. (AMEC). 2009. Preliminary Stability Evaluation of North Slope, Sunshine Gas Producers, Landfill Gas to Energy Project, Sunshine Canyon Landfill, Sylmar, California. April.

———. 2011. Geologic and Geotechnical Investigation Report: Sunshine Gas Producers, Landfill Gas to Energy Project, Sunshine Canyon Landfill, Sylmar, California. November.

BFI of California, Inc. 2010. Final Annual Report, Sunshine Canyon Landfill, Calendar Year 2009. June. http://www.sunshinecanyonlandfill.com/home/pdf/joint/JointAnnualReportFINALText.pdf. Accessed April 2011.

California Air Resources Board. 2010. State and Federal Ambient Air Quality Standards. 16 February. http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed July 2010.

California Attorney General's Office. 2010. Addressing Climate Change at the Project Level. http://www.ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf. January.

California Building Standards Commission. 20~~07~~10. ~~2007~~ 2010 California Building Code (CBC), California Code of Regulations Title 24, Part 2. June.

California Climate Action Registry (CCAR). 2009. General Reporting Protocol, Version 3.1. January.

California Code of Regulations. 1997. Title 23, Division 3 Chapter 15, Article 3, § 2546. Precipitation and Drainage Controls.

California Department of Conservation, California Geological Survey. 1998. Seismic Hazard Zones Map for the Oat Mountain Quadrangle, Official Map. February.

———. 2002. How Earthquakes and Their Effects Are Measured, CGS Note 32.

California Department of Transportation (Caltrans), Office Engineer. 2009. I-5 HOV/Truck Lanes Project SR-14 to Parker Road Final Environmental Impact Report/Environmental Assessment with Finding of No Significant Impact. September.

———. 2011. Advertised and Tentative Upcoming Projects. March.

California Energy Commission (CEC). 2006. Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004. http://www.energy.ca.gov/2006publications/CEC-600-2006-013/CEC-600-2006-013-SF.PDF. December.

~~———. 20~~11~~09a. California's Major Sources of Energy. http://energyalmanac.ca.gov/overview/energy_sources.html. April.~~

~~———. 2009b. 2009 Integrated Energy Policy Report. Publication # CEC-100-2009-003-CTF. December 2009.~~

———. 2010a. Energy Almanac: Total Electricity System Power, 2010 Total System Power in Gigawatt Hours. http://energyalmanac.ca.gov/electricity/total_system_power.html. Accessed April 2012.

———. 2010b. California Climate Change Portal, California's Resource for Global Climate Change Information. http://www.climatechange.ca.gov/.

———. 2011a. California's Major Sources of Energy. http://energyalmanac.ca.gov/overview/energy_sources.html. April.

———. 2011b. 2010 Integrated Energy Policy Report Update. Publication # CEC-100-2010-001-CMF. December 2011.

California Environmental Quality Act Guidelines. 1970. California Administrative Code, Title 14, Division 6, Chapter 3. Modified March 2010. http://www.ceres.ca.gov/ceqa/guidelines/

California Environmental Protection Agency (CalEPA), California Climate Action Team (CAT). 2006. Climate Action Team Report to Governor Schwarzenegger and the Legislature. March.

Cao, T., W. A. Bryant, B. Rowshandel, D. Branum, and C.J. Wills. 2003. The Revised 2002 California Probabilistic Seismic Hazard Maps, June 2003. California Geological Survey. http://www.consrv.ca.gov/cgs/rghm/psha/fault_parameters/pdf/2002_CA_Hazard_Maps.pdf. June.

California Public Resources Code, § 5020-5029.5. 2009. California Register of Historical Resources. http://law.justia.com/codes/california/2009/prc/5020-5029.5.html. Accessed April 2011.

California Public Utilities Commission (CPUC). 2011. Current Projects. http://www.cpuc.ca.gov/PUC/energy/Environment/Current+Projects/. Accessed September 2011.

———. 2012. Aliso Canyon Turbine Replacement Project Draft Environmental Impact Report. April.

California State Water Resources Control Board. 1997. Water Quality Order No. 97-03-DWQ, General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities.

