

DRAFT ENVIRONMENTAL IMPACT REPORT

Renewable Parallel Generation Facilities Resolution

Case File CEQ2020-01076
SCH Number 2020070579

Lead Agency:



Technical Support provided by



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List of Acronyms

ACE	Altamont Commuter Express
ADT	average daily traffic
ANSI	American National Standards Institute
ARB	Air Resources Board
ATC	Authority to Construct
ATCM	Airborne Toxic Control Measures
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BART	Bay Area Rapid Transit
CAA	Clean Air Act
CAP	Climate Action Plan
CASQA	California Stormwater Quality Association
CBRNE	Chemical, Biological, Radiological, Nuclear, and Explosive
CCJPA	Capitol Corridor Joint Powers Authority
CCR	California Code of Regulations
CDD	Community Development Department
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFGF	California Fish and Game Code
CGS	California Geological Survey
CH ₄	methane
CIWMB	California Integrated Waste Management Board
CLG	Certified Local Government
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CPRC	California Public Resources Code
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
CVC	California Vehicle Code
CWA	Clean Water Act
DOC	Department of Conservation
DPM	Diesel particulate matter
DPR	Department of Pesticide Regulation
DTSC	Department of Toxic Substance Control
DVR	Donald Von Raesfeld
EA	Environmental Analysis
EAP	Energy Action Plan
EIR	Environmental Impact Report
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency

FAA	Federal Aviation Administration
FDOC	Final Determination of Compliance
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FMMP	Farmland Mapping and Monitoring Program
GHG	greenhouse gas
GO	General Order
HCP	Habitat Conservation Plan
HI	hazard index
HMBP	Hazardous Materials Management Business Plans
HSWA	Hazardous and Solid Waste Act
HWCL	Hazardous Waste Control Law
IBC	International Building Code
ICC	International Code Council
IEPR	Integrated Energy Policy Report
IRP	Integrated Resource Plan
ISOR	Initial Statement of Reasons
IWMB	Integrated Waste Management Board
JPB	Joint Powers Board
LAO	Legislative Analyst's Office
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendant
MRR	mandatory reporting rule
MVA	million-volt amps
MW	megawatts
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Planning
NCP	National Contingency Plan
NCPA	Northern California Power Agency
NESC	National Electric Safety Code
NIMS	National Incident Management System
NO	nitric oxide
N ₂ O	nitrous oxide
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
NOP	Notice of Preparation
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
NRCS	Natural Resource Conservation Service
NSH	National Seismic Hazard
OEHHA	Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OHWM	Ordinary High Water Mark
OMR	Office of Mine Reclamation
PDOC	Preliminary Determination of Compliance
PERP	Portable Equipment Registration Program
PM ₁₀	respirable particulate matter
PM _{2.5}	fine particulate matter

POC	precursor organic compounds
POU	publicly owned utilities
PRC	Public Resources Code
PUC	Public Utilities Code
PV	solar photovoltaic
RCRA	Resource Conservation and Recovery Act of 1976
RNG	renewable natural gas
ROG	reactive organic gases
ROW	right-of-way
RPS	Renewables Portfolio Standard
RWF	Regional Wastewater Facility
RWQCB	Regional Water Quality Control Boards
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCFD	Santa Clara Fire Department
SCPD	Santa Clara Police Department
SEMS	Standardized Emergency Management System
SF ₆	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SMARA	Surface Mining and Reclamation Act of 1975
SMGB	State Mining and Geology Board
SO ₂	sulfur dioxide
SR	State Route
SRRE	Source Reduction Recycling Element
SVP	Silicon Valley Power
SWGS	Solid Waste Generation Study
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TBACT	Best Available Control Technology for Toxics
TMDL	Total Maximum Daily Load
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
VMT	miles traveled
VOC	volatile organic compounds
VTA	Valley Transportation Authority
WCI	Western Climate Initiative
WECC	Western Energy Coordinating Council
WREGIS	Western Renewable Energy Generation Information System

EXECUTIVE SUMMARY

The City of Santa Clara (City) prepared this Draft Environmental Impact Report (EIR), consistent with the California Environmental Quality Act (CEQA), to determine any potentially significant adverse environmental impacts of adopting the Renewable Parallel Generation Facilities Resolution. With the Renewable Parallel Generation Facilities Resolution, the City would limit the interconnection of parallel generation to facilities meeting the criteria for renewable electrical generation facilities as defined in the California Public Resources Code.

This environmental document identifies any potentially significant adverse environmental impacts caused by approval of the Renewable Parallel Generation Facilities Resolution and amending SVP's Rules and Regulations (the Project) to require all new or modified parallel generation facilities in the City to meet the criteria for renewable electrical generation facilities as defined in Section 25741 of the California Public Resources Code.

This summary is provided in accordance with Section 15123 of the CEQA Guidelines, which states that an environmental impact report (EIR): *"... shall contain a brief summary of the proposed actions and its consequences. The language of the summary should be as clear and simple as reasonably practical."*

Project Description Summary

The City's municipal electric utility does business as Silicon Valley Power or SVP. In the CEQA process, the City of Santa Clara is the lead agency because it must decide whether to adopt the Renewable Parallel Generation Facilities Resolution and change SVP's Rules and Regulations.

Parallel generation, as defined in SVP's Rules and Regulations, is the production and delivery of electric power electrically connected to SVP's distribution system by generators not owned or controlled by SVP. Under SVP's existing Rules and Regulations, SVP negotiates interconnection agreements with any customer seeking to connect and operate new or modified parallel generation facilities including those using fossil fuels. Construction and operation of parallel generation may also require development permits from the City's Community Development Department and approval by other agencies such as the Bay Area Air Quality Management District (BAAQMD).

The Project would limit the interconnection of new or modified parallel generation to the distribution system to those facilities meeting the criteria for renewable electrical generation facilities. The Project would amend SVP's Rules and Regulations to require new or modified parallel generation facilities to meet the criteria for renewable electrical generation facilities as defined in Section 25741 of the California Public Resources Code.

With the Project, the proposed amendments to SVP's Rules and Regulations would:

- Define "renewable electrical generation facility" to align with Section 25741 of the California Public Resources Code.
- Clarify that SVP will accept requests to interconnect new parallel generation facilities that are intended to operate in parallel with SVP's distribution system, or accept requests to increase the capacity of existing parallel generation facilities, only if the new or modified facility qualifies as a "renewable electrical generation facility" as defined in California Public Resource Code Section 25741.

- Require all customers interconnecting with SVP's distribution system with a qualifying renewable electrical generation facility (except solar photovoltaic systems, which are considered inherently eligible), to provide the following:
 1. Preliminary renewable eligibility certification from the California Energy Commission (CEC) prior to interconnection with the SVP system;
 2. Final CEC certification within 180 days of the interconnection; and
 3. Annual attestation signed by the customer or documentation from a CEC approved reporting entity, such as the Western Renewable Energy Generation Information System (WREGIS), that verifies that the generation facility is in current status and proof of the renewable energy credit retirement applicable to the calendar year generation.

The proposed amendments do not apply to emergency or standby backup generation that runs on a limited, emergency basis, and typically does not operate in parallel with the electric utility system. Customers that use diesel-powered engines or other fossil fueled generators for backup power would still be allowed to do so. These systems are a type of microgrid dedicated to only operate for on-site emergency purposes.

Similarly, the proposed amendments would not change efforts ongoing by SVP to encourage microgrids that comprise renewable generation facilities and energy storage options. Entities having no interconnection with the SVP distribution system (e.g., an autonomous or islanded microgrid) would not be subject to the proposed amendments to SVP's Rules and Regulations.

Project Objectives

With the Project, the City expects to achieve the following objectives:

- Require new or modified parallel generation facilities in the City to meet the state criteria for renewable electrical generation facilities for the purposes of limiting greenhouse gas emissions in the City and increasing the use of renewable electrical generation facilities in the City.
- Limit the installation of and investment in new fossil-fueled electrical generation technologies in the City.
- Ensure that new or modified parallel generation in the City occurs in a manner consistent with the statewide policy to transition to a zero-carbon electric system by December 31, 2045, as in California Public Utilities Code, Section 454.53(a).
- Ensure that new or modified parallel generation in the City is consistent with the goals of reducing the community's GHG emissions as set forth in the City's 2022 Climate Action Plan (CAP) Update, adopted in June 2022.

Summary of Project Effects

No Additional Use of Non-Renewable Parallel Generation. The Project would approve the Renewable Parallel Generation Facilities Resolution and change SVP's Rules and Regulations to require new or modified parallel generation facilities in the City to meet the criteria for renewable electrical generation facilities as defined in Section 25741 of the California Public Resources Code. Because any new or modified parallel generation would need to use renewable energy resources, use of fossil fuels for parallel generation in the City would not increase.

Construction and Operation of Renewable Parallel Generation. To the extent new or modified parallel generation facilities are proposed, they would need to meet the criteria for renewable electrical genera-

tion facilities as defined in the California Public Resources Code. The potential for the Project to result in new renewable parallel generation would be limited to those customers that might otherwise have proposed development of non-renewable parallel generation facilities deciding to undertake development of substitute renewable parallel generation instead. For any new or modified parallel generation facility project that meet the definition of an electric power plant,¹ construction and operation would require a discretionary land use entitlement (Zoning Code, Section 18.60.050). As such, customers that propose discretionary parallel generation facility projects with a generating capacity over 500 kilowatts (kW), i.e., 0.5 megawatts (MW), in the City that meets the definition of an electric power plant would be subject to project-specific CEQA review if not exempt.² Nonetheless, insofar as development of such facilities would be an impact of the Project, they are evaluated in this EIR at a programmatic level and to the extent feasible.

Providing Grid Resources. Electric utility service would continue to be provided by SVP to serve the demand of its customers, as occurs now in the existing conditions baseline. Providing grid service involves SVP planning for and procuring a mix of resources, that includes importing or generating electricity to serve the customers' loads. If customers decide not to develop a parallel generation facility as a result of the Project, the electrical demand would need to be served by SVP. SVP's procurement strategy and obligation to serve customers' load and energy needs would not change with the Project. The Project would not require or indirectly cause the development of any new generating or transmission capacity. To account for the possibility that the Project could change the use of existing grid resources, this EIR evaluates the potential impacts to the environment that could arise from serving electricity to the customers affected by the Project. With or without the Project, the future energy supply must continue to be consistent with California's renewable energy and GHG targets.

Use of Conventional Diesel for Backup. The proposed amendments to the SVP Rules and Regulations would apply only to interconnection of parallel generation. Accordingly, the proposed amendments do not apply to emergency or standby backup generation, and the Project causes no change relative to the existing conditions for the typical customer that uses or plans to use diesel backup generation.

Use of Parallel Generation for Backup. The analysis investigates the possibility that customers may be interested in configuring a parallel generation system to operate as a backup resource, to avoid using diesel. Because the parallel generation system would need to use renewable fuel under the Project, scoping comments raised the issue of whether the Project could limit technology options available to customers in a way that could inadvertently increase customers' reliance on diesel backup generators. For this situation, the analysis reviews a range of options. If a customer is planning to install new non-renewable parallel generation that is also configured to serve as emergency or standby generation, the customer could avoid using conventional diesel backup generators by using: an alternative renewable fuel for the parallel generation system; an energy storage system; or a fuel cell technology with rapid startup capabilities for backup. With these available options, it would be speculative to conclude the Project would incentivize customers that may prefer non-diesel alternatives to rely on diesel backup, and it would

¹ As defined in the Santa Clara City Code, an "electric power plant" means all equipment, fixtures, and personal property operated or maintained in connection with the production of electricity using any source of thermal, steam, wind, or solar energy with a generating capacity of more than five hundred (500) kilowatts and less than fifty (50) megawatts, including all conduits, ducts, or other devices, materials, apparatus, or property used or to be used for the transmission of the electricity so produced. (Zoning Code, Section 18.06.010(e)(1).)

² Thermal power plants over 50 MW are subject to review by CEC as the lead agency prior to the CEC granting an exemption or a license. The CEC small power plant exemption for projects under 100 MW requires CEC to act as lead agency in the CEQA process, although projects exempt from CEC licensing are still subject to local permitting authorities such as the City's jurisdiction or air quality permitting processes for approval.

not be reasonably foreseeable to expect the Project to inadvertently increase customers' reliance on diesel backup generators.

Summary of Environmental Impacts and Mitigation Measures

Chapter 3, Environmental Analysis, of this EIR describes the Project's potential environmental impacts and determines that the Project would result in certain impacts, none of which would be potentially significant. With no potentially significant impacts, none of the impacts would require mitigation measures to reduce impacts to a level of insignificance. There would be no significant and unavoidable direct, indirect, or cumulative environmental impacts for the Project.

The analyses of the alternatives in EIR Chapter 5, Alternatives, indicate that each alternative, including the No Project Alternative, could increase impacts to energy resources and greenhouse gas emissions, when compared to the Project.

Summary of Known Areas of Controversy

Pursuant to Section 15123(b)(2) of the CEQA Guidelines, an EIR shall identify areas of controversy known to the lead agency including issues raised by agencies and the public. Based on arguments made by Bloom Energy Corporation after the City Council passed and adopted Resolution No. 19-8701 on May 7, 2019, and comments received by the City in response to the Notice of Preparation (NOP) of an EIR published on July 31, 2020 (see EIR Appendix A, Notice of Preparation and Scoping Comments), the areas of controversy and potential disagreement are whether:

- The Resolution could change the sources of the electricity distributed to City customers, which may impact the environment by increasing emissions of air pollutants and GHG. Any increase in emissions could impact disadvantaged communities in the vicinity of existing SVP installations.
- The Resolution could limit technology options available to customers in a way that could increase customers' reliance on diesel backup generators.
- Alternatives to the Resolution should include: allowing for natural gas and microgrid technology to support customers' power needs while minimizing and/or eliminating the use of diesel backup generators; establishing a performance standard for GHG emissions that allows non-renewable technologies provided that the technology makes efficient use of fossil fuel; providing for a transition over time to all renewable electrical generation for all sources of power in the City, including SVP facilities, as opposed to establishing new requirements for only customer-owned facilities.
- Direct or indirect effects could occur to: Aesthetics; Air Quality and Public Health; Greenhouse Gas Emissions; Energy; Land Use/Planning; Noise and Vibration; Utilities/Service Systems; Water Quality and Water Supply; and Wildfire.

Areas of controversy that fall within the scope of CEQA are addressed in this EIR and its appendices. Issues that fall outside the scope of CEQA are not evaluated in this EIR, as described in more detail in EIR Section 1.4, under Environmental Review Scope and Assumptions, and in Chapter 2, Project Description.

Summary of Issues to be Resolved

Identification of Alternatives

Based on the requirements of CEQA and the summary of environmental impacts presented above, this EIR describes and analyzes three alternatives to the Project. A summary of project alternatives follows.

The full analysis of project alternatives is provided in EIR Chapter 5, Alternatives, along with a description of other alternatives considered but not carried forward for full analysis.

The following alternatives are evaluated as part of this EIR:

- No Project Alternative
- Renewable Phase-in Alternative
- Net Carbon Neutral Alternative

Environmentally Superior Alternative

The analysis of the environmental topics in this EIR Chapter 3, Environmental Analysis, demonstrates that the Project would have no impact or no significant adverse impact. The analyses of the alternatives in EIR Chapter 5, Alternatives, indicate that each alternative, including the No Project Alternative, would increase impacts to energy resources and greenhouse gas emissions, when compared to the Project.

Aside from the No Project Alternative, the Renewable Phase-in Alternative and Net Carbon Neutral Alternative were carried forward for analysis as they would be likely to attain most of the Project objectives or partially attain the Project objectives. The Renewable Phase-in Alternative would have overall impacts similar to those of the Project, although the transition to renewable resources would be gradually phased-in. The Net Carbon Neutral Alternative would introduce greater impacts than the Project by adding potential for off-site activities that could be necessary to fully offset GHG emissions. Among all alternatives including the No Project Alternative, the Project best obtains the Project objectives without creating significant adverse impacts and would be environmentally superior.

1. INTRODUCTION

Lead Agency: City of Santa Clara – Silicon Valley Power

Contact: Kevin Kolnowski, Electric Utility Chief Operating Officer
881 Martin Avenue
Santa Clara, CA 95050

Project Title: City of Santa Clara Renewable Parallel Generation Facilities Resolution

Location: Silicon Valley Power Service Territory

Case Files: CEQ2020-01076; SCH Number 2020070579

1.1. Overview

The City of Santa Clara (City) prepared this Draft Environmental Impact Report (EIR), consistent with the California Environmental Quality Act (CEQA), to determine any potentially significant adverse environmental impacts of adopting the Renewable Parallel Generation Facilities Resolution and amending Silicon Valley Power’s Rules and Regulations. The City Council passed and adopted Resolution No. 19-8701 on May 7, 2019, but the Superior Court in *Bloom Energy Corporation v. City of Santa Clara*, Case No. 19CV348838, ordered that the City void approval of Resolution No. 19-8701 and comply with the California Environmental Quality Act before the City reconsiders adopting the proposed amendments to SVP’s Rules and Regulation. As proposed, Resolution No. 19-8701 would limit the interconnection of parallel generation to the distribution system to facilities meeting the criteria for renewable electrical generation facilities as defined in the California Public Resources Code. This EIR considers the effects that could be caused by adopting the proposed Renewable Parallel Generation Facilities Resolution.