California Regional Water Quality Control Board, Central Coast Region. 1994. Water Quality Control Plan Central Coast Region (R3) Basin Plan.

California Regional Water Quality Control Board, Los Angeles Region. 2004. Conditional Water Quality Certification 401 Permit No. 03-001. February 6.

Regional Water Quality Control Board. 2003. Waste Discharge Requirements file No. 58-76, Order No. R4-2003-0155. December 17.

City of Los Angeles. 1982. Ordinance No. 144.331 as amended, Los Angeles Municipal Code Chapter XI, "Noise Regulation". March 29.

City of Los Angeles, Department of City Planning. 1997. Draft Subsequent Environmental Impact Report, Sunshine Canyon Landfill. State Clearinghouse Number 92041053. July.

———. 2008a. Notice of Preparation of an Environmental Impact Report (EIR) and Notice of Scoping Meeting for the Granada Hills-Knollwood New Community Plan. February.

———. 2008b. Notice of Preparation of an Environmental Impact Report (EIR) and Notice of Scoping Meeting for the Sylmar New Community Plan. February.

———. 1999. Final Subsequent Environmental Impact Report. Sunshine Canyon Landfill. State Clearinghouse No. 92041053.

———. 2003. List No. 1 of Uses Permitted in Various Zones in the City of Los Angeles (Breakdown by Different Zones). Corrected to and including Ordinance No. 174,999, effective January 15, 2003.

———.2004. Addendum to Final Environmental Impact Report (State Clearinghouse No. 89071210) and Final Subsequent Environmental Impact Report (State Clearinghouse No. 92041053). Sunshine Canyon Landfill.

———. 2010. Environmental Publications website. http://cityplanning.lacity.org/ Accessed March 2011.

City of Los Angeles, Department of Public Works, Bureau of Sanitation. 2010. Renewal of Industrial Wastewater Permit for IU001387 Permit: W-464583. Sunshine Canyon Landfill. Issued February 28, 2010 and Effective March 1, 2010.

———.2011. Industrial Class Code and Reclassification Fee Adjustment for Industrial Wastewater Permit No. W-464583. Sunshine Canyon Landfill. March 15.

City of Los Angeles Department of Water and Power (LADWP). 2010. Sylmar Ground Return System Replacement Project.

———. 2011a. Draft 2010 Urban Water Management Plan.

———. 2011b. Environmental Reports: Public Notices. http://www.ladwp.com/ladwp/cms/ladwp004156.jsp. Accessed September 2011.

City of Santa Clarita. 1991. City of Santa Clarita General Plan. http://www.santa-clarita.com/Index.aspx?page=695. Accessed April 2011.

———. 2003. Gate-King Industrial Park Final Environmental Impact Report.

———. 2009. Environmental Impact Report for the South Santa Clarita Sphere of Influence Amendment, Annexation and Prezone. SCH # 2007081014. March.

———. 2010. Planning website. http://www.santa-clarita.com/Index.aspx?page=670. Accessed April 2011.

Cornerstone Environmental Group, LLC. 2008. LFG Generation and Collection Review, Sunshine Canyon Landfill, Sylmar, California. May.

Derenzo & Associates. 2009a. Air Toxic Evaluation and Health Risk Assessment for Sunshine Gas Producers, LLC (revised). October.

———. 2009b. Sunshine Gas Producers, LLC; Facility ID 139938; Revised Emission Calculations, Air Quality Modeling Demonstration and Health Risk Assessment for Construction Permit Applications. June 24.

———. 2009c. Permit to Construct and Operate Application; Technical Support Information for a Gas Turbine Electricity Generation Facility at the Sunshine Canyon Landfill (revised). June 24.

———. 2010. Sunshine Gas Producers, LLC Renewable Energy Project: Comparison of Criteria Pollutant and Greenhouse Gas Emission Rates. April 22.

Federal Register. 2008. Regulating Greenhouse Gas Emissions Under the Clean Air Act, Proposed Rule, Federal Register, Volume 73, No. 147, pp. 44354 - 44520, July 30, 2008.

Federal Transit Administration (FTA), Office of Planning and Environment. 1995. Transit Noise and Vibration Impact Assessment, FTA-VA-90-1003-06. Updated edition May 2006.

Iowa Department of Natural Resources. 2009. Iowa Wastewater Facility Design Standards. Chapter 69, Appendix A page 31. Effective March 18.

John Minch and Associates (JMA). 1997. Paleontological Survey Report, Sunshine Canyon Landfill Extension, City of Los Angeles, California. April 22.

———. 1999. Report on the Monitoring Program, Paleontological and Archaeological Monitoring, Sunshine Canyon Landfill Expansion, County of Los Angeles, California. March.

———. 2010. Phase I Cultural Resources Assessment of the Sunshine Gas Producers Renewable Energy Project, Plant Site And Power-Pole Alignment, Sunshine Canyon Landfill, Los Angeles County. January 28.

———. 2011. Revised Phase I Cultural Resources Assessment of the Sunshine Gas Producers Renewable Energy Project, Plant Site And Power-Pole Alignment, Sunshine Canyon Landfill, Los Angeles County. October.

Los Angeles County. 1991. Final Environmental Impact Report for the Sunshine Canyon Landfill Extension. State Clearinghouse No. 89071210. February 19.

———. 1993. Final Environmental Impact Report, Sunshine Canyon Landfill Extension. State Clearinghouse Number 89071210. November.

———. 1995. Chapter 12.08 of Title 12 of the Los Angeles County Code, entitled “Noise Control Ordinance of the County of Los Angeles,” as amended and in effect on August 1, 1995.

———. ~~Los Angeles County.~~ 2007. Conditional Use Permit 00-194-(5). January.

———. 2011. 2011 County of Los Angeles Building Code (Title 26).

Los Angeles County, Department of Regional Planning. 1980. General Plan. http://planning.lacounty.gov/generalplan. Accessed April 2011.

———. ~~Los Angeles County, Department of Regional Planning.~~ 2006. Findings of Fact & Statement of Overriding Considerations, Los Angeles County Project No. 00-194. November.

———. 2011a. Public Review Draft General Plan. http://planning.lacounty.gov/generalplan. Accessed April 2011.

———. 2011b. Cumulative Project Report. March.

Massachusetts v. Environmental Protection Agency. 2007. U.S. Supreme Court Docket No. 05–1120. April 2.

Metropolitan Water District of Southern California (MWD). 2011. Environmental Review Documents. http://www.mwdh2o.com/mwdh2o/pages/about/EnvPlanTeam/index.html. Accessed September 2011.

South Coast Air Quality Management District (SCAQMD). 1993. Additional Information and Analysis. November 30.

———. 2007. Final 2007 Air Quality Management Plan. June.

———. 2008a. GHG significance threshold, public hearing agenda item #31. December 5. www.aqmd.gov/hb/2008/December/081231a.htm

———. 2008b. Off-road Mobile Source Emission Factors. http://www.aqmd.gov/ceqa/handbook/offroad/offroad.html. Accessed August 2010.

———. 2008c. EMFAC 2007 (v2.3) Emission Factors (On-Road). http://www.aqmd.gov/ceqa/handbook/onroad/onroad.html. Accessed August 2010.

———. 2008d. Finalized Localized Significance Threshold Methodology. July 2008.

———. 2009. Notice of Preparation and Initial Study (NOP/IS). November.

———. 2011a. Historical Data by Year. http://www.aqmd.gov/smog/historicaldata.htm. February.

———. 2011b. Findings and Decision for Third Amended Order for Abatement (Stipulated). December.

Southern California Gas Company (SoCalGas). 2009. Aliso Canyon Turbine Replacement Project Proponent's Environmental Assessment (PEA). September.

State Water Resources Control Board. General Permit No. 419C326485 to Discharge Storm Water Associated with Construction Activity.

Treiman, J. Jerome (compiler). 2000. Fault number 105b, Sierra Madre fault zone, San Fernando section, in Quaternary fault and fold database of the United States: U.S. Geological Survey website. http://earthquakes.usgs.gov/regional/qfaults. Accessed 10 April 2010.

University of Minnesota, Onsite Sewage Treatment Program. 2009. *Manual for Septic System Professionals in Minnesota*. St. Paul, MN.