The City of Santa Clara operates its Electric Department as Silicon Valley Power or SVP. The City of Santa Clara is the lead agency for the CEQA process because it must decide whether to adopt the Renewable Parallel Generation Facilities Resolution and change SVP’s Rules and Regulations.

1.2. Purpose of the Environmental Impact Report

This Draft EIR assesses potentially significant impacts that could be caused by adopting the Renewable Parallel Generation Facilities Resolution and amending Silicon Valley Power’s Rules and Regulations (the Project). As defined in State CEQA Guidelines Section 15382, a “significant effect on the environment” is:

“... a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.”

As stated in the State CEQA Guidelines, an EIR is an “informational document.” It is intended to inform public agency decision makers and the public of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to a project.

The purpose of this Draft EIR is to provide the City, responsible and trustee agencies, interested parties and organizations, and the public with detailed information about the environmental effects caused by the Project; examine and set forth feasible methods of mitigating any adverse environmental impacts if the Project is approved; and consider feasible alternatives to the Project.

1.3. Background

The City of Santa Clara aims to establish itself as a climate action leader. To this end, the City aims to reduce greenhouse gas (GHG) emissions while building resiliency to climate change within our community to maintain a vibrant, healthy, and sustainable community for future generations. The City is committed to achieving these goals through resourceful, efficient, and progressive leadership (City of Santa Clara, 2022). This Project is part of the City's aspiration to reduce emissions more aggressively than State requirements.

Energy use represents one of the largest contributors to emissions of GHGs. Investments in electrical generation facilities typically last for decades. Consistent with Statewide policies, the City and SVP are working to achieve a long-term goal of net carbon neutrality by 2045. Meeting this and other climate objectives requires the City to not only affirmatively reduce existing emissions but also avoid the construction of new GHG-emitting infrastructure.

The Project would require new parallel generation facilities in the City to use renewable resources. While this EIR evaluates the potential that this change could cause adverse environmental impacts, the City developed this Project to achieve the environmental benefit of reducing GHG from commercial energy use in the City. The Project would limit the construction of new non-renewable parallel energy generation systems within the City, such as those that rely on fossil fuels. Absent the Project, new fossil fueled private, parallel generation systems could be installed and run for decades, entrenching their perpetual GHG emissions. The Project is intended to avoid that result and to prevent further reliance on fossil fuels in the City's energy infrastructure.

Climate Action Plan

The City Council adopted the 2022 Climate Action Plan (CAP) on June 7, 2022, to continue the City's commitment to creating a Sustainable Santa Clara and to update the City's prior Climate Action Plan adopted in 2013. The 2022 Climate Action Plan establishes a pathway toward reducing greenhouse gas (GHG) emissions to 40 percent below 1990 levels by 2030, 80 percent below 1990 levels by 2035, and to achieve net carbon neutrality no later than 2045. The update accounts for the effects of ongoing state and local actions for reducing GHG, identifies additional actions to further reduce GHG, and evaluates actions enhance climate resiliency throughout the City. One key strategy is to maximize renewable energy generation and storage capacity (Strategy B3; City of Santa Clara, 2022).³

California Policy

California's long-term efforts to reduce GHG emissions and adapt for the consequences of climate change were set forth in June 2005 by the Governor's Executive Order S-3-05. The California Renewables Portfolio Standard (RPS) program contributes substantially to achieving statewide GHG reductions. The RPS program establishes the requirements for retail sellers of electricity and local publicly owned electric utilities (POUs), including SVP, to procure a minimum quantity of electricity products from eligible renewable energy resources [Public Utilities Code (PUC), Section 399.11].

In October 2015, California Senate Bill (SB) 350 (de Leon, Chapter 547, Statutes of 2015), Clean Energy and Pollution Reduction Act of 2015, was signed into law, establishing new clean energy, clean air and greenhouse gas reduction goals through 2030 and beyond. SB 350 established California's 2030 greenhouse gas reduction target of 40 percent below 1990 levels. To achieve this goal, SB 350 set ambitious

³ Information on the status of the Climate Action Plan update is available at: <https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan/climate-action-plan>.

2030 targets for energy efficiency and renewable electricity, among other actions aimed at reducing GHG emissions across the energy and transportation sectors. SB 350 also enhances the state's ability to meet its long-term climate goal of reducing GHG emissions to 80 percent below 1990 levels by 2050.

In September 2018, Senate Bill 100 (SB 100), to revise and extend California's Renewables Portfolio Standard program, was signed into law. SB 100 established the policy goals of 50 percent renewable energy resources by 2026 and 60 percent renewable energy resources by 2030. SB 100 also states that it is California policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers by December 31, 2045.

Renewable Energy Resources

Existing RPS regulations requires SVP to attain at least 60 percent of retail sales of electricity from renewable energy resources by 2030. SVP is subject to enforcement of the RPS targets as overseen by the California Energy Commission (CEC),⁴ according to a series of compliance periods, as follows: 33 percent by December 31, 2020, 44 percent by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. Consistent with SB 100 and the City's 2022 Climate Action Plan, SVP is also planning for 100 percent of total retail sales of electricity to come from eligible renewable energy resources and zero-carbon resources by 2045.

Facilities meeting the state criteria for "renewable electrical generation facilities" must use "biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts (MW) or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and any additions or enhancements to the facility using that technology." (Pub. Res. Code, Section 25741, subd. (a)(1).)

Private Power Generation

The SVP Rules and Regulations define "parallel generation" as the production and delivery of electric power electrically connected to the distribution system by generators not owned or controlled by Silicon Valley Power. Parallel generation facilities are also sometimes called "self-generation" facilities as the power is generated for the private use of the customer at the site of the customer.

Currently, SVP customers can, subject to applicable permitting requirements, install their own electric generation systems on their properties and also choose to remain connected to SVP's electrical distribution system. Customer-sited electric generation systems broadly include distributed generation and emergency or standby generation. The most common types of customer-sited electric generation technologies in SVP's territory are solar photovoltaics and natural gas fuel cells that operate in parallel with the electric utility grid, and emergency backup generators that operate when grid service is interrupted.

Parallel generation is distinct and separate in SVP Rules and Regulations from emergency or standby generation. Emergency or standby generation is capable of being connected in emergency situations to the customer's electric system and provides a supply of power when normal service from SVP's distribution system becomes interrupted. In contrast, parallel generation supplements the normal service from SVP, thereby allowing a customer to reduce the amount of electric power that would otherwise be served by the utility through the distribution system.

⁴ California Code of Regulations, Title 20, Division 2, Chapter 13, Sections 3200-3208.

Integrated Resource Planning

Integrated resource planning identifies a long-term plan (an Integrated Resource Plan or IRP) that provides adequate resources to meet the requirements of the utility's projected load in a cost-effective manner, while also meeting system reliability needs and other planning objectives. An IRP evaluates future peak demand and energy needs, while also maintaining a targeted reserve margin to maintain system reliability, to achieve a reasonable balance between fiscal responsibility and environmental stewardship. Typically, an IRP considers supply side and demand side options for inclusion in the long-term plan. Supply-side options identify potential means of increasing supply; demand-side options focus on actions that reduce demand. Supply side options include conventional, renewable, and distributed energy resources. Demand side options include demand response programs, energy efficiency programs, and other "behind the meter" options, all of which can be implemented to reduce the overall utility load.⁵

Under the requirements of SB 350, the Clean Energy and Pollution Reduction Act of 2015, an IRP is required for all larger load-serving entities including local publicly owned electric utilities such as SVP. IRPs that are prepared by local publicly owned electric utilities must be submitted to the California Energy Commission (CEC) for review, and the CEC determines whether the IRP is consistent with California's clean energy, clean air, and GHG reduction goals for 2030, and the requirements of PUC Section 9621.⁶

In November 2018, the City Council approved SVP's current IRP. California Code requires the IRP to be updated at least once every 5 years. SVP's current IRP assesses the future electric energy needs of SVP's customers over the next 20 years (from 2019 through 2038) and summarizes a preferred or recommended expansion plan for meeting those needs in a safe, reliable, cost-effective and environmentally responsible manner. The 2018 IRP identified a need for additional renewable resources, and found that SVP's existing resources, combined with Renewable Energy Credits (RECs) and new renewable additions are expected to meet the SVP renewable generation and environmental mandates through 2030 as well as through 2038, which was the planning horizon for the study.⁷

Existing Resources and 2018 Integrated Resource Plan

The 2018 IRP shows that as of December 2017, SVP served over 55,000 customers with over 3,500 gigawatt-hours (GWh) in sales and had a peak demand of 587 MW. Eighty-four percent of the total number of customers are residential, however, over 90 percent of the utility retail sales are to commercial and industrial customers. Approximately 74 percent of electric load is attributable to its largest customers. Over 46 percent of the commercial and industrial sales comes from data centers.⁸

A description of all the resources currently procured and a 20-year resource procurement plan to meet customer load from 2019 through 2038 appears in the 2018 IRP. SVP's portfolio includes City-owned resources, jointly-owned resources, and resources procured through Power Purchase Agreements. Additionally, the IRP identifies the energy efficiency, demand management, energy storage, and other strategies used by SVP to meet peak electricity needs, consistent with PUC Section 9621.

The existing resources in SVP's portfolio reflect a trend of reducing the need for fossil-fueled resources. By 2018, SVP had divested its interest in coal generation, and this helped put SVP on the way to attaining

⁵ Section 1.0 and Section 2.1 of the 2018 IRP (SVP, 2019).

⁶ Under SB 350, Public Utilities Code Section 9621 requires the CEC to review the Integrated Resource Plans of identified publicly owned utilities to ensure they meet various requirements specified in the law, including greenhouse gas emission reduction targets and renewable energy procurement requirements.

⁷ Section 1.1 of the 2018 IRP (SVP, 2019).

⁸ Section 3.0 of the 2018 IRP (SVP, 2019).

the 2030 GHG emissions targets consistent with IRP filing requirements. The City, through SVP, continues to maintain ownership in natural gas-fired power plants and plans to continue to use those resources as needed and in a manner consistent with meeting CARB's GHG targets and California's RPS.⁹ Natural gas resources owned by the City include the Donald R. Von Raesfeld Power Plant (122 MW nominal/147 MW peak, natural gas-fired, combined cycle power plant), Gianera Generating Station (two 25 MW combustion turbine units), and a cogeneration facility (rated at 7 MW). The City also has shared interests in jointly-owned natural gas-fired resources through the Northern California Power Agency (NCPA). The remainder of SVP's existing power supply consists exclusively of renewable or zero-carbon resources.¹⁰

The 20-year resource plan in the 2018 IRP includes reducing SVP's use of fossil-fueled resources to serve load and increasing the procurement of renewable resources. The resource plan considers peak demand growing to 770 MW in 2030 and to 837 MW in 2038.¹¹ The CEC's review of the 2018 IRP notes that SVP depends on natural gas resources that can be dispatched to integrate with the variable renewable resources, although natural gas generation would decline from over 33 percent of the portfolio in 2019 to less than 21 percent in 2030 (CEC, 2019). Beyond 2030 to 2038, the 2018 IRP projects a continuation of the decline in natural gas use toward the zero-carbon target in 2045 (SVP, 2019).

Growing peak demand will be met by adding renewable capacity to SVP's existing generating capacity. In order to meet the load growth requirements and the 60 percent renewable energy target by 2030, the 2018 IRP includes the addition of 670 MW of solar and 500 MW of wind in terms of installed capacity.¹²

Existing Parallel Generation in SVP

Parallel generation is a type of distributed generation system installed on the customer's side of the meter that allows a customer to reduce the amount of demand that would otherwise be served by the utility.¹³ Parallel generation facilities serve the on-site customer load or a portion of the on-site load, and, by definition, in SVP's Rules and Regulations, parallel generation is customer-owned and customer-controlled. The production and delivery of electric power is electrically connected to SVP's distribution system, and the customer relies on SVP service for the balance of their electricity and during downtime of the parallel generation. When parallel generation facilities are online, the SVP utility retail sales volumes are decreased, and when a parallel facility is offline, SVP must supply the customer's full power needs. Any power that flows to the customer from SVP must meet California's RPS.

SVP is obligated to serve the customer load and the peak energy needs of all customers. SVP's obligation to serve includes planning for and procuring the necessary energy resources to serve all customers at all times.^{14, 15} Planning for the peak energy needs of all customers takes into consideration the potential for

⁹ Section 2.4.1.1 of the 2018 IRP (SVP, 2019).

¹⁰ Section 3.0 of the 2018 IRP (SVP, 2019).

¹¹ Table 8-3 of the 2018 IRP (SVP, 2019).

¹² Section 9.0 of the 2018 IRP (SVP, 2019).

¹³ Distributed generation describes a parallel or stand-alone electric generating unit generally located in or close to a customer's site (near the point of consumption) and on the customer's side of the meter, according to the definition of "customer-sited distributed generation" (WREGIS Operating Rule).

¹⁴ California Pub. Util. Code, Section 451: "Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public."

¹⁵ California Pub. Util. Code, Section 9620(a), in part: "Each local publicly owned electric utility serving end-use customers, shall prudently plan for and procure resources that are adequate to meet its planning reserve margin and peak demand and operating reserves, sufficient to provide reliable electric service to its customers. Customer

outages of parallel generation, when SVP must have reserve capacity on standby for any outage of on-site generation. Customers with on-site self-generation operated in parallel with service from SVP are subject to charges, under SVP's Rate Schedule SB-1, that allow SVP to recover its costs of providing standby services for the on-site generation capacity. To ensure that SVP provides enough capacity and demonstrates resource adequacy, SVP has adopted a reserve margin of 115 percent of the coincident peak demand. Prudent planning to meet the reserve margin under Public Utilities Code Section 9620 requires SVP to consider that distributed generation reduces overall energy demand, but also that SVP may have to meet a higher system peak capacity demand if the parallel generation trips offline. The peak demand of all customers influences how SVP must act to ensure resource adequacy and the adequacy of transmission and distribution service.¹⁶

Similarly, as the need for electric service grows or changes over time, SVP plans for and anticipates the potential impact of customer load growth. This includes planning for backing up customer-sited parallel generation. SVP continually implements projects on the electrical network to ensure that the grid has capacity to provide reliable service and support development in the City. Grid capacity assessment and distribution planning efforts identify areas within the City that require capital improvements to upgrade or construct new distribution systems including substations in response to load growth.

The currently installed capacity of parallel generation in the City includes renewable electrical generation facilities and facilities that use non-renewable resources. Existing parallel generation in the City can be categorized into the following four types of distributed generation technologies deployed by SVP's customers: solar photovoltaic (PV); fuel cells using natural gas; and micro-turbines using renewable and non-renewable energy. The existing natural gas fuel cell systems in the City range in capacity from approximately 1 MW to 5.2 MW. Natural gas fuel cell systems convert the chemical energy within the natural gas into electricity using a steam-methane reformation process, which applies heat and steam to convert the methane from the natural gas feedstock into hydrogen, which then reacts with oxygen in the fuel cell to produce electricity.¹⁷

The overall level of distributed generation installed in the City is summarized in Table 1-1.

Table 1-1. Distributed Generation Types Deployed by SVP's Customers

Generator Type	Eligible Renewable Resource?	Installed Capacity Online 2018 (MW)	Recently Installed or Proposed 2018-2020 (MW)
Solar, Photovoltaic (PV)	Yes	17	3.5
Natural Gas, Fuel Cell	No	15	13
Natural Gas, Micro-Turbine	No	0.450	0
Wind, Micro-Turbine	Yes	0.014	0

Source: CEC's review of SVP 2018 IRP (CEC, 2019); with SVP review of interconnection requests for 2018-2020.

The 2018 IRP reflects the ongoing use of customer-owned generation in the City. As required by PUC Section 9621, SVP considered the role of distributed energy resources, energy storage, and energy efficiency and demand response resources, as a means of reducing the need for new or additional electricity generation or transmission (CEC, 2019).

generation located on the customer's site or providing electric service through arrangements authorized by Section 218, shall not be subject to these requirements. . ."

¹⁶ Sections 3.5, 3.6, and 3.7 of the 2018 IRP describe how resource adequacy and the adequacy of transmission and distribution assets, respectively, are evaluated (SVP, 2019).

¹⁷ From Federal Energy Regulatory Commission (FERC), Final Rule: Fuel Cell Thermal Energy Output; Bloom Energy Corporation. Federal Register, Vol. 86, No. 22 (February 4, 2021).

1.4. Renewable Parallel Generation Facilities Resolution Adopted

The City Council passed and adopted Resolution No. 19-8701 on May 7, 2019, to revise the definition of Parallel Generation effective June 1, 2019. Subsequently, Bloom Energy Corporation petitioned the Superior Court of California, County of Santa Clara, contending that adopting the Renewable Parallel Generation Facilities Resolution may have a significant effect on the environment because the Resolution could change the sources of the electricity distributed to City customers, and this change could cause an adverse change in greenhouse gas (GHG) emissions and emissions of other pollutants.

On February 10, 2020, the Superior Court ordered the City to void approval of Resolution No. 19-8701. Accordingly, the City Council acted during its regularly scheduled meeting on February 25, 2020, to remove the requirement limiting the interconnection of parallel generation to the distribution system to facilities meeting the criteria for renewable electrical generation facilities.

The Project subject to this CEQA review would approve the Renewable Parallel Generation Facilities Resolution and change SVP's Rules and Regulations. While amending SVP's Rules and Regulations would change the existing options available to customers planning to interconnect parallel generation in the City, using renewable resources for parallel generation aligns with the long-term statewide efforts and City goals to reduce GHG emissions and increase renewable resources in the electricity supply. (See EIR Section 2.2, Project Objectives, for more details.)

Qualifying Renewable Electrical Generation Facilities

The California Energy Commission oversees the process for determining which facilities are eligible for RPS certification as qualifying renewable electrical generation facilities, as set forth in the RPS Eligibility Guidebook (CEC, 2017). The RPS certification of a facility means the facility can produce electrical generation that may be used by retail sellers or local publicly owned electric utilities to satisfy RPS procurement requirements. To qualify for RPS certification, the electrical generation facility must use one or more eligible renewable energy resources. The range of RPS-eligible energy resources includes gaseous biomethane that is derived from digester gas or landfill gas and fuels derived from a biomass feedstock.

Statewide, most of the qualifying renewable electrical generation facilities in California are solar PV systems, and these provide much of the installed generating capacity statewide. Four RPS-certified facilities are installed within the City, according to the California Energy Commission's RPS online tracking system: three are solar photovoltaic (total installed capacity less than 1 MW); and one uses biomethane from landfill gas (0.75 MW) for combustion in a micro-turbine. No fuel cell systems in the City currently qualify as renewable. Of roughly 3,000 RPS certified facilities across California, only four facilities in California are certified and approved as using fuel cells powered by biomethane (CEC, 2022).¹⁸

Fuel cell systems converting gas to electricity may qualify as renewable if the gas is an RPS-eligible renewable energy resource. Fuel cells using renewable fuels, including biomethane derived from digester gas or landfill gas, are consistent with Section 25741 of the California Public Resources Code. The biomethane may be produced and captured at the same site as the electrical generation facility that receives the biomethane or delivered to the electrical generation facility in a dedicated pipeline, in fuel transport containers, or via a common carrier pipeline as defined in the CEC's RPS Eligibility Guidebook (CEC, 2017). Additionally, fuel cell systems converting hydrogen gas to electricity may qualify for RPS certification if the hydrogen gas was derived from a non-fossil-based fuel or feedstock through a process powered using an eligible renewable energy resource.

¹⁸ According to a public search of the California Energy Commission's RPS certification database. Available at: <https://rps.energy.ca.gov/Pages/Search/SearchApplications.aspx>.

Programmatic Level of Analysis

The degree of specificity required in an EIR corresponds to the degree of specificity involved in the underlying activity which is described in that document (State CEQA Guidelines Section 15146). For example, an EIR prepared for the construction and operation of a site-specific project, such as a proposed new electrical generating facility or a new land use development project, is necessarily more detailed than an EIR prepared for the adoption of a land use plan or other standards, ordinances, or regulations because the effects of constructing a site-specific development project can be predicted with greater accuracy (State CEQA Guidelines Section 15146(a)).

Programmatic level analyses are allowable and encouraged under CEQA (Section 15168) for a series of actions or activities that can be characterized as one large project and are related either:

- Geographically;
- As logical parts of a chain of activities;
- In connection with issuance of rules, regulations, plans or other general criteria governing a continuing program; and/or
- As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

Use of a programmatic level of analysis can provide the following advantages. According to State CEQA Guidelines Section 15168, a Program EIR can:

- Provide an occasion for a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action;
- Ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis;
- Avoid duplicative reconsideration of basic policy considerations;
- Allow the Lead Agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts; and
- Allow reduction in paperwork.

Requirements for a Use Permit

Discretionary Land Use Permits. The Santa Clara City Code, Chapter 18.110, Use Permits, establishes the requirements for discretionary land use permits. When a new or modified parallel generation facility project meets the City's definition of an electric power plant, the City Code requires a discretionary land use approval and project-specific CEQA review, if not exempt, in order for the City to approve the project.¹⁹ The City would require a public hearing by the Planning Commission (Section 18.110.030). In order to grant any use permit, the Planning Commission would need to make certain findings and may designate project-specific conditions in connection with the use permit (Section 18.110.040). Nonetheless, insofar as development of such facilities would be an impact of the Project, they are evaluated in this EIR at a programmatic level and to the extent feasible.

Electric Power Plants. The City Zoning Code (Section 18.60.050) permits construction or operation of electric power plants only in certain industrial and public facilities zoning districts and only after first securing

¹⁹ Thermal power plants over 50 MW, which do not meet the City's definition of an electric power plant pursuant to Zoning Code section 18.06.010(e)(1), are subject to review by CEC as the lead agency prior to the CEC granting an exemption or a license. The CEC small power plant exemption for projects under 100 MW requires CEC to act as lead agency in the CEQA process, although projects exempt from CEC licensing are still subject to local permitting authorities such as the City's jurisdiction or air quality permitting processes for approval.

a use permit. Chapter 18.06 defines “electric power plants” as “all equipment, fixtures, and personal property operated or maintained in connection with the production of electricity using any source of thermal, steam, wind, or solar energy with a generating capacity of more than five hundred (500) kilowatts and less than fifty (50) megawatts, including all conduits, ducts, or other devices, materials, apparatus, or property used or to be used for the transmission of the electricity so produced.”

Environmental Review Scope and Assumptions

This section provides a general summary of the approach taken by the City in preparing this EIR. The scope of environmental review considers whether adopting the Resolution and amending the SVP Rules and Regulations would directly or indirectly cause a potentially significant change in the physical environment, when compared to the environmental setting. Accordingly, this EIR includes a description of the physical environmental conditions in the City with an emphasis on areas that are most likely to see proposals for new or modified parallel generation facilities. The environmental setting constitutes the baseline physical conditions by which the City will determine whether an impact is significant.

Because proposals for new or modified parallel generation facilities may occur across a range of potential environmental settings, the foreseeable direct and indirect impacts to the environment can range from no impact to significant and unavoidable impacts, depending on whether: (1) the environmental resource of concern is present at or near the location of the proposed facilities, and (2) the degree to which previous disturbances at that site may have occurred. To this end, the EIR’s programmatic level analysis is broad, consistent with State CEQA Guidelines Sections 15145 and 15146.

To identify and focus on the Project’s potentially significant impacts, this EIR describes all reasonably foreseeable effects of the Project, including actions that may be taken by SVP, SVP’s customers, or other entities after the City approves the proposed amendments to the SVP Rules and Regulations. (See EIR Section 2.6, Reasonably Foreseeable Project Effects, for more details.)

The following considerations guide the City’s approach to preparing this EIR:

- Regardless of whether the City approves the proposed amendments to the SVP Rules and Regulations, SVP is obligated to serve the customer load and the peak energy needs of all customers, including customers with parallel generation. SVP’s obligation to serve includes planning for and procuring the necessary energy resources to serve all customers at all times. To meet the requirements of the utility’s projected load, SVP plans for the peak energy needs of all customers, and planning for peak energy takes into consideration potential outages of parallel generation.
- The scope of analysis addresses environmental impacts to the extent they are reasonably foreseeable and do not require speculation. As a load-serving entity, SVP routinely imports power from facilities both within California and outside the State to serve the electrical demand of its customers. To the extent that the proposed amendments to SVP Rules and Regulations could affect SVP power generation, the scope of analysis addresses actions SVP takes to serve the load using SVP’s existing portfolio of resources and resources identified by integrated resource planning. The 2018 IRP indicates that growing peak demand will be met by adding renewable capacity to SVP’s existing generating capacity.
- With the Project, SVP’s customers would no longer be able to negotiate new interconnection agreements for new or modified parallel generation technologies using non-renewable resources, including natural gas fuel cell systems. Customers would no longer be able to use natural gas or any other fossil fuel for new or modified parallel generation. Customers could choose to switch to a renewable fuel, use SVP’s grid resources for electric service, or go without an interconnection to SVP’s system, as in a stand-alone microgrid. It would be speculative to predict customer-specific locations and designs for any substitute new or modified facilities installed in response to the Project. It is not possible to predict

which customers will decide to install their own renewable parallel generation systems, where these facilities will be located, or which technologies customers will choose in achieving customer-specific objectives. Customers that propose discretionary parallel generation facility projects that meet the City's definition of an electric power plant would continue to be subject to project-specific CEQA review if not exempt. Nonetheless, insofar as development of such facilities would be an impact of the Project, they are evaluated in this EIR at a programmatic level and to the extent feasible.

- The level of detail of impact analysis is necessarily and appropriately general. The Project would change the types of energy generation facilities allowed to negotiate interconnection agreements with SVP, rather than approve or reject the construction or operation of any specific generation facility. Because this EIR is not related to a specific construction project, the analysis focuses on the secondary effects that can be expected to follow from the adoption of the proposed amendments to the SVP Rules and Regulations (State CEQA Guidelines Section 15146).

1.5. CEQA Process

Notice of Preparation

The City published a Notice of Preparation (NOP) of an EIR on July 31, 2020. The NOP was released for a 30-day public review period. The NOP was sent to interested parties and organizations, addresses on record for existing parallel generation facilities interconnected to SVP, and responsible and trustee State and local agencies that have jurisdiction over or an interest in environmental resources and/or conditions in the City and SVP service territory. The purpose of the NOP was to allow all parties to transmit their concerns and comments on the scope and content of the Draft EIR, focusing on specific information related to each individual's or group's interest or agency's statutory responsibility early in the environmental review process.

In response to the NOP, comments were received from the following agencies and organizations:

- Native American Heritage Commission
- City of San Jose Airport Department
- California Department of Fish and Wildlife
- Bloom Energy

Pursuant to Section 15125(a)(1) of the CEQA Guidelines, this EIR examines the effects of the Project on the environment in relation to the existing physical conditions that existed at the time the NOP was published (July 31, 2020).

Areas of Controversy

Pursuant to Section 15123(b)(2) of the CEQA Guidelines, an EIR shall identify areas of controversy known to the lead agency including issues raised by agencies and the public. Based on arguments made by Bloom Energy Corporation after the City Council passed and adopted Resolution No. 19-8701 on May 7, 2019, and in the company's response to the NOP (see EIR Appendix A, Notice of Preparation and Scoping Comments), the areas of controversy and potential disagreement are whether:

- The Resolution could change the sources of the electricity distributed to City customers, which may impact the environment by increasing emissions of air pollutants and GHG. Any increase in emissions could impact disadvantaged communities in the vicinity of existing SVP installations.
- The Resolution could limit technology options available to customers in a way that could increase customers' reliance on diesel backup generators.

- Alternatives to the Resolution should include: allowing for natural gas and microgrid technology to support customers' power needs while minimizing and/or eliminating the use of diesel backup generators; establishing a performance standard for GHG emissions that allows non-renewable technologies provided that the technology makes efficient use of fossil fuel; providing for a transition over time to all renewable electrical generation for all sources of power in the City, including SVP facilities, as opposed to establishing new requirements for only customer-owned facilities.
- Direct or indirect effects could occur to: Aesthetics; Air Quality and Public Health; Greenhouse Gas Emissions; Energy; Land Use/Planning; Noise and Vibration; Utilities/Service Systems; Water Quality and Water Supply; and Wildfire.

Draft EIR Public Review

This Draft EIR is subject to review and comment by public agencies, interested parties and organizations, and the public before being finalized. This document is available for a 45-day public review and comment period. Readers are invited to submit written comments on the document. Comments are most helpful when they suggest specific alternatives or measures that would better mitigate significant environmental effects.

Comments should be submitted to:

Kevin Kolnowski, Electric Utility Chief Operating Officer
City of Santa Clara – Silicon Valley Power
881 Martin Avenue
Santa Clara, CA 95050

Email comments to: parallelgeneration@aspeneg.com

1.6. Agency Use of this EIR

The City, including SVP, would rely on this EIR as it considers the Project-related actions of adopting the Renewable Parallel Generation Facilities Resolution and amending SVP's Rules and Regulations. No other public agency action is required if the City approves the Renewable Parallel Generation Facilities Resolution. However, future construction and operation of electric generation facilities within the City by customers may require approval of State, federal, and responsible trustee agencies that may rely on this EIR for information relative to their area of expertise and jurisdiction.

1.7. Report Organization

This Draft EIR is organized into the following sections:

- Executive Summary: Provides a summary of the Project, the impacts that would occur if the Project is approved, and the need for mitigation measures to reduce, eliminate, or avoid significant impacts. The Executive Summary also discusses alternatives to the Project.
- Chapter 1, Introduction: Discusses the overall purpose of the Draft EIR, provides a summary of the CEQA process, and summarizes the organization of the Draft EIR.
- Chapter 2, Project Description: Identifies the Project objectives and describes the proposed actions of adopting the Renewable Parallel Generation Facilities Resolution and amending Silicon Valley Power's Rules and Regulations.

- Chapter 3, Environmental Analysis: Describes the existing conditions and the physical setting, analyzes the environmental impacts, and provides mitigation measures (if applicable) for each environmental resource area.
- Chapter 4, Cumulative Impacts: Reviews projections for electric service trends contained in adopted local and statewide plans to describe and evaluate conditions that contribute to the cumulative effect, summarizes cumulative impacts contained in one or more previously certified EIRs, and analyzes cumulative impacts.
- Chapter 5, Alternatives: Evaluates a range of alternatives to the Project, including the No-Project Alternative, and explains why various other alternatives that were considered were not carried forward for detailed evaluation. Provides a comparison of alternatives and identifies the environmentally superior alternative.
- Chapter 6, Other CEQA Considerations: Provides additional, specifically required analyses of the Project's effects, including the irreversible or irretrievable commitment of resources and growth-inducing impacts.
- Chapter 7, List of Preparers.
- Chapter 8, References.

2. PROJECT DESCRIPTION

The purpose of this environmental document is to identify any potentially significant adverse environmental impacts caused by approval of the Renewable Parallel Generation Facilities Resolution and amending SVP's Rules and Regulations (the Project).

The Project would limit the interconnection of new or modified parallel generation to the distribution system to those facilities meeting the criteria for renewable electrical generation facilities as defined in the California Public Resources Code.

2.1. Overview and Scope of Project under CEQA

The Project under CEQA review is the City Council approval of the Renewable Parallel Generation Facilities Resolution.²⁰ Parallel generation, as defined in SVP's Rules and Regulations, is the production and delivery of electric power electrically connected to SVP's distribution system by generators not owned or controlled by SVP. The Project would amend SVP's Rules and Regulations to require new or modified parallel generation facilities to meet the criteria for renewable electrical generation facilities as defined in Section 25741 of the California Public Resources Code.

With the Project, the proposed amendments to SVP's Rules and Regulations would:

- Define "renewable electrical generation facility" to align with Section 25741 of the California Public Resources Code.
- Clarify that SVP will accept requests to interconnect new parallel generation facilities that are intended to operate in parallel with SVP's distribution system, or accept requests to increase the capacity of existing parallel generation facilities, only if the new or modified facility qualifies as a "renewable electrical generation facility" as defined in California Public Resource Code Section 25741.
- Require all customers interconnecting with SVP's distribution system with a qualifying renewable electrical generation facility (except solar photovoltaic systems, which are considered inherently eligible), to provide the following:
 1. Preliminary renewable eligibility certification from the California Energy Commission (CEC) prior to interconnection with the SVP system;
 2. Final CEC certification within 180 days of the interconnection; and
 3. Annual attestation signed by the customer or documentation from a CEC approved reporting entity, such as the Western Renewable Energy Generation Information System (WREGIS), that verifies that the generation facility is in current status and proof of the renewable energy credit retirement applicable to the calendar year generation.