United States Department of Energy (U.S. DOE). 2010. Climate Change. http://www.pi.energy.gov/climate_change.htm. Accessed August 2010.

United States Environmental Protection Agency (U.S. EPA). 2010. Final Rule: Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule. http://www.epa.gov/nsr/documents/20100413fs.pdf.

———. ~~2010a~~2011. LMOP Basic Information. http://www.epa.gov/lmop/basic-info/index.html. Accessed ~~August 2010~~July 2011.

United States Geological Survey, Earthquake Hazards Program. 2011. Earthquake Glossary. http://earthquake.usgs.gov/hazards/qfaults/glossary.php. Accessed April 2011.

U.S. Army Corp of Engineers, Department of the Army. 2004. Permit No. 2003-00408-A0A. February 26.

7.2 ORGANIZATIONS AND PERSONS CONSULTED

In accordance with CEQA Guidelines §150129, the following sections provide the organizations and persons consulted in the preparation of this ~~Draft~~ Final SEIR.

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CHAPTER 8

ACRONYMS AND GLOSSARY

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8.0 ACRONYMS AND GLOSSARY

8.1 ACRONYMS AND ABREVIATIONS

ABBREVIATION	DESCRIPTION
°F	degrees Fahrenheit
AB	Assembly Bill
AIP	achieved in practice
AQMP	Air Quality Management Plan
ARRA	American Recovery and Reinvestment Act
ASCE	American Society of Civil Engineers
ATC	Authority to Construct
AVR	average vehicle ridership
BACT	Best Available Control Technology
BFI	Browning-Ferris Industries of California, Inc.
BMPs	Best Management Practices
BRRTP	Barron Ridge Renewable Transmission Project
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cadna	Computer Aided Noise Abatement
CalOSHA	California Occupational Safety and Health Administration
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAT	Climate Action Team
CBC	California Building Code
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFCs	chlorofluorocarbons
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH_4	methane
CNRA	California Natural Resources Agency
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent units
CPUC	California Public Utilities Commission
CRA	Cultural Resources Assessment
CUP	Conditional Use Permit
CWA	Clean Water Act
CWC	California Water Code
dB	decibels
dBA	decibels, A-weighted measurements
Draft SEIR	Draft Subsequent Environmental Impact Report
eGRID	Emissions and Generation Resource Integrated Database

EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ERC	emission reduction credit
Final EIR	Final Environmental Impact Report
Final SEIR	Final Subsequent Environmental Impact Report
FTA	Federal Transit Administration
GHG	greenhouse gas
GLO	U.S. General Land Office
g_n	standard acceleration of gravity, 9.8 m/s^2
gpd	gallons per day
GWP	global warming potential
H_2S	hydrogen sulfide
HCFCs	hydrochlorofluorocarbons
HFCs	haloalkanes
HIA	acute hazard index
HIC	chronic hazard index
HOV	High Occupancy Vehicle
hr	hour
I-5	Interstate 5 (Golden State Freeway)
IBC	International Building Code
JMA	John Minch and Associates
kV	kilovolt
kW	kilowatt
LADWP	Los Angeles Department of Water and Power
LAER	Lowest Achievable Emission Rate
LAFCO	Local Agency Formation Commission
LHV	Lower Heating Value
lbs	pounds
LEA	Local Enforcement Agency
L_{EQ}	equivalent continuous sound pressure level
LFG	landfill gas
LFGTE	landfill gas to energy
LMOP	Landfill Methane Outreach Program
MEER	Mechanical-Electrical Equipment Room
MICR	maximum individual cancer risk
mm/yr	millimeters per year
MMBTU	million British thermal units
~~MMRP~~	~~Mitigation, Monitoring and Reporting~~
MMRS	Mitigation, Monitoring and Reporting Summary
mph	miles per hour
MSERC	Mobile Source Emission Reduction Credit
msl	mean sea level
MSW	municipal solid waste
$MTCO_2e/yr$	metric tons of carbon dioxide equivalent units per year
MW	megawatt
Mw	moment magnitude