The proposed amendments do not apply to emergency or standby backup generation that runs on a limited, emergency basis, and typically does not operate in parallel with the electric utility system. Customers that use diesel-powered engines or other fossil fueled generators for backup power would still be allowed to do so. These systems are a type of microgrid dedicated to only operate for on-site emergency purposes.

Similarly, the proposed amendments would not change efforts ongoing by SVP to encourage microgrids that comprise renewable generation facilities and energy storage options. Entities having no interconnec-

²⁰ The Superior Court in *Bloom Energy Corporation v. City of Santa Clara*, Case No. 19CV348838, ordered that the City void approval of Resolution No. 19-8701 and to comply with the California Environmental Quality Act before the City reconsiders adopting the proposed amendments to SVP's Rules and Regulation.

tion with the SVP distribution system (e.g., an autonomous or islanded microgrid) would not be subject to the proposed amendments to SVP's Rules and Regulations.

Specifically, the proposed amendments to the SVP Rules and Regulations would add this definition:

Renewable Electrical Generation Facility: A Parallel Generation facility consisting only of generation equipment that meets the definition of "renewable electrical generation facility" as defined in Section 25741 of the California Public Resources Code, as amended from time to time.

And, the proposed amendments to the SVP Rules and Regulations would also add:

11.A PARALLEL GENERATION. Only generating facilities that qualify as Renewable Electrical Generation Facilities, as defined in these Rules and Regulations, will be connected for Parallel Generation with Silicon Valley Power's Distribution System.

[. . .]

11.A.1(i) Only generating facilities that qualify as Renewable Electrical Generation Facilities, as defined in these Rules and Regulations, will be connected for Parallel Generation. This applies to new interconnection requests for Parallel Generation and requests to increase the generating capacity of existing Parallel Generation after [effective date of this rule]. With the exception of installations of solar photovoltaic systems, which are considered inherently renewable, Customers will be required to provide proof of eligible certification that the facility is a qualifying renewable electrical generation facility from the California Energy Commission prior to interconnection and upon request from Silicon Valley Power. All precertification and certification must be completed through the California Energy Commission's online application process found on the Commission's website. Customer will provide an annual attestation demonstrating continued compliance with the California Energy Commission's renewable certification status or documentation from a CEC approved reporting entity.

2.2. Project Objectives

With the Project, the City expects to achieve the following objectives:

- Require new or modified parallel generation facilities in the City to meet the state criteria for renewable electrical generation facilities for the purposes of limiting greenhouse gas emissions in the City and increasing the use of renewable electrical generation facilities in the City.
- Limit the installation of and investment in new fossil-fueled electrical generation technologies in the City.
- Ensure that new or modified parallel generation in the City occurs in a manner consistent with the statewide policy to transition to a zero-carbon electric system by December 31, 2045, as in California Public Utilities Code, Section 454.53(a).
- Ensure that new or modified parallel generation in the City is consistent with the goals of reducing the community's GHG emissions as set forth in the City's 2022 Climate Action Plan (CAP) Update, adopted in June 2022.

The objectives of this EIR's programmatic level analysis include:

- To comply with CEQA, by providing the public with detailed information on whether and how approval of the Renewable Parallel Generation Facilities Resolution and amending SVP's Rules and Regulations could affect future development of parallel generation or provision of electric utility services by SVP.
- To provide the City and other applicable regulatory agencies with information to efficiently and effectively evaluate future proposals involving parallel generation facilities in the City.
- To identify and develop impact avoidance and mitigation strategies to address any significant environmental effects directly, indirectly or cumulatively resulting from the Project that are not already sufficiently addressed by existing or proposed regulations addressing the interconnection of parallel generation.

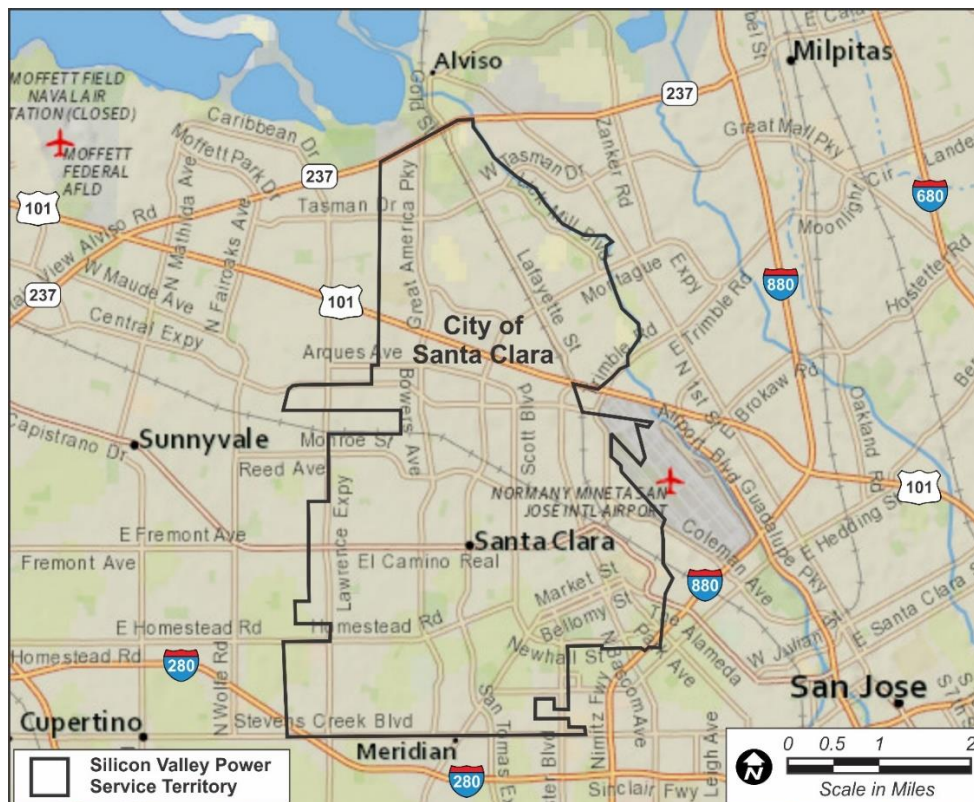
2.3. Location

Silicon Valley Power furnishes electric services in accordance with rules and regulations adopted by the City of Santa Clara to any customer within the corporate limits of the City of Santa Clara, and to areas outside City limits as the City may designate.

The City of Santa Clara covers an area of 18.2 square miles. The City is situated between San Jose to the north, east, and south, and Sunnyvale and Cupertino to the west (Figure 1).

The proposed amendments to SVP's Rules and Regulations would apply only to electrical generation facilities requesting interconnection to the SVP distribution system. Electrical generation facilities with a point of interconnection outside of the corporate limits of the City of Santa Clara are not subject to SVP's Rules and Regulations.

Figure 1. Project Location: Silicon Valley Power Service Territory



2.4. Baseline Conditions

The environmental setting includes the effects on the environment related to SVP serving its customers' load. The baseline date of this analysis is established by the July 31, 2020, release of the Notice of Preparation (NOP). As described in the SVP 2018 Integrated Resource Plan (IRP), SVP served over 55,000 customers with over 3,500 gigawatt-hours (GWh) in sales and a peak demand of 587 MW in 2017. Total retail sales of electricity are growing in the SVP territory and were approximately 3,723 GWh at a peak demand of 594 MW in 2020, the baseline year of this analysis. As a load-serving entity, SVP routinely imports power from facilities both within California and outside the State to serve the electrical demand of its customers.

Throughout 2020, all SVP customers received a mix of power that exceeded 30 percent renewable energy resources. This is based on the 2020 utility-specific Power Content Label data gathered by the California Energy Commission that shows eligible renewable resources making up 40.2 percent of the supply to residential customers and 31.7 percent of the supply to non-residential customers (CEC, 2022a). Additionally, SVP has demonstrated compliance with California's target for procurement of eligible renewable energy resources to achieve 33 percent of retail sales by December 31, 2020, consistent with SB 100 and Public Utilities Code, Section 399.30.

Regardless of the level of on-site generation installed by customers, SVP must plan for and procure the necessary energy resources to serve all customers at all times. This includes the obligation to serve the customer load and the peak energy needs in the case of an outage of customer-sited parallel generation. Thus, SVP's obligation to provide adequate resources to meet these load and energy needs would not change with the Project.

The currently installed capacity of parallel generation in the City includes renewable electrical generation facilities and facilities that use non-renewable resources. The four types of distributed generation technology deployed by SVP's customers are: solar photovoltaic (PV), fuel cells using natural gas, and micro-turbines using renewable and non-renewable energy. The Project would not change the ability to interconnect any new solar PV or other types of renewable electrical generation facilities.

Most of the non-renewable parallel generation facilities in the City are natural gas fuel cell systems. Approximately 15 MW of natural gas fuel cell systems were installed in the City by late-2020, and another 13 MW are proposed and pending review by the City. For existing parallel generation facilities that presently rely on fossil fuels in the existing conditions, the Project would not cause any change in the physical conditions of these facilities, and they would continue to exist unchanged by the Project.

2.5. Projected Future Conditions

Forecasts developed for the 2018 IRP project SVP's energy demand (or net energy for load) to increase from 4,448 GWh in 2020 to 5,281 GWh in 2030; and SVP's system peak demand is projected to grow from 680 MW in 2020 to 770 MW in 2030 (SVP, 2019). The 2018 IRP anticipates a continuation of projected future growth to 5,719 GWh and 837 MW in 2038. Actual load growth will vary from the forecasts used in planning efforts, and to ensure that each load serving entity maintains an up-to-date plan, California Code requires the IRP to be updated at least once every 5 years.

Although SVP is experiencing growth in energy and peak electricity needs, SVP's future energy supply must be consistent with California's renewable energy and GHG targets. With SB 100, this means that 60 percent of SVP's retail sales of electricity must come from eligible renewable energy resources by 2030 and 100 percent of its retail electricity sales must come from eligible renewable energy resources and zero-carbon resources by 2045.

Table 2-1 summarizes the load and growth trend presented in SVP's 2018 IRP.

Table 2-1. Projected SVP System Peak Demand, Energy Requirements, and Resource Mix

Year	Projected System Peak Demand (MW)	Projected Resource Mix			Net Market Purchases (or Sales) (GWh)	Projected System Energy Demand (GWh)
		Eligible Renewable Resources (GWh)	Large Hydroelectric Resources (GWh)	Natural Gas Resources (GWh)		
2020	680	1,493	755	1,317	882	4,448
2021	702	2,150	755	1,167	561	4,632
2022	715	2,542	755	1,051	396	4,745
2023	730	2,536	755	1,001	564	4,855
2024	723	2,295	457	1,146	1,080	4,979
2025	736	2,279	457	1,140	1,176	5,053
2026	742	2,273	457	1,152	1,232	5,114
2027	747	2,264	457	1,130	1,275	5,126
2028	754	2,259	457	1,111	1,350	5,177
2029	762	2,241	457	1,087	1,445	5,229
2030	770	2,953	457	1,029	842	5,281
2031	778	2,905	457	1,036	936	5,334
2032	786	3,323	457	992	622	5,387
2033	794	3,741	457	917	360	5,441
2034	803	3,678	457	945	443	5,495
2035	811	4,365	457	802	2	5,550
2036	820	4,371	457	812	29	5,606
2037	828	5,046	457	705	(483)	5,662
2038	837	5,041	456	713	(440)	5,719

Notes:

For energy in gigawatt-hours, one GWh equals 1,000 MWh.

Open market purchases are net purchases that may come from unspecified resources (or sales from SVP-owned units).

Source: SVP, 2019: Table 8-3 (System Peak Demand, MW) and Table 8-4 (System Energy Demand and Resources, GWh).

The CEC bases its growth forecasts on an analysis of historical electricity use and how demand varies with economic and demographic trends. The forecasts account for efficiency gains and additional deployment of solar PV. For SVP, the CEC staff adjusted its forecasts to also account for load growth in SVP due to the high density of data centers and the planned addition of new data centers, that drive a higher energy demand within the SVP territory (CEC, 2019). The 2018 IRP indicates that growing peak demand will be met by adding renewable capacity to SVP's existing generating capacity.

Because SVP maintains capacity to serve peak demand, including customers with parallel generation, the amount of resource capacity necessary to serve that demand is not altered by installation of parallel generation. The forecasted increase in peak demand and forecasted resource mix providing adequate capacity to serve that demand shown in the 2018 IRP would not change as a result of the proposed Renewable Parallel Generation Facilities Resolution. Therefore, the effects of the projected changes in SVP's energy requirements and resource mix would occur with or without the Renewable Parallel Generation Facilities Resolution and are not considered to be impacts of the Resolution.

2.6. Reasonably Foreseeable Project Effects

Reasonably foreseeable effects include actions that could be taken by SVP, SVP's customers, or other entities. These actions could cause indirect or secondary impacts to the environment that could be induced or expected to follow from the proposed action of approving the Renewable Parallel Generation Facilities Resolution and changing SVP's Rules and Regulations.

Table 2-2 summarizes the types of actions that may be taken by either SVP or the City's Community Development Department (CDD) in response to customer proposals involving generating facilities if the Project is approved.

Table 2-2. Actions to be taken by SVP and City CDD with the Project

If Customer Proposes...	In the Baseline:	With the Project:
Parallel generation using fossil fuel resources (new facility)	<ul style="list-style-type: none"> SVP negotiates interconnection. City CDD reviews for discretionary land use approval requirements for electric power plants. 	<ul style="list-style-type: none"> SVP interconnection process requires customer to propose substitute parallel generation that meets the criteria for renewable electrical generation facilities. City CDD reviews for discretionary land use approval requirements for electric power plants. <p>Or:</p> <ul style="list-style-type: none"> Customer decides to switch from developing new parallel generation to instead use SVP's grid resources for electric service.
Parallel generation using fossil fuel resources (modify existing facility)	<ul style="list-style-type: none"> SVP negotiates interconnection. City CDD reviews for discretionary land use approval requirements for electric power plants. 	<ul style="list-style-type: none"> SVP interconnection process requires customer to use renewable energy resources and/or substitute parallel generation that meets the criteria for renewable electrical generation facilities for the existing facility's increase in generating capacity. City CDD reviews for discretionary land use approval requirements for electric power plants. <p>Or:</p> <ul style="list-style-type: none"> Customer decides to switch from developing new parallel generation to instead use SVP's grid resources for electric service.
Parallel generation using renewable resources	<ul style="list-style-type: none"> SVP negotiates interconnection. City CDD reviews for discretionary land use approval requirements for electric power plants. 	<ul style="list-style-type: none"> No change.
Backup generation	<ul style="list-style-type: none"> SVP negotiates interconnection. City CDD reviews for discretionary land use approval requirements for electric power plants. 	<ul style="list-style-type: none"> No change.

Note: Table generally illustrates the actions administered by either SVP or the City's Community Development Department (CDD) in response to a range of customer proposals. The outcomes for individual customer proposals would depend on project-specific situations.

These potential effects of the Project are discussed in more detail as follows:

- No Additional Use of Non-Renewable Parallel Generation
- Construction and Operation of Renewable Parallel Generation
- Providing Grid Resources
- Use of Conventional Diesel for Backup

No Additional Use of Non-Renewable Parallel Generation

The Project would approve the Renewable Parallel Generation Facilities Resolution and change SVP's Rules and Regulations to require new or modified parallel generation facilities in the City to meet the criteria for renewable electrical generation facilities as defined in Section 25741 of the California Public Resources Code.

The only direct effect of the Project would be the elimination of future non-renewable parallel generation in the City. Because any new or modified parallel generation would need to use renewable energy resources, the Project would prevent future construction and operation of new or modified parallel generation using non-renewable resources. Other potential effects of the Project would be indirect or secondary effects foreseeably resulting from the prevention of future customer-sited non-renewable parallel generation.

For existing parallel generation facilities that presently rely on fossil fuels, the Project would not cause any change, and they could continue to exist unaffected by the Project until a request is made to add generating capacity or increase the MW output of the facility. Customers seeking to interconnect new or modified non-renewable fuel cell systems for parallel generation would be prohibited from doing so after the effective date of the changed rules.

Because additional use of natural gas or any other fossil fuel for parallel generation would only occur without the Project, the No Project Alternative (EIR Chapter 5) considers impacts associated with the potential future development of parallel generation facilities using fossil fuels.

Construction and Operation of Renewable Parallel Generation

The Project could cause customers to undertake development of substitute renewable parallel generation at sites where the customers might otherwise have proposed development of non-renewable parallel generation facilities. Customers are currently allowed to choose between using non-renewable or renewable resources for parallel generation. With the Project, only new or modified parallel generation using renewable resources would be allowed to negotiate interconnection agreements with SVP.

The primary types of customer-sited parallel generation in the City are solar PV (approximately 21 MW installed and proposed as of 2020) and natural gas-powered fuel cell systems (approximately 28 MW installed and proposed as of 2020), as shown in EIR Table 1-1. The Project would have no effect on customers proposing to interconnect parallel generation facilities using solar PV technology or any other technologies that meet the criteria for renewable generation. Customers contemplating new fossil-fueled technologies, including natural gas fuel cell systems, would be unlikely to substitute the fossil-fueled devices or fuel cells with solar or wind due to the intermittent production, lower capacity factor, and larger physical space requirements of solar and wind powered technologies.

Although the Project would not by itself create any new incentive toward developing additional solar PV or other renewable resources, the Project could increase the attractiveness of installing renewable parallel generation facilities in the City that can readily substitute the non-renewable facilities that might otherwise have been proposed by achieving comparable levels of production and capacity. The potential development of substitute renewable parallel generation would be limited only to customers that are forced by the Project to change their development plans to meet the criteria for renewable electrical generation facilities as defined in the California Public Resources Code.

For example, customers contemplating a non-renewable parallel generation technology with an available alternative renewable fuel could switch fuels. Proposals for natural gas-powered fuel cell systems could

be substituted with alternative fuel cell systems using renewable fuel, such as gas from a biogenic or non-fossil-based feedstock.

The most likely alternative to natural gas for a new fuel cell system in the City would be a biogas or biomethane that is derived from digester gas or landfill gas. California's supply of biomethane and the ability to deliver biomethane to gas customers through the common carrier pipeline system are steadily growing. Renewable natural gas (RNG) refers to a form of biogas derived from biomethane that has been purified by the gas supplier to a standard suitable for injection into natural gas pipelines. California's efforts to decarbonize the transportation sector have fostered an in-state supply of biomethane and RNG that is expected to grow as a substitute for conventional natural gas.^{21, 22} To bring the supply to more customers, California created an incentive program for financial assistance to help biomethane producers interconnect with the natural gas network (CEC, 2022b).²³ California's gas utility companies are increasingly interconnecting the suppliers of RNG and procuring the fuel on behalf of the end-users.²⁴ The production costs for the supply of RNG range generally from under \$20 per million British thermal unit (MMBtu) for landfills and wastewater treatment plants to approximately \$30 per MMBtu for livestock facilities and up to \$45 per MMBtu from other anaerobic decomposition systems (CEC, 2022c). These costs exceed those of producing conventional natural gas that is normally priced below \$10 per MMBtu (U.S. EIA, 2022). Although the fuel costs of biomethane would be greater than fossil natural gas, there are currently significant incentives available for RNG production (CEC, 2022c), and fuel costs are only one component of the overall cost of energy from a fuel cell system, with capital costs and ongoing operation and maintenance making up the remainder. Use of biomethane as fuel reduces California's carbon emissions by displacing fossil natural gas. While the overall life-cycle effect depends on the source of the feedstock and method of producing the fuel, the carbon intensity of biomethane and RNG is lower than that of fossil natural gas (AGF, 2019; CEC, 2022c). Producing biomethane and RNG by livestock facilities can be carbon negative by avoiding methane that would otherwise be vented to the atmosphere (CEC, 2022c). California's energy agencies and gas utility companies recognize that using biomethane and RNG as an

²¹ The California Air Resources Board's 2017 Scoping Plan Update (at p.66): *"Moving forward, reducing use of fossil natural gas wherever possible will be critical to achieving the State's long-term climate goals. For end uses that must continue to rely on natural gas, renewable natural gas could play an important role. Renewable natural gas volume has been increasing from approximately 1.5 million diesel gallon equivalent (dge) in 2011 to more than 68.5 million dge in 2015, and continued substitution of renewable gas for fossil natural gas would help California reduce its dependence on fossil fuels."*

²² The California Energy Commission's 2021 Integrated Energy Policy Report (IEPR) reviews the supply (at p. 61; CEC, 2022b). *"California consumed slightly more than 2 billion cubic feet (Bcf) of renewable gas in 2020."* – and identifies 18 California dairy manure digesters that are injecting refined biogas or renewable gas into the pipeline. By the end of 2022, the number is expected to grow to 24 and to be close to 30 by the end of 2023. Another report sponsored by CEC indicates that RNG has the potential to displace 12 to 23 percent of the natural gas usage in California based on production potential (CEC, 2022c).

²³ Assembly Bill 1900 (Gatto, Chapter 602, Statutes of 2012). Renewable energy resources: biomethane.

²⁴ The 2020 California Gas Report, prepared by the California Gas and Electric Utilities in Compliance with CPUC Decision D.95-01-039 indicates (at p.65): *"... there will be roughly 16 [billion cubic feet] BCF annually of [renewable natural gas] RNG interconnected into gas pipelines in California by January 2024. ... [The] gas flowing from RNG sources by January 2024 is just the first wave of RNG expected to be eventually injected into the gas system. Therefore, going forward, PG&E expects to see more RNG projects as developers realize the near and mid-term potential of this supply source."*

alternative to natural gas can be cost effective after taking into account the benefit of avoiding greenhouse gas emissions.^{25, 26, 27}

Presently, no fuel cell systems in the City currently qualify as renewable, but the Project could lead customers to propose new fuel cells using renewable fuels. These could use digester gas or landfill gas, consistent with Section 25741 of the California Public Resources Code, as the biomethane from these supplies can be treated and delivered to the site through a common carrier pipeline (as described in the CEC's RPS Eligibility Guidebook, Chapter 2.C; CEC, 2017). If using pipeline-delivered biomethane, the new renewable fuel cell systems could utilize the same technology and fuel cells which are currently utilized in non-renewable fuel cell systems in the City.

Other alternative fuel options could include using "green hydrogen," which is hydrogen gas that was derived from a non-fossil-based fuel or feedstock through a process powered using an eligible renewable energy resource (as described for "qualifying hydrogen gas" in the CEC's RPS Eligibility Guidebook, Chapter 2.D; CEC, 2017). Using the existing common carrier natural gas pipeline system for renewable fuel delivery is likely to be more viable than developing a new pipeline system for delivering hydrogen or other gaseous fuel delivery alternatives. Installing new on-site renewable fuel storage, delivering renewable fuel in transport containers, or installing new dedicated renewable fuel pipeline infrastructure to deliver a gaseous renewable fuel, such as hydrogen produced via solar or wind-powered electrolysis, could introduce costly equipment, transportation, or construction challenges. For these reasons, the most-likely alternative fuel supply and delivery method for customers contemplating natural gas fuel cell systems would be to switch to biomethane delivered over a common carrier pipeline.

In summary, while the Project would have no impact on customers considering development of a renewable parallel generation project, customers considering using fossil fuels would be forced to either switch to an available renewable fuel, use SVP's grid resources for electric service, or go without an interconnection to SVP's system, as in a stand-alone microgrid. However, customers that propose to install non-renewable parallel generation would normally rely on the grid for reliability during parallel generation downtime. In contrast, installing parallel generation without an interconnection removes the possibility of using the grid as a backup to the parallel generation. Because reliability is a consideration, often the primary one, of customers who use non-renewable parallel generation, they would be unlikely to decide to go without an interconnection as a result of the Project, which would reduce reliability and increase susceptibility to outages. As such, for customers unable to switch to an alternative renewable fuel, the most-foreseeable outcome of the Project would be for the customer to use the most reliable alternative

²⁵ The California Public Utilities Commission (CPUC), in Decision 22-02-025, in R. 13-02-008, on February 25, 2022, established requirements for California's gas utilities with a 2025 short-term target for biomethane procurement of 17.6 billion cubic feet (Bcf) annually, produced from eight million tons of organic waste, including wood waste, diverted annually from landfills.

²⁶ In "The Path to Net Zero, A Decarbonization Roadmap for California" (at p.15; SDG&E, 2022): *"While overall throughput in the natural gas pipeline [system] is projected to decrease 65% by 2045, it is projected that almost half of the gas remaining in the pipeline is comprised of hydrogen and renewable natural gas, resulting in lower emissions. This reduces emissions from industrial processes and building appliances that cannot feasibly be electrified."*

²⁷ In "Optimal Pathways to Achieve Climate Goals – Inclusion of a Renewable Gas Standard" (at p.5; UCR, 2018): *"RNG production potential is estimated using four feedstock groups: Landfill gas upgrading, animal manure, biosolids from Wastewater Treatment Plants (WWTPs), and food and green waste. A cumulative total of approximately 99 billion cubic feet (bcf) of RNG can be produced annually from a portion of these feedstocks in California. This RNG can result in a reduction of approximately 11.4 Million Metric Tonnes of CO2 equivalent (MMT CO2e) GHGs per year with carbon abatement costs ranging from \$50 to over \$400 per Metric Tonne (MT) of CO2e GHG. However, a significant amount of the carbon reductions are cost effective based on current circumstances."*

– SVP’s grid resources – for electric service. Because it is not a likely or foreseeable consequence of the Project, this EIR does not evaluate the impacts that would occur as a result of customers islanding themselves with non-renewable parallel generation.

Compared with existing conditions, the physical changes to the environment that could arise from customers undertaking construction and operation of new renewable parallel generation, instead of new non-renewable parallel generation, as a result of the Project, could include: construction impacts including ground disturbance and noise, changes in aesthetic or visual character of renewable parallel generation sites, emissions from non-renewable fuels used during construction, and impacts related to renewable fuel production and delivery. However, the reasonably foreseeable alternatives to natural gas fuel cells would be the same or similar fuel cell installations using a renewable gaseous fuel. These new renewable parallel generation facilities would use an available renewable fuel in the same generation system technology that would be developed absent the Project. As such, the Project would not cause any new or different impacts related to construction of new renewable parallel generation.

The analysis addresses the potential effects to regional (e.g., air basin) and local (i.e., City-level) environmental resources to the degree that operation of renewable parallel generation facilities may differ from the impacts of operation of non-renewable parallel generation facilities. If customers switch to an alternative renewable fuel that can be delivered using existing pipelines without changing the parallel generation technology, most operation activities would not differ either from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project.

For any new or modified parallel generation facility project that meets the definition of an electric power plant in the City Code, construction and operation would require a discretionary land use entitlement (Zoning Code, Section 18.60.050). Thermal power plants over 50 MW are subject to review by CEC as the lead agency. As such, customers that propose parallel generation facility projects that meet the City’s definition of an electric power plant or that are over 50 MW and subject to review by CEC would be subject to project-specific CEQA review if not exempt. Nonetheless, insofar as development of such facilities would be an impact of the Project, they are evaluated in this EIR at a programmatic level and to the extent feasible.

Providing Grid Resources

As part of providing reliable electric utility service in the baseline of existing conditions, SVP plans for the peak energy needs of all customers, including those with parallel generation. SVP is obligated to serve the customer load and the peak energy needs in the case of an outage of customer-sited parallel generation. SVP’s obligation to provide adequate resources to meet these load and energy needs would not change with the Project. The future energy supply must continue to be consistent with California’s renewable energy and GHG targets. With SB 100, this means that 60 percent of SVP’s retail sales of electricity must come from eligible renewable energy resources by 2030 and 100 percent of its retail electricity sales must come from eligible renewable energy resources and zero-carbon resources by 2045.

In the baseline of existing conditions, SVP routinely imports power from facilities both within California and outside the State to serve the electrical demand of its customers. The currently installed capacity of parallel generation in the City includes renewable electrical generation facilities and facilities that use non-renewable resources. The four types of distributed generation technology deployed by SVP’s customers are: solar photovoltaic (PV), fuel cells using natural gas, and micro-turbines using renewable and non-renewable energy. Most of the non-renewable parallel generation facilities in the City are natural gas fuel cell systems. With the Project, customers in the future would not be allowed to negotiate interconnection agreements with SVP for new or modified non-renewable fuel cell systems, and the electrical demand of

these customers would need to be served either by SVP or by customer-sited renewable parallel generation.

To serve electricity to the customers affected by the Project, SVP would continue to rely on its existing mix of available grid resources, and the Project would not change SVP's procurement strategy established with the 2018 IRP. The 2018 IRP that was approved in November 2018 by the City Council describes the existing energy resources and projected future resources in SVP's portfolio and reflects a trend of reducing the need for fossil-fueled resources from 2019 through 2038.

The 2018 IRP includes increasing the procurement of renewable resources and reducing SVP's use of fossil-fueled resources to serve load. Growing peak demand will be met by adding renewable capacity to SVP's existing generating capacity. All power that flows to the customers from SVP must meet California's RPS. Consistent with SB 100, SVP is also planning for 100 percent of total retail sales of electricity to come from eligible renewable energy resources and zero-carbon resources by 2045.

SVP's projected mix of grid resources includes increasing the procurement and utilization of renewable resources and continuing the use of SVP's existing portfolio of resources as needed. Successfully implementing the 2018 IRP and other established plans and policies for increasing the procurement of energy from renewable electricity sources means that the electricity supply will be delivered from SVP's existing portfolio of resources, and only renewable capacity would be added to SVP's existing generating capacity.

Regardless of the level of on-site generation installed by customers, SVP must still plan for the peak energy needs of all customers, including those with parallel generation. This means that SVP is obligated to serve the customer load and the peak energy needs in the case of an outage of customer-sited parallel generation. SVP's obligation to provide adequate resources to meet these load and energy needs is identical with or without the Project.

SVP's procurement policies approved in November 2018 by the City Council, as established with the 2018 IRP, anticipate that only renewable capacity will be added. To the extent that utilization of grid resources could be changed as a result of the Project, the physical changes to the environment that could arise from serving electricity to the customers affected by the Project would be limited by the existing mix of available grid resources. The mix of currently available procured renewable resources, SVP-owned natural gas power plants, and other resources would not change as a result of the Project. In the near-term, existing grid resources are available to serve customer demand. The Project would not require or indirectly cause the development of any new generating or transmission capacity. While the Project could incrementally increase the use of grid resources by customers, and the effects of such potential changes are evaluated herein, it is not possible to quantify the potential increase in the operation of any specific power plant or in use of the SVP resources as a whole, as this will be driven by the availability of market resources and changes in individual customer behavior that cannot be feasibly predicted.

Beyond the near-term, SVP will add resources to ensure the supply continues to meet California's RPS and the longer-term SB 100 policy to achieve 100 percent of total retail sales of electricity from eligible renewable energy resources and zero-carbon resources by 2045 (SVP, 2019). With or without the Project, the future energy supply must continue to be consistent with California's renewable energy and GHG targets. Changes in the continued operation and use of existing grid-connected generating facilities that could be an impact of the Project are evaluated in this EIR at a programmatic level and to the extent feasible.

Use of Conventional Diesel Backup Generation

Based on comments received by the City after releasing the Notice of Preparation (NOP) for this EIR on July 31, 2020, this discussion explores whether the Project could limit technology options available to customers in a way that could increase customers' reliance on diesel backup generators.

Emergency or standby generation in the City is primarily provided by non-renewable resources, most commonly diesel fuel. Energy storage systems and some fuel cell technologies are also available as alternatives to diesel for backup purposes. Under existing conditions, SVP's large customers typically choose diesel-fueled backup engine-generator sets for emergency or standby generation. To consider whether the Project could foreseeably increase customers' reliance on diesel backup generators, this discussion separately addresses customers that presently use diesel for backup, and customers that could be planning to use parallel generation for backup. As discussed below, the Project would not increase how customers presently use diesel backup generators or cause the installation of new diesel backup generation facilities. As such, there would be no impacts of the Project with respect to diesel backup generation compared to the existing conditions baseline without the Project.

Customers Presently Using Conventional Diesel for Backup. The proposed amendments to the SVP Rules and Regulations would apply only to interconnection of parallel generation to the distribution system. The proposed amendments do not apply to emergency or standby backup generation that runs on a limited, emergency basis, and typically does not operate in parallel with the electric utility system.²⁸ The transmission and distribution system within the SVP service area is designed to minimize outages and service interruptions. Grid reliability statistics are summarized in the 2018 IRP: "SVP's electric system experiences approximately 0.5 to 1.5 hours of outage time per customer per year. This compares favorably with other utilities in California with reliability factors ranging from 1.0 to 2.5 hours outage per customer per year" (SVP, 2019).

Because the proposed amendments to the SVP Rules and Regulations do not apply to emergency or standby backup generation, the Project causes no change relative to the existing conditions for the typical customer that uses or plans to use diesel backup generation. Customers could continue to use diesel backup regardless of whether the customer also has a parallel generation facility.

Parallel generation sites with natural gas fuel cell systems in the City presently use a combination of SVP's grid power, battery storage, and diesel backup generation to serve on-site load during parallel generation downtime. These configurations of natural gas fuel cell systems are interconnected as parallel generation and are not connected to operate for backup or life safety power.