MVA	megavolt-ampere
MWD	Metropolitan Water District
MW-hr	megawatt-hour
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NESHAPS	National Emissions Standards for Hazardous Air Pollutants
NF_3	nitrogen trifluoride
NO_2	nitrogen dioxide
NOP/IS	Notice of Preparation and Initial Study
NOVs	notices of violation
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NVC	North Valley Coalition
O_3	ozone
OPR	Office of Planning and Research
OSHA	Occupational Safety & Health Administration
OWTS	On-Site Wastewater Treatment System
PDCI	Pacific Direct Current Intertie
PEA	Proponent's Environmental Assessment
PFCs	perfluorocarbons
PGA	peak ground acceleration
PLUM	Planning and Land Use Management
PM_{10}	particulate matter less than ten microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppm	parts per million
ppmv	parts per million, volumetric
ppmvd	parts per million, volumetric dry
PR	Priority Reserve
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
PTO	Permit to Operate
RPS	Renewables Portfolio Standard
RWQCB	Los Angeles Regional Water Quality Control Board
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCLF	Sunshine Canyon Landfill
scfm	standard cubic feet per minute
SDC	seismic design criteria
SEIR	Subsequent Environmental Impact Report
SF_6	sulfur hexafluoride
SGP	Sunshine Gas Producers, L.L.C.
SGPREP	Sunshine Gas Producers Renewable Energy Project
SHPO	State Historic Preservation Officer
SLR	Subtransmission Line Relocation

SO_2	sulfur dioxide
SoCalGas	Southern California Gas Company
SO_x	sulfur oxides
SRA	source receptor areas
STAOA	Stipulated Third Amended Order of Abatement
SVOCs	semivolatile organic compounds
SWPPP	Storm-Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	toxic air contaminants
T-BACT	Toxics Best Available Control Technology
~~Tpd~~tpd	tons per day
tpy	tons per year
TSP	tubular steel pole
TWA	time-weighted average
U.S. DOE	U.S. Department of Energy
U.S. DOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
USACE	U.S. Army Corps of Engineers
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WDR	Waste Discharge Requirement

8.2 GLOSSARY

TERM	DEFINITION
Air Pollutant	Any substance in air that could, in high enough concentration, harm man, other animals, vegetation, or material. Pollutants may include almost any natural or artificial composition of airborne matter capable of being airborne. They may be in the form of solid particles, liquid droplets, gases, or in combination thereof. Generally, they fall into two main groups: (1) those emitted directly from identifiable sources and (2) those produced in the air by interaction between two or more primary pollutants, or by reaction with normal atmospheric constituents, with or without photoactivation. Exclusive of pollen, fog, and dust, which are of natural origin, about 100 contaminants have been identified. Air pollutants are often grouped in categories for ease in classification; some of the categories are: solids, sulfur compounds, volatile organic chemicals, particulate matter, nitrogen compounds, oxygen compounds, halogen compounds, radioactive compound, and odors. [*]
Air Toxics	Any air pollutant for which a national ambient air quality standard (NAAQS) does not exist (i.e., excluding ozone, carbon monoxide, ~~PM 10~~PM_{10}, sulfur dioxide, nitrogen oxide) that may reasonably be anticipated to cause cancer; respiratory, cardiovascular, or developmental effects; reproductive dysfunctions, neurological disorders, heritable gene mutations, or other serious or irreversible chronic or acute health effects in humans.[*] (Also referred to as Toxic Air Contaminants [TACs]).
Ambient	The surrounding atmosphere; encompassing on all sides; the environment surrounding a body but undisturbed or unaffected by it.[**]
Ambient Noise	The background sound of an environment in relation to which all additional sounds are heard.
BACT	Best Available Control Technology. For any specific source, the currently available technology producing the greatest reduction of air pollutant emissions, taking into account energy, environmental, economic, and other costs.[*]
Best Management Practice (BMP)	Methods that have been determined to be the most effective, practical means of preventing or reducing pollution from non-point sources.
Biomass	Energy resources derived from organic matter. These include wood, agricultural waste and other living-cell material that can be burned to produce heat energy. They also include algae, sewage and other organic substances that may be used to make energy through chemical processes.[**]
Carbon Monoxide (CO)	A colorless, odorless, poisonous gas produced by incomplete fossil fuel combustion.[*]
CEC	The state agency established by the Warren-Alquist State Energy Resources Conservation and Development Act in 1974 (Public Resources Code, Sections 25000 et seq.) responsible for energy policy. The Energy Commission's five major areas of responsibilities are: (1) Forecasting future statewide energy needs, (2) Licensing power plants sufficient to meet those needs, (3)Promoting