Customers with interconnected parallel generation using natural gas fuel cell systems in the City have not configured these systems to run as standby generation or produce life safety power when the grid goes down. For this reason, SVP's customers including those with on-site natural gas fuel cell systems typically rely upon backup generation for grid outages. For customers already using diesel for backup or planning to install a dedicated standby backup generation system, the Project would not bring about any foreseeable change.

Customers Using or Planning to Use Parallel Generation for Backup. SVP is not aware of any customers that have configured parallel generation to serve as backup generation available to power a facility in the event of a grid outage. In part this is because to operate as such, the parallel generation system would need to be capable of islanding itself in the event of such an outage. Existing backup generation such as diesel generators exist as already islanded from the grid. For a system to provide power both in parallel

²⁸ Terms for permitting emergency or standby generation appear in SVP's Rules and Regulations, 11.B.

with normal grid operations and during grid outages, the parallel generation would require configuration that, to SVP's knowledge, no customer has found feasible or desirable enough to pursue.

Nonetheless, some customers may be planning to use non-renewable parallel generation as a potential alternative to diesel as a backup resource. If this type of parallel generation is being planned, it would need to use renewable fuel under the Project.

Customer-specific decisions on selecting an emergency or standby generation technology for use as a backup resource depend on each individual customer's particular objectives, such as being able to rapidly startup and transition to serve the customer's load in the instant of a utility service outage. Battery storage and diesel backup generation are the dominant backup technologies.

Alternative technologies to diesel backup generation would need to be cost-competitive, fail-safe, and reliable enough to supply the on-site load for the duration of a grid service outage. The alternative technology would need to meet the customer's particular objectives, in terms of fail-safe reliability and critical load-carrying capability.

Natural gas fuel cell systems normally require long startup times. In contrast, emergency or standby generation equipment is normally fast-starting and must be controlled by the customer in a fail-safe manner with suitable protective and isolation devices to prevent parallel operation with SVP's distribution system.²⁹ To avoid creating electrical hazards at the customer site and in the adjacent electric distribution system, a fuel cell system in grid-parallel mode stops providing power if utility service is interrupted, and the fuel cell system is forced offline into a standby mode until grid service returns.

Natural gas fuel cell systems that operate nearly continuously can also optionally be configured to provide backup power during a grid outage.³⁰ To serve both as parallel generation and as standby, the parallel generator would need to be capable of operating without grid support, thus islanding the customer's load.

One SVP customer uses a natural gas fuel cell system without an interconnection to SVP, in an islanded microgrid. The remainder of the natural gas fuel cell systems in the City are used as parallel generation and are not configured to operate without grid support. None of the existing natural gas fuel cell parallel generation facilities that are presently interconnected to SVP are also configured to be run as standby generation, and SVP is not aware of any customers planning to modify existing parallel generation systems to provide the necessary protective and isolation devices to become capable of islanding during grid outages and supplying backup power.

Because it is unlikely that any customers would pursue non-renewable parallel generation configured to also operate as backup generation absent the Project, the Project is similarly unlikely to cause any customer to switch to a diesel technology from parallel generation for backup. Customers seeking alternatives to conventional diesel backup could use renewable diesel fuel, long-duration battery storage, or certain fuel cell technologies with rapid startup capabilities. Rapid-start fuel cells that are deployed for backup power are not typically interconnected as parallel generation, because these devices are intended to operate only during grid outages. Each of these options would continue to be available to customers without limitation under the Project.

As such, the technology is available to configure a parallel generation system to operate as a backup resource. If a customer makes a new proposal for this type of system, the new parallel generation facility

²⁹ According to SVP's Rules and Regulations, 11.B.3, Requirement for All Emergency Generator Installations.

³⁰ For example, Bloom Energy introduced "AlwaysOn Microgrid Solutions" in late 2019 to provide an optional upgrade for Bloom Energy Servers to enable continuous operation in the event of a grid interruption. (Business Wire, August 19, 2019).

would need to meet the criteria for renewable electrical generation facilities. The Project would pose no new requirements or limitations for customers modifying an existing parallel generation system to operate as a backup resource, should a customer propose to do so.

Nonetheless, while it is technically possible for customers to do this, it does not appear to be feasible or desirable for customers at this time, as SVP is unaware of any of its customers having plans to install parallel generation systems capable of supplying backup power. As such, it is unlikely that such installations would occur even without the Project. Nor can future technological advancements or market changes that might make this sort of installation more feasible be reasonably predicted with any confidence.

Feasible options for providing backup power that avoid use of diesel remain available to customers under the Project. Instead of diesel backup generators, customers could use energy storage systems or fuel cell technologies with rapid startup capabilities. These technologies can provide backup power without the need to rely on diesel. Additionally, the customer could elect to use renewable diesel instead of conventional diesel in the backup generator. With this range of available technologies and alternative fuels, it would be speculative to conclude the Project would cause any customer to switch to a diesel technology from parallel generation for backup.

In light of the options for backup power that remain available to customers under the Project and considering that customers would not pursue natural gas fuel cell backup generation without the Project, or switch to a diesel technology from such systems with the Project, it would not be reasonably foreseeable to expect the Project to inadvertently increase customers' reliance on diesel backup generators.

This analysis does not speculate further on predicting future customer-specific decisions regarding available backup technologies that could be selected or the type of interconnection configuration that could be requested. The unlikely circumstance of a customer being inadvertently led to increase its reliance on diesel generators as a result of the Project is too speculative for evaluation.

3. ENVIRONMENTAL ANALYSIS

3.1. Aesthetics

3.1.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. Previously developed and disturbed areas are the locations most likely to see proposals for new or modified parallel generation facilities.

Existing Landscape Setting

The Project would apply to SVP's customers planning to interconnect parallel generation in the City. The City is a largely urbanized, highly developed environment. The City is located at the center of the Santa Clara Valley, between the Santa Cruz Mountains to the southwest, and the Diablo Range to the northeast (City of Santa Clara, 2014). According to the Santa Clara General Plan Integrated Final EIR, a scenic vista is the view of an area that is visually or aesthetically pleasing. Aesthetic components of a scenic vista include three things: scenic quality, sensitivity level, and view access. The physical setting of the City lends opportunities for many views of the community and surrounding natural features, including panoramic views of the Santa Cruz mountains and Diablo Range, and stretches of open space and undeveloped land in the Ulistac Natural Area. These scenic vistas can be viewed intermittently from the system of formal and informal trails that afford recreational and scenic opportunities for the community, but there are no scenic vistas within the City (City of Santa Clara, 2011).

The City is completely surrounded by neighboring jurisdictions: the City of San Jose to the north, east, and south, and the cities of Sunnyvale and Cupertino to the west. Due to the City's centralized location on the valley floor, the City is well served by existing transit systems and corridors, making it attractive to commercial interests. U.S. Highway 101 runs in the east-west direction through the center of the City. State Route 237 is located to the north, and Interstates 880 and 280 are located on the southeast and southwest corners of the city, respectively (City of Santa Clara, 2014). None of these segments have been officially designated as scenic highways by the California Department of Transportation (City of Santa Clara, 2011). Interstate 280 is listed as eligible on the State Scenic Highways list (Caltrans 2019).

The City of Santa Clara is located within Santa Clara County, which has been one of the fastest-growing counties in the State. The County is home to numerous global high technology companies, and the City is located in the center of the County's industrial core. Several high technologies companies such as Intel, Applied Materials, Sun Microsystems/Oracle, Nvidia, and National Semiconductor are located in the City. Mission College, Santa Clara University, and the UCSC Extension are also located in the City (City of Santa Clara, 2014).

Approximately 42 percent of the developable land in the City (excluding roads, highways, and other rights of way) is residential. Employment uses including light and heavy industrial, office/R&D, and retail commercial constitute the next most prevalent land uses, at 18 percent, 11 percent, and 10 percent, respectively (City of Santa Clara, 2014).

Methodology

Visual or aesthetic resources are the natural and cultural features of the environment that can be seen and that contribute to the public's enjoyment of the environment. Visual resource or aesthetic impacts are generally defined in terms of a project's physical characteristics and potential visibility and the extent that

the project's presence would change the visual character and quality of the environment in which it would be located.

Visual resources are assessed in the field and potential visual changes due to a development project's activities are evaluated. Visual resources of an area typically are investigated based on the following criteria: (1) existing visual quality and scenic attributes of the landscape; (2) location of sensitive receptors in the landscape; (3) assumptions about receptors' concern for scenery and sensitivity to changes in the landscape; (4) the magnitude of visual changes in the landscape that would be brought about by construction and operation of a proposed project; and (5) compliance with State, County, and local policies for visual resources.

Regulatory Background

There are no federal regulations or policies related to aesthetic resources that are relevant to the Project.

State

California Department of Transportation: Scenic Highway Program.

The Scenic Highway Program in the State of California is aimed at the protection and long-term preservation of highway corridors of scenic value to ensure the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes highways that are either eligible for designation as scenic highways or have been designated as such. The status of a state scenic highway changes from eligible to officially designated when the local jurisdiction adopts a scenic corridor protection program, applies to the California Department of Transportation for scenic highway designation approval, and receives the designation. A city or county may propose adding routes with outstanding scenic elements to the list of eligible highways; however, state legislation is required for them to become designated. Interstate 280 is listed as eligible on the State Scenic Highways list (Caltrans 2019). A small portion of I-280 crosses through the City of Santa Clara in the southwest corner. Caltrans' Scenic Highway Guidelines states that the state scenic highway system shall include "Route 280 from Route 17 in Santa Clara County to Route 80 near First Street in San Francisco" (Caltrans 2008).

Local

City of Santa Clara General Plan. The City's land use policies consider the effects of development to public facilities and infrastructure. The following policies in the General Plan generally relate to the provision of utility service in the City (City of Santa Clara, 2014):

- **Policy 5.3.1-P27.** Encourage screening of above-ground utility equipment to minimize visual impacts.
- **Policy 5.3.1-P28.** Encourage undergrounding of new utility lines and utility equipment throughout the City.
- **Policy 5.3.1-P29.** Encourage design of new development to be compatible with, and sensitive to, nearby existing and planned development, consistent with other applicable General Plan policies.

3.1.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Have a substantial adverse effect on a scenic vista.
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

- In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality.
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The analysis of aesthetics focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for aesthetics, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse aesthetics-related effects. Operating existing grid-connected generating facilities may cause light, glare, or occasional visible plumes that affect the visual character depending on the setting of the facilities. However, any Project-related change in the continued operation and use of grid-connected facilities would be unlikely to substantially change the scenic setting, views, or conditions of light and glare of the setting. As a result, no further discussion of the aesthetics effects of serving electricity to the customers affected by the Project is necessary.

AES-1. Would the project have a substantial adverse effect on a scenic vista?

NO IMPACT. The Project would amend SVP's Rules and Regulations. The amendments would not directly or indirectly result in the approval of any specific construction activities that could cause an adverse effect on a scenic vista.

The Project would apply to customers seeking to interconnect electrical generating facilities to the SVP distribution system. Parallel generation involves the production and delivery of electric power electrically connected to SVP's distribution system. The renewable parallel generation facilities installed under the Project would be identical to those installed absent the rule, with some operating on an alternative fuel. As in the existing conditions, new or modified parallel generation facilities proposed for interconnection would need to be near SVP's distribution system and within or near the customer's site of electricity use because customer-sited generation is located near the point of consumption to make the most efficient use of the electricity and to avoid costly access to transmission. Parallel generation facilities thus would not affect distant vistas. Previously developed and disturbed areas are the locations most likely to see proposals for new or modified parallel generation facilities.

As renewable parallel generation would most likely be adjacent to existing development at the customer's site, parallel generation equipment is likely to be consistent with the built visual character of the site. The flat topography and developed character of the City does not provide scenic vistas, which typically are views of open spaces or views from elevated topographic positions. While scenic vistas can be viewed intermittently from sites within the community, scenic vistas do not occur within the City (City of Santa Clara, 2011). Development of renewable parallel generation facilities as a result of the Project would, therefore, result in no impact to a scenic vista.

AES-2. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?

NO IMPACT. The Project would not directly or indirectly result in the approval of any specific construction activities that could damage scenic resources. Interstate 280, just west of the City, is eligible although not

officially designated as a State scenic highway and there are no rock outcroppings or historic buildings would be affected by the Project. Based on the circumstances, there would be no potential impacts to scenic resources within a State scenic highway.

AES-3. *In non-urbanized areas, would the project substantially degrade the existing visual character or quality of the public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

LESS THAN SIGNIFICANT. The Project would apply to customers seeking to interconnect electrical generating facilities in the City, which is an urbanized area. The Project would not directly or indirectly result in the approval of any specific construction activities that could conflict with any applicable zoning or other regulations governing scenic quality.

Proposals for new renewable parallel generation facilities are unlikely to be located at sites that could substantially change the existing urbanized visual character of the City. To the extent that this is possible, such installations would occur even without the Project, as the Project would not create any new demand for such installations.

The renewable parallel generation facilities installed under the Project would be identical to those installed absent the rule, with some operating on an alternative fuel. Parallel generation facilities previously installed in the City use natural gas fuel cells, which are typically low-profile units installed near buildings they are intended to serve. While the location of any new or modified parallel generation facilities that might be proposed is unknown, these would need to be near SVP's distribution system and within or near the customer's site of electricity use. The potential for new renewable parallel generation facilities to change the visual character of the setting would not differ from that which could occur during development of a facility using fossil fuels and would not be changed by the Project.

Development of renewable parallel generation would need to comply with applicable zoning and regulations regarding scenic quality, which would depend on the proposed locations of individual proposals. Implementation of City policies and zoning standards would avoid significant direct and indirect impacts to scenic quality (City of Santa Clara, 2011).

AES-4. *Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

LESS THAN SIGNIFICANT. The Project would not result in the approval of any specific construction activities that could create a new source of substantial light or glare.

The City is a highly urbanized area with residential, commercial, and industrial areas and busy roadways. For customers that choose to undertake development of new renewable parallel generation at customer sites, the facilities would normally be located near existing facilities in previously disturbed and modified sites. Proposals for new renewable parallel generation facilities would occur in the urban context with existing streets and building lighting and vehicle lighting, and such facilities would be near buildings with existing interior and exterior lighting. Any lighting associated with a new renewable parallel generation facility, if necessary, would be similar in nature to exterior lighting at the building it supports and any nearby street lighting.

Customers contemplating new fossil-fueled technologies, including natural gas fuel cell systems, would be unlikely to substitute the fossil-fueled devices or fuel cells with solar or wind powered technologies due to the intermittent production, lower capacity factor, and larger physical space requirements. Proposals for natural gas-powered fuel cell systems could be substituted with alternative fuel cell systems using gas from a renewable feedstock, such as biomethane delivered over a common carrier pipeline. As

a result, the potential for substitute renewable parallel generation to create a new source of substantial light or glare would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project.

Individual proposals for new renewable parallel generation facilities would be evaluated under a project-specific CEQA review if not exempt, and this would analyze project-specific glare impacts. If warranted, project-specific mitigation measures for any glare identified during project-specific review would be imposed. Implementation of City policies and zoning standards would avoid significant direct and indirect impacts related to light or glare (City of Santa Clara, 2011).

3.2. Agriculture and Forestry Resources

The Project would change SVP's Rules and Regulations to limit the interconnection of parallel generation using non-renewable resources. New or modified parallel generation facilities proposed for interconnection would need to be near SVP's distribution system and within or near the customer's site of electricity use.

3.2.1. Setting

The City of Santa Clara is an urbanized, largely developed area with no agricultural activity or forestry resources. The land in the City is designated as Urban and Built-Up Land under the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP), which identifies various categories of farmland throughout the State (DOC, 2016). No properties in the City are under California Land Conservation Act of 1965 (referred to as the Williamson Act) contracts (DOC, 2017).

Few remnants of Santa Clara's agricultural past remain today, and as of 2010 the City had developed almost all of its vacant land and was essentially built out. The City General Plan includes no agricultural land use designations, and the General Plan does not include an Agriculture Element (City of Santa Clara, 2011).

Regulatory Background

There are no federal or local regulations associated with agriculture and forestry resources that are relevant to the Project.

State

Farmland Mapping and Monitoring Program (FMMP). The FMMP was established in 1982 to identify various categories of farmland throughout California and to assess the location, quantity, and quality of agricultural lands and conversion of these lands to other uses. Every even-numbered year, FMMP issues a Farmland Conversion Report. FMMP data are used in elements of some county and city general plans, in regional studies on agricultural land conversion, and in environmental documents as a way of assessing project-specific impacts on Prime Farmland.

The DOC classifies lands as follows (DOC, 2021):

- **Prime Farmland:** Land that has the best combination of physical and chemical properties for the production of crops.
- **Farmland of Statewide Importance:** Similar to Prime Farmland, but with minor shortcomings (e.g., steeper slopes, inability to hold water).
- **Unique Farmland:** Land of lesser quality soils, but recently used for the production of specific high economic value crops. Land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California.
- **Farmland of Local Importance:** Land essential to the local agricultural economy.
- **Grazing Land:** Land on which existing vegetation is suitable for livestock grazing.
- **Urban and Built-Up Land:** Land that is occupied by buildings or other structures at a minimum density of one unit to 1.5 acres (or approximately six structures to 10 acres). These lands are used for development purposes, including residential, commercial, industrial, construction, public administration,

institutional, transportation yards, airports, cemeteries, golf courses, sewage treatment, sanitary landfills, and water control structures.

- **Other Land:** Land that is not in any other map category, such as waterbodies smaller than 40 acres; low density rural developments; confined livestock, poultry, or aquaculture facilities; and brush, timber, wetland, and riparian areas not suitable for livestock grazing.
- **Water:** Perennial waterbodies that are a minimum of 40 acres.

Williamson Act. The Williamson Act is intended to help preserve farmland by allowing counties to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use in return for a reduction in assessed property taxes. The contracted land is then restricted to agricultural and compatible uses through a rolling-term, 10-year contract between the private land owner and the local government, which has the discretion to determine uses compatible with Williamson Act enrollment. As stated in Section 51222 of the California Government Code, the minimum acreage requirement for individual parcels to enter into Williamson Act contracts is 100 acres.

3.2.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use, or a Williamson Act contract.
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

AG-1. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as Shown on the Maps Prepared Pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to Non-agricultural use?*

NO IMPACT. The City is urban and built-up, and no agricultural land use designations occur. The Project would not alter an existing land use and would not result in conversion of Farmland to non-agricultural use.

AG-2. *Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

NO IMPACT. The Project would not alter an existing land use. The City of Santa Clara does not participate in the Williamson Act. There is no designated zoning for agricultural use, and the City of Santa Clara General Plan does not include an Agriculture Element (City of Santa Clara, 2011). The Project would not conflict with zoning for agricultural use.

AG-3. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code*

section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

NO IMPACT. The Project would apply to electrical generating facilities seeking to interconnect to the SVP distribution system, which is in an urban area. The City includes no area zoned as forestland, and the Project would not conflict with zoning for forest land, timberland, or timber production.

AG-4. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

NO IMPACT. The Project would not affect any forest land as it would apply to electrical generating facilities in an urban area that is not forested. There would be no conversion of forest land to non-forest use.

AG-5. Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?

NO IMPACT. There is no Farmland, agriculture, or forestland that would be affected by the Project. The Project would not result in the conversion of lands to non-agricultural or non-forest uses.

3.3. Air Quality

3.3.1. Setting

Air Basin. The Project would be in the San Francisco Bay Area air basin in the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which regulates sources of air pollution and the programs to improve air quality in the region. The San Francisco Bay Area air basin is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. The Coast Range has a western coast gap, the Golden Gate, and an eastern coastal gap, the Carquinez Strait, which allow air to flow in and out between the Bay Area air basin and California's Central Valley (BAAQMD, 2017a).

Criteria Air Pollutants. Air quality is determined by measuring ambient concentrations of certain criteria air pollutants. The criteria pollutants are ozone, respirable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead. Ozone is an example of a secondary pollutant that is not emitted directly from a source (e.g., an automobile tailpipe), but it is formed in the atmosphere by chemical and photochemical reactions. Reactive organic gases (ROG), including volatile organic compounds (VOC) or precursor organic compounds (POC), are regulated as precursors to ozone formation.

The California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (U.S. EPA) have independent authority to develop and establish health-protective ambient air quality standards, although the different legislative and scientific contexts cause some differences between State and Federal standards currently in effect in California. The California standards are set at levels to adequately protect the health of the public, including infants and children, with an adequate margin of safety (California Health and Safety Code Section 39606), and in general, the CAAQS are more stringent than the corresponding health-protective NAAQS.

Monitored ambient levels of the pollutants are compared to the current National and California Ambient Air Quality Standards (NAAQS and CAAQS) to determine degree of existing air quality degradation. The standards currently in effect in California are shown in Table 3.3-1.

Table 3.3-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards
Ozone	1-hour	0.09 ppm	—
	8-hour	0.070 ppm	0.070 ppm
Respirable Particulate Matter (PM ₁₀)	24-hour	50 µg/m ³	150 µg/m ³
	Annual Mean	20 µg/m ³	—
Fine Particulate Matter (PM _{2.5})	24-hour	—	35 µg/m ³
	Annual Mean	12 µg/m ³	12.0 µg/m ³
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm
	8-hour	9.0 ppm	9 ppm
Nitrogen Dioxide (NO ₂)	1-hour	0.18 ppm	0.100 ppm
	Annual Mean	0.030 ppm	0.053 ppm
Sulfur Dioxide (SO ₂)	1-hour	0.25 ppm	0.075 ppm
	24-hour	0.04 ppm	0.14 ppm
	Annual Mean	—	0.030 ppm

Notes: ppm=parts per million; µg/m³= micrograms per cubic meter; "—" =no standard.

Source: ARB (<https://ww2.arb.ca.gov/sites/default/files/2020-07/aqs2.pdf>), updated May 2016.

Ambient Air Quality Attainment Status and Air Quality Plans. The U.S. EPA, ARB, and the local air district classify an area as attainment, unclassified, or nonattainment, and these designations dictate the air quality management planning activities needed to make future air pollutant reductions. The classification depends on whether the monitored ambient air quality data show compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively. Table 3.3-2 summarizes attainment status in the San Francisco Bay Area air basin for the criteria pollutants in comparison with both the state and federal standards.³¹

Ozone. Ozone is not directly emitted from stationary or mobile sources but is formed as the result of chemical reactions in the atmosphere between directly emitted nitrogen oxides (NOx) and hydrocarbons (VOCs) in the presence of sunlight. Motor vehicles and industrial sources are the largest categories of ozone precursor sources in the San Francisco Bay Area, and BAAQMD must take steps to reduce emissions of ozone precursors and reduce transport of ozone and its precursors to neighboring air basins (BAAQMD, 2017b). High ozone concentrations can aggravate respiratory and cardiovascular diseases, irritate eyes, impair cardiopulmonary function, and cause damage to vegetation.

Particulate Matter (PM10) and Fine Particulate Matter (PM2.5). PM10 can be emitted directly or it can be formed many miles downwind from emission sources when various precursor pollutants interact in the atmosphere. Fine particulate matter, or PM2.5, is derived mainly either from the combustion of materials, or from precursor gases (SOx, NOx, and VOC) through complex reactions in the atmosphere. Common fugitive dust sources are construction sites or vehicles traveling on paved and unpaved surfaces, or wind-blown dust.³² Particulate matter can aggravate respiratory diseases, result in reduced lung function, increase and cause chest discomfort, and cause reduced visibility. Exposure to PM2.5, on either a short-term or long-term basis, can cause a wide range of respiratory and cardiovascular health effects, including strokes, heart attacks and premature deaths (BAAQMD, 2017b).

Carbon Monoxide (CO). The highest concentrations of CO occur when low wind speeds and a stable atmosphere trap the pollution emitted at or near ground level. These conditions occur frequently in the wintertime late in the afternoon, persist during the night and may extend one or 2 hours after sunrise. In the San Francisco Bay Area, CO concentrations are well below the state and federal ambient air quality standards. CO reduces tolerance from exercise, can cause impairment of mental function, impairment of fetal development, aggravate some heart diseases (angina), and cause death at high levels of exposure.

Table 3.3-2. Attainment Status for San Francisco Bay Area

Pollutant	California Designation	Federal Designation
Ozone (1-hour)	Nonattainment	No Federal Standard
Ozone (8-hour)	Nonattainment	Nonattainment
PM10	Nonattainment	Unclassified/Attainment
PM2.5	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO ₂	Attainment	Unclassified/Attainment
SO ₂	Attainment	Unclassified/Attainment

Source: BAAQMD, 2021.

³¹ Detailed information about BAAQMD attainment status is available at: <https://www.baaqmd.gov/about-air-quality/research-and-data/air-quality-standards-and-attainment-status>.

³² Fugitive dust, unlike combustion source particulate and secondary particulate, is composed of a much higher fraction of larger particles than smaller particles. This means that a relatively small portion of fugitive dust is PM2.5, and PM10 is dominant. When PM10 ambient concentrations are significantly higher than PM2.5 ambient concentrations this tends to indicate that fugitive dust sources are dominant. If PM10 and PM2.5 concentrations are at comparable levels, then combustion sources and sources of precursors to secondary particulate are dominant.

Nitrogen Dioxide. Approximately 90 percent of the NO_x emitted from combustion sources is nitric oxide (NO), while the balance is NO₂. NO is oxidized in the atmosphere to NO₂, but some level of photochemical activity is needed for this conversion. The highest concentrations of NO₂ typically occur during the fall. The winter atmospheric conditions can trap emissions near the ground level, but lacking substantial photochemical activity (sunlight), NO₂ levels are relatively low. In the summer the conversion rates of NO to NO₂ are high, but the relatively high temperatures and windy conditions disperse pollutants, preventing the accumulation of NO₂. Monitored NO₂ concentrations in the San Francisco Bay Area do not exceed the state and federal ambient air quality standards. NO₂ can aggravate respiratory diseases, reduce visibility, reduce plant growth, and form acid rain.

Sulfur Dioxide. Sulfur dioxide is typically emitted as a result of the combustion of a fuel containing sulfur. Overall SO₂ emissions are limited due to the limited number of major stationary sources and the regulatory limits on motor vehicle fuel sulfur content. Monitored SO₂ concentrations in the San Francisco Bay Area are well below the state and federal ambient air quality standards. SO₂ can irritate the upper respiratory tract and be injurious to lung tissue causing reduced lung function, including asthma and emphysema. SO₂ can cause plant leaves to be yellow, and be destructive to metals, textiles, leather, finishes, and coatings. SO₂ can also limit visibility.

Toxic Air Contaminants. Toxic air contaminants (TACs) are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another TAC.

The California Health and Safety Code (Section 39655) defines a TAC as an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health. There are almost 200 compounds designated in California regulations as TACs (17 CCR Sections 93000-93001). The list of TACs also includes the substances defined in federal statute as hazardous air pollutants (HAPs) pursuant to Section 112(b) of the federal Clean Air Act (42 USC Section 7412(b)).

TACs do not have ambient air quality standards, but are regulated by the local air districts using a risk-based approach. Diesel particulate matter (DPM) is classified as a TAC, and statewide and local programs focus on managing this pollutant through standards applicable to motor vehicle fuels, engines, and exhaust from tailpipes because many toxic compounds adhere to diesel exhaust particles. Health risks from DPM are highest in areas of concentrated emissions, such as near freeways, ports, rail yards, or warehouse distribution centers.

Sensitive Receptors. Residential areas, day care centers, hospitals, and schools are some examples of sensitive receptors. The BAAQMD defines sensitive receptors as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses (BAAQMD, 2017a).

Criteria Air Pollutant Emission Inventory. Existing resources available to SVP as part of providing reliable electric utility service in the baseline of existing conditions include natural gas fired power plants in the City. Emissions of criteria air pollutants are inventoried by ARB for specific stationary source facilities, including the electric generating facilities owned by the City. Based on operational data from 2019, the natural gas resources owned by the City resulted in actual annual emissions rates shown in Table 3.3-3.

Table 3.3-3. Baseline Utility-Owned Natural Gas-Fired Power Plant Emissions

Generation Resource	NOx (ton/year)	VOC (ton/year)	PM10 (ton/year)	CO (ton/year)	SOx (ton/year)
Donald Von Raesfeld (DVR)	18.8	0.7	2.5	19.0	2.0
Gianera Generating Station	7.6	0.2	0.8	0.9	< 0.1
Lodi Energy Center (NCPA Joint Powers Agency Resource)	26.0	3.3	17.9	23.9	2.6
NCPA CT (NCPA Joint Powers Agency Resource)	0.2	< 0.1	< 0.1	< 0.1	< 0.1
Santa Clara Cogeneration	53.8	1.7	5.0	41.2	0.2

Source: ARB Facility Search Results (ARB, 2022) most-recent year available (2019, except 2018 for NCPA Lodi CT), Facility SIC Code 4911.

Regulatory Background

Federal

Federal Clean Air Act (CAA). The Federal CAA originally established the NAAQS in 1970 for the criteria air pollutants considered to be the most prevalent and known to be hazardous to human health. The Federal CAA requires states exceeding the standards to prepare air quality plans showing how the standards will be met. The Federal CAA Amendments of 1990 expanded the role of the U.S. EPA to set nationwide emissions standards for sources toxic air contaminants and specific categories of sources.

New Source Review is required for all new and modified stationary sources of criteria pollutants that are not otherwise exempt. New Source Review requires, among other things, offsets for emissions occurring in nonattainment areas. Specific requirements are implemented through local air district rules, which are approved by the U.S. EPA as part of California's State Implementation Plan.

State

California Clean Air Act. The California CAA and the California Health and Safety Code requires each region to develop and implement strategies to attain CAAQS and establishes broad authority for California to regulate emissions from mobile sources. The BAAQMD must periodically prepare air quality management plans to show how the standards will be met. The 2017 Bay Area Clean Air Plan is the current control strategy to reduce emissions of ozone precursors and reduce transport of ozone and its precursors to neighboring air basins.

U.S. EPA/ARB Off-Road Mobile Sources Emission Reduction Program. The California Clean Air Act mandates that ARB achieve the maximum degree of emission reductions from all off-road mobile sources in order to attain the state ambient air quality standards. Off-road mobile sources include construction equipment. The earliest (Tier 1) standards for large compression-ignition engines used in off-road mobile sources became effective in California in 1996. Since then, the Tier 3 standards for large compression-ignition engines used in off-road mobile sources went into effect in California for most engine classes in 2006, and Tier 4 or Tier 4 Interim (4i) standards apply to all mobile off-road diesel engines model year 2012 or newer. Engines used in large generator sets became subject to Tier 4 exhaust emissions standards for model year 2015 and newer. These standards and the California-specific measures for new stationary emergency standby engines jointly address emissions of nitrogen oxides (NOx) and toxic particulate matter from diesel combustion. The California Emission Standards for Off-Road Compression-Ignition Engines are as specified in California Code of Regulations (CCR) Title 13, Division 3, Chapter 9, Article 4, Section 2423.

ARB Airborne Toxic Control Measures (ATCM). Diesel engines on portable equipment and vehicles are subject to various ATCM that dictate how diesel sources must be controlled statewide. For example, certain stationary compression-ignition engines running on diesel fuel, including emergency standby engines, must control particulate matter emissions by installing verified add-on equipment (17 CCR Sections 93115.4 and 93115.6). The ATCM for emergency standby engines (17 CCR Section 93115.6) restricts each emergency standby engine to operate no more than 50 hours per year for maintenance and testing purposes; however, there is no limit on engine operation for emergency use or for emission testing to show compliance with the ATCM’s standards.

ARB Distributed Generation Certification Program. The Distributed Generation Certification Program applies to a broad range of any “electrical generation technology” that are exempt from local air district permit requirements to require certification for achieving specific criteria air pollutant emission standards. The eligible distributed generation technologies include reciprocating engines, external combustion engines, combustion turbines, photovoltaics, wind turbines, fuel cells, or any combination thereof (17 CCR Section 94201, et seq.). Certain renewable resources are allowed in this program, subject to “waste gas” standards that are equal to the fossil fuel standards, for generation fueled by digester gas, landfill gas, or oil-field waste gas.

For Distributed Generation Certification, the technology must not exceed certain emissions standards, expressed in terms of pounds-per-megawatt-hour (lb/MWh) as verified by ARB. The Distributed Generation Certification Program emission standards applicable to fossil fueled and waste gas-fueled units are summarized in Table 3.3-4.

Table 3.3-4. Distributed Generation Certification Program Emission Standards

Standards for Certification	NOx (lb/MWh)	VOC (lb/MWh)	CO (lb/MWh)
Fossil Fuel Emission Standards (after January 1, 2007)	0.07	0.02	0.10
Waste Gas Emission Standards (after January 1, 2013)	0.07	0.02	0.10

Source: 17 CCR Section 94201, Distributed Generation Certification Program (Table 2 and Table 3).

ARB Portable Equipment Registration Program (PERP). This program allows owners or operators of portable engines and associated equipment commonly used for construction or farming to register their units under a statewide portable program that allows them to operate their equipment throughout California without having to obtain individual permits from local air districts.

Local

BAAQMD 2017 Clean Air Plan. The 2017 Bay Area Clean Air Plan was adopted by the BAAQMD Board of Directors on April 19, 2017, and this is the applicable air quality management plan for demonstrating attainment. The 2017 Clean Air Plan also identifies the BAAQMD’s strategies for achieving the interrelated objectives of reducing health risk disparities from exposure to air pollution among Bay Area communities and reducing greenhouse gas (GHG) emissions. The 2017 Clean Air Plan relies on emissions inventories that reflect economic and demographic trends, and regulatory activity, to identify opportunities for additional emission reductions.