	energy conservation and efficiency measures, (4) Developing renewable and alternative energy resources, including providing assistance to develop clean transportation fuels, and (5) Planning for and directing state response to energy emergencies.
Condensate	Gas that has been condensed into liquid by either raising its pressure or lowering its temperature.
CPUC	A state agency created by constitutional amendment in 1911 to regulate the rates and services of more than 1,500 privately owned utilities and 20,000 transportation companies. The CPUC is an administrative agency that exercises both legislative and judicial powers; its decisions and orders may be appealed only to the California Supreme Court. The major duties of the CPUC are to regulate privately owned utilities, securing adequate service to the public at rates that are just and reasonable both to customers and shareholders of the utilities; including rates, electricity transmission lines and natural gas pipelines. The CPUC also provides electricity and natural gas forecasting, and analysis and planning of energy supply and resources. Its main headquarters are in San Francisco.[**]
dBA	The decibel (dB) is one tenth of a bel where one bel represents a difference in noise level between two intensities I1, I0 where one is ten times greater than the other. (A) indicates the measurement is weighted to the human ear.
Emission	Pollution discharged into the atmosphere from smokestacks, other vents, and surface areas of commercial or industrial facilities; from residential chimneys; and from motor vehicle, locomotive, or aircraft exhausts.[*]
Emission Factor	The relationship between the amount of pollution produced and the amount of raw material processed. For example, an emission factor for a blast furnace making iron would be the number of pounds of particulates per ton of raw materials.[*]
Emission Standard	The maximum amount of air polluting discharge legally allowed from a single source, mobile or stationary.[*]
Energy	The capacity for doing work. Forms of energy include: thermal, mechanical, electrical and chemical. Energy may be transformed from one form into another.[**]
Flare	Equipment used to incinerate landfill gases.
Fill	Man-made deposits of natural soils or rock products and waste materials.
Global Climate Change	Gradual changing of global climates due to buildup of carbon dioxide and other greenhouse gases in the earth's atmosphere. Carbon dioxide produced by burning fossil fuels has reached levels greater than what can be absorbed by green plants and the seas.[**]
Greenhouse Gas	A gas, such as carbon dioxide or methane, which contributes to potential climate change.[*]
Groundwater	The supply of fresh water found beneath the Earth's surface, usually in aquifers, which supply wells and springs. Because groundwater is a major source of drinking water, there is growing concern over contamination from leaching agricultural or industrial pollutants or leaking underground storage tanks.

Human Health Risk	The likelihood that a given exposure or series of exposures may have damaged or will damage the health of individuals.*
Hydrocarbon	Organic compound containing hydrogen and carbon, commonly occurring in petroleum, natural gas, and coal.*
Hydrogen Sulfide (H_2S)	Gas emitted during organic decomposition. Also a by-product of oil refining and burning. Smells like rotten eggs and, in heavy concentration, can kill or cause illness.*
Hydrogeology	The geology of groundwater, with particular emphasis on the chemistry and movement of water. *
Internal Combustion Engine	An engine in which fuel is burned inside the engine. A car's gasoline engine or rotary engine is an example of an internal combustion engine.**
Landfill Gas	By-product of the decomposition of organic material in municipal solid waste composed of approximately 50 percent methane, 50 percent carbon dioxide and less than 1 percent non-methane organic compounds.
Lead (Pb)	A heavy metal that is hazardous to health if breathed or swallowed. Its use in gasoline, paints, and plumbing compounds has been sharply restricted or eliminated by federal laws and regulations.*
Maximum moment magnitude	The maximum magnitude calculated from an earthquake's total energy (seismic moment). The seismic moment is a function of the amount of slip on a fault, the area of the fault that slips, and the average strength of the rocks that are faulted. Because MW is directly related to the energy released by an earthquake, it is a uniform means of measuring earthquake magnitude and has become the standard measure of earthquake magnitude in modern seismology (USGS 2011).
Natural Gas	A mixture of hydrocarbon gases that occurs with petroleum deposits, principally methane together with varying quantities of ethane, propane, butane, and other gases.
Nitrogen Oxide (NO_x)	The result of photochemical reactions of nitric oxide in ambient air; major component of photochemical smog. Product of combustion from transportation and stationary sources and a major contributor to the formation of ozone in the troposphere and to acid deposition.*
Nonattainment Area	Area that does not meet one or more of the National Ambient Air Quality Standards for the criteria pollutants designated in the Clean Air Act.*
Offsets	A concept whereby emissions from proposed new or modified stationary sources are balanced by reductions from existing sources to stabilize total emissions.*
Ozone	A kind of oxygen that has three atoms per molecule instead of the usual two. Ozone is a poisonous gas, but the ozone layer in the upper atmosphere shields life on earth from deadly ultraviolet radiation from space. The molecule contains three oxygen atoms (O_3).**
Particulates	1. Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog, found in air or emissions. 2. Very small solids suspended in water; they can vary in size, shape, density and electrical charge and can be gathered together by coagulation and flocculation.*

Peak site acceleration	The largest acceleration recorded by a particular station during an earthquake. (USGS 2011).
Renewable Energy	Resources that constantly renew themselves or that are regarded as practically inexhaustible. These include solar, wind, geothermal, hydro and wood. Although particular geothermal formations can be depleted, the natural heat in the earth is a virtually inexhaustible reserve of potential energy. Renewable resources also include some experimental or less-developed sources such as tidal power, sea currents and ocean thermal gradients.[**]
SGP Facility	This encompasses the five gas turbine electricity generator sets, LFG compressors, gas treatment equipment, a small enclosed flare ("SGPREP flare"), one substation ("SGP Substation"), two buildings, and a parking lot.
SGPREP	Sunshine Gas Renewable Energy Project. This encompasses all parts of the proposed project, including five gas turbine electricity generator sets, LFG compressors, gas treatment equipment, a small enclosed flare ("SGPREP flare"), one substation ("SGP Substation"), one switchyard ("SCE Switchyard"), an extension of the existing SCE subtransmission line ("SCE Subtransmission Line"), a water supply pipeline and a telecom line from the landfill entrance to the proposed project site, two buildings, and a parking lot.
Slip rate	How fast the two sides of a fault are slipping relative to one another, as determined from geodetic measurements, from offset man-made structures, or from offset geologic features whose age can be estimated. It is measured parallel to the predominant slip direction or estimated from the vertical or horizontal offset of geologic markers (USGS 2011).
SMOG	A mixture of pollutants, principally ground-level ozone, produced by chemical reactions in the air involving smog-forming chemicals. A major portion of smog-formers come from burning of petroleum-based fuels such as gasoline. Other smog-formers, volatile organic compounds, are found in products such as paints and solvents. Smog can harm health, damage the environment and cause poor visibility. Major smog occurrences are often linked to heavy motor vehicle traffic, sunshine, high temperatures and calm winds or temperature inversion (weather condition in which warm air is trapped close to the ground instead of rising). Smog is often worse away from the source of the smog-forming chemicals, because the chemical reactions that result in smog occur in the sky while the reacting chemicals are being blown away from their sources by winds.[**]
Sulfur Dioxide (SO_2)	A pungent, colorless, gas formed primarily by the combustion of fossil fuels; becomes a pollutant when present in large amounts.[*]
Turbine	An internal-combustion engine (ICE) consisting of an air compressor, combustion chamber, and turbine wheel that is turned by the expanding products of combustion
U.S. EPA	A federal agency created in 1970 to permit coordinated governmental action for protection of the environment by systematic abatement and control of pollution through integration or research, monitoring, standards setting and enforcement activities.[**]

[*] U.S. EPA Glossary. http://www.epa.gov/OCEPAterms/
[**] DOE Glossary. http://www.energy.ca.gov/glossary