The 2017 Clean Air Plan identifies two interrelated goals and objectives:

- **Protect Air Quality and Health at the Regional and Local Scale:** attain all state and national air quality standards; and eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants.

- **Protect the Climate:** reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050.

With the 2017 Clean Air Plan, the BAAQMD adopted a “Vision for 2050” to promote a switch from natural gas to clean electricity, or other renewable energy, for energy use in buildings, and to switch from fossil fuels to electricity as a way of reducing the carbon intensity of transportation and industries (BAAQMD, 2017b).

The overall Climate and Air Pollution Control Strategy includes one “Stationary Source Control Measure” and two “Energy Control Measures” in the 2017 Clean Air Plan, as follows (BAAQMD, 2017b):

- **SS32: Emergency Backup Generators.** Emergency back-up generators (BUGs) provide power when primary sources are unavailable (e.g., during blackouts or brownouts). Most BUGs are powered by diesel fired engines that emit diesel particulate matter (DPM), a toxic air contaminant (TAC), and black carbon which contributes to climate change. Beginning with the year 2000, the federal government and the State of California have enacted progressively stricter emissions standards for diesel engines that power BUGs, but thousands of BUGs that do not meet current standards remain in operation. Regulation 11, Rule 18 (Rule 11-18, adopted November 15, 2017) addresses health risks resulting from all significant sources of TAC emissions.
- **EN1: Decarbonize Electricity Generation.** This measure would focus on lowering carbon emissions by switching the fuel sources used in electricity generation. The measure would promote and expedite a transition away from fossil fuels used in electricity generation (e.g., natural gas) to a greater reliance on renewable energy sources (e.g., wind, solar). In addition, this measure would promote an increase in cogeneration, which results in useful heat in addition to electricity generation from a single fuel source.
- **EN2: Decrease Energy Use.** This measure focuses on decreasing energy use in the Bay Area by (1) increasing consumer awareness about energy efficiency through education and outreach and (2) tracking electricity use.

BAAQMD Rules & Regulations. Air pollution sources within the City are subject to BAAQMD permitting requirements and BAAQMD rules and regulations. The BAAQMD rules and regulations limit emissions from sources of air pollutants to protect public health and to maintain and/or achieve ambient air quality standards.

The following BAAQMD regulations are relevant to power plants and generation of electric power:

- **BAAQMD Regulation 1: General Provisions and Definitions.** Limits releases of air contaminants to not “cause injury, detriment, nuisance or annoyance to any considerable number of persons or the public.” Prohibits discharge of contaminants that may endanger “the comfort, repose, health or safety of any such persons or the public, or cause injury or damage to business or property.”
- **BAAQMD Regulation 2, Rule 1: Permits, General Requirements.** Specifies requirements for issuance or denial of permits, exemptions, and appeals against BAAQMD decisions. An Authority to Construct (ATC) is required for any source that emits greater than 5 tons per year (tpy) of any regulated air pollutant (Rule 2-1-319). Sources emitting less than 5 tpy may qualify for exemptions from permitting. For example, combustion equipment that is exempt (Rule 2-1-114) includes natural gas-fired heaters or steam generators with a heat input rate of less than 10 million Btu per hour, and stationary internal combustion engines with an output rating of less than 50 horsepower (hp). Fuel cells that use phosphoric acid, molten carbonate, proton exchange membrane, solid oxide or equivalent technologies are exempt (Rule 2-1-128.22).
- **BAAQMD Regulation 2, Rule 2: New Source Review.** Applies to all new or modified stationary sources that are not otherwise exempt from the requirement to obtain an Authority to Construct and/or Permit

to Operate. Requires preconstruction review including Best Available Control Technology (BACT) for sources with the potential to emit more than 10 pounds per day (lb/day) of NO_x, POC, PM₁₀, PM_{2.5}, CO, or SO₂ (Rule 2-2-301). To ensure “no net increase” would occur through ongoing permitting of stationary sources of ozone precursors, the air district uses a 10 ton per year (tpy) threshold for triggering offset requirements (BAAQMD, 2017b). Offsets are required at a 1:1 ratio if a facility has a potential to emit more than 10 tpy of NO_x or POC, and if the potential to emit is 35 tpy or more of NO_x or POC the facility must surrender offsets at a ratio of 1.15:1 (Rule 2-2-302). For facilities with potential emissions more than 10 tpy but less than 35 tpy, the air district furnishes the necessary offsets from its Small Facility Banking Account (Rule 2-2-302). Facilities with the potential to emit of 100 tpy or more of PM₁₀, PM_{2.5} or SO_x must also provide offsets (Rule 2-2-303). Pursuant to these requirements, all nonattainment pollutant emissions from new or modified sources, including power plants, are fully offset.

- **BAAQMD Regulation 2, Rule 3: Power Plants.** Power plants that add generating capacity in excess of 50 megawatts (MW) are generally subject to California Energy Commission (CEC) review for either an exemption or a certification. For power plants seeking certification, a Preliminary Determination of Compliance (PDOC) and Final Determination of Compliance (FDOC) must be made by the BAAQMD Air Pollution Control Officer with public notice and public comment prior to issuing an Authority to Construct.
- **BAAQMD Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.** Requires air district review of new and modified sources of TACs to evaluate potential public exposure and health risk. Facilities must apply the Best Available Control Technology for Toxics (TBACT) for any new or modified source of TACs where the source has a cancer risk greater than 1.0 in one million and/or a chronic hazard index (HI) greater than 0.20 (Rule 2-3-301). Under this rule, any new or modified source of TACs would be denied an Authority to Construct or a Permit to Operate if the project exceeds: a cancer risk of 10.0 in one million; a chronic hazard index of 1.0; or an acute hazard index of 1.0 (Rule 2-5-302), according to the BAAQMD’s facility-specific health risk assessment (Rule 2-5-401). Facilities may be exempt from these requirements if each TAC would be emitted in quantities below the BAAQMD’s trigger levels (Table 2-5-1 of Rule 2-5).
- **BAAQMD Regulation 11, Rule 18: Reduction of Risk from Air Toxic Emissions at Existing Facilities.** This rule aims to ensure that facilities that emit TACs do not pose an unacceptable health risk to nearby residents, workers, or students. Requires establishing a risk reduction plan and implementing risk reduction measures for any existing facility that manufactures, formulates, uses, or releases any TAC or any other substance that reacts to form a TAC and exceeds the risk action levels in the rule. Specific protection is provided for priority communities in areas where levels of TACs are higher than other areas and where people may be particularly vulnerable and may bear disproportionately higher adverse health effects.

BAAQMD CEQA Air Quality Guidelines. The BAAQMD developed the following thresholds of significance as recommendations for use in the CEQA process. For new community plans (e.g., general plans, specific plans, regional plans, congestion management plans, etc.), the plan-level thresholds of significance are summarized as follows (BAAQMD, 2017a, in Table 2-5):

- **Criteria Air Pollutants and Precursors.** Consistency with current air quality management plan and projected vehicle miles traveled or vehicle trip increase is less than or equal to projected population increase.
- **Local Community Risk and Hazards.** Land use diagram identifies special overlay zones around existing and planned sources of TACs and PM_{2.5}, including special overlay zones of at least 500 feet (or Air District-approved modeled distance) on each side of all freeways and high-volume roadways, and plan identifies goals, policies, and objectives to minimize potentially adverse impacts.

- **Odors.** Identify locations of odor sources in plan; identify goals, policies, and objectives to minimize potentially adverse impacts.

City of Santa Clara General Plan. The City of Santa Clara, 2010-2035 General Plan (General Plan) includes the following air quality goals and policies to help promote sustainability and encourage land use and transportation patterns that reduce air pollutant emissions and to provide adequate buffer distances between sources and receptors (City of Santa Clara, 2014):

- **Goal 5.10.2-G1.** Improved air quality in Santa Clara and the region.
- **Goal 5.10.2-G2.** Reduced greenhouse gas emissions that meet the State and regional goals and requirements to combat climate change.
- **Policy 5.10.2-P1.** Support alternative transportation modes and efficient parking mechanisms to improve air quality.
- **Policy 5.10.2-P2.** Encourage development patterns that reduce vehicle miles traveled and air pollution.
- **Policy 5.10.2-P3.** Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.
- **Policy 5.10.2-P4.** Encourage measures to reduce greenhouse gas emissions to reach 30 percent below 1990 levels by 2020.
- **Policy 5.10.2-P5.** Promote regional air pollution prevention plans for local industry and businesses.
- **Policy 5.10.2-P6.** Require “Best Management Practices” for construction dust abatement.
- **Policy 5.10.5-P34.** Implement minimum setbacks of 500 feet from roadways with average daily trips of 100,000 or more and 100 feet from railroad tracks for new residential or other uses with sensitive receptors, unless a project-specific study identifies measures, such as site design, tiered landscaping, air filtration systems, and window design, to reduce exposure, demonstrating that the potential risks can be reduced to acceptable levels.
- **Policy 5.10.5-P35.** Establish minimum buffers between odor sources and new residential or other uses with sensitive receptors, consistent with BAAQMD guidelines, unless a project-specific study demonstrates that these risks can be reduced to acceptable levels.

The 2010-2035 General Plan also includes certain prerequisite goals and policies to support major strategies in the City and generally recognize the importance of planning from a “big picture” perspective, including the protection of community health, as follows (City of Santa Clara, 2014):

- **Policy 5.1.1-P24.** Prior to the implementation of Phase III, the City will include a community Risk Reduction Plan (“CRRP”) for acceptable Toxic Air Contaminant (“TAC”) concentrations, consistent with the Bay Area Air Quality Management District (“BAAQMD”) CEQA Guidelines, including risk and exposure reduction targets, measures to reduce emissions, monitoring procedures, and a public participations process.

3.3.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.

- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

This programmatic analysis evaluates the potential significance of emissions increases as follows:

- The Project would cause a significant air quality impact if its implementation would either: (1) cause an increase in unmitigated emissions of a criteria air pollutant in an area deemed to be in nonattainment for that pollutant under the Clean Air Act; or (2) cause an area currently in attainment to become a non-attainment area with respect to any criteria air pollutant.

The State CEQA Guidelines indicate that the significance criteria established by the applicable air quality management district or air pollution control district may be relied on to make the determinations for the above criteria. In addition to the threshold for emissions increases identified above, this EIR uses the plan-level thresholds of significance from the BAAQMD CEQA Air Quality Guidelines (BAAQMD, 2017a) to evaluate the impacts of the Project on air quality.

The air quality analysis discusses the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for air quality, any Project-related change in the continued operation and use of existing grid-connected generating facilities could indirectly cause air pollutant emissions from those facilities to be changed. Accordingly, the analysis also discusses the air quality effects of serving electricity to the customers affected by the Project.

AQ-1. *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

NO IMPACT. The Project, approving the Renewable Parallel Generation Facilities Resolution and changing SVP's Rules and Regulations, would limit the interconnection of new or modified parallel generation facilities to those that meet the criteria for renewable electrical generation facilities as defined in the California Public Resources Code. Because the Project would change SVP's interconnection requirements, and would not change any land use plans or approve any land use development projects, this discussion applies a program-level method of evaluating the air quality impacts.

The BAAQMD is the primary agency responsible for managing local air quality and administering other California and federal programs ensuring implementation of the air quality management plan. The 2017 Bay Area Clean Air Plan is the BAAQMD's current plan to achieve state and national ambient air quality standards, comply with California and federal air quality planning requirements, and maintain healthy air throughout the San Francisco Bay Area air basin.

The BAAQMD CEQA Guidelines include recommendations for assessing the plan-level air quality impacts of agency actions with a long-range horizon (BAAQMD, 2017a). The discussion of consistency with the current air quality management plan should evaluate whether the agency action: (a) would support the primary goals of the 2017 Clean Air Plan; (b) would include applicable control measures from the 2017 Clean Air Plan; and (c) would not disrupt or hinder implementation of 2017 Clean Air Plan control measures.

The primary goals of the BAAQMD's 2017 Clean Air Plan as related to air quality and health are to: attain all state and national air quality standards; and eliminate disparities among Bay Area communities in cancer health risk from toxic air contaminants. The 2017 Clean Air Plan also incorporates a goal to reduce GHG emissions in the region (BAAQMD, 2017b). The 2017 Clean Air Plan anticipates that electricity con-

sumption and demand for electricity will increase as a result of economic and demographic growth and due to increased electrification caused by shifting energy demand away from fossil fuels.

The BAAQMD's 2017 Clean Air Plan "Energy Control Measures" include: EN1: Decarbonize Electricity Generation; and EN2: Decrease Energy Use. With the Project, customers would no longer be able to use natural gas or other fossil fuels in new or modified parallel generation. This effectively promotes decarbonizing the electricity supply and a transition away from fossil fuels used in electricity generation, consistent with 2017 Clean Air Plan measure EN1 (BAAQMD, 2017b). The Project would not be likely to change the overall amount of energy used by customers or impact energy use efficiency, which are the topics of Clean Air Plan measure EN2.

One stationary source control measure (SS32) relates to emergency backup generators. The BAAQMD has implemented actions to identify and control existing sources of toxic air contaminants through Regulation 11, Rule 18 (Rule 11-18, adopted November 15, 2017). The Project would apply only to interconnection of parallel generation. For SVP's customers using diesel backup generators for backup purposes, the Project would not bring about any foreseeable change in operation or use of backup generators, and the Project would have no effect on the implementation actions undertaken by the BAAQMD. No other Clean Air Plan control measures would be directly applicable to the Project, and the Project would not disrupt or hinder implementation of any plan control measures.

As in the baseline of existing conditions, SVP is obligated to serve the demand of customers including those planning to use non-renewable parallel generation but prohibited by the Project from doing so. The grid resources within SVP's supply are subject to California's Renewable Portfolio Standard (RPS) to help achieve greenhouse gas emissions reductions (EIR Section 3.8). Existing fossil fueled power plants in SVP's existing portfolio of resources and elsewhere in the western grid are subject to air pollution emissions control requirements, derived from overarching Federal Clean Air Act requirements. Compliance oversight of the existing fossil fueled power plants is provided by the BAAQMD in the Project area, or by other local air districts for plants elsewhere in California, and also through CEC licensing and certification. The Project would not change any of the applicable requirements for any existing power plants, and the Project would have no effect on whether existing power plants would be able to comply with air quality requirements.

Serving customer loads with grid resources supports the BAAQMD 2017 Clean Air Plan's "Vision for 2050" that promotes using "clean electricity, or other renewable energy," to eliminate use of fossil fuels in buildings and reducing the carbon intensity of Bay Area industries. In summary, because new parallel generation would cause no additional use of fossil-fuels in the City, the Project would support the primary goals of the 2017 Clean Air Plan. By requiring use of renewable resources in new or modified parallel generation in the City, the Project would support primary goals of the BAAQMD's 2017 Clean Air Plan and facilitate implementation of Energy Control Measure EN1. Additionally, the Project would be consistent with the City's General Plan air quality goals and policies, which include reducing GHG emissions, because the Project would require use of renewable energy resources for any new or modified parallel generation.

A project could be found inconsistent with the applicable air quality management plan or attainment plan if it could cause population and/or employment growth or growth in vehicle-miles traveled in excess of the growth forecasts included in the air quality attainment plan. The Project would amend SVP's Rules and Regulations and would not directly or indirectly create any need for any new permanent full-time or part-time employment or staffing that could lead to growth in vehicle-miles traveled. The Project would not conflict with or obstruct implementation of the applicable air quality plan. No impact would occur, and no mitigation is required.

AQ-2. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations and would not result in the approval of any specific construction activities or the approval of any new source of air pollutant emissions by customers or SVP. The Project would not directly or indirectly cause construction or development of any new or modified sources of air pollution that could substantially increase criteria air pollutant emissions.

No Additional Use of Non-Renewable Parallel Generation. The Project would require use of renewable energy resources for any new or modified parallel generation. No additional use of natural gas or other fossil fuels would occur for parallel generation in the City. No additional emissions of criteria air pollutants would be caused by new parallel generation facilities using natural gas or other fossil fuels.

Construction and Operation of Renewable Parallel Generation. Customers that may otherwise have developed non-renewable parallel generation projects could instead choose to undertake development of new renewable parallel generation at customer sites. This effect would be limited to only those customers that might otherwise have proposed development of non-renewable parallel generation facilities deciding to undertake development of substitute renewable parallel generation instead.

Construction of new renewable parallel generation at customer sites instead of new non-renewable parallel generation could involve mobilizing construction equipment, crews, and materials, preparing customer sites, and installing the generating units. These activities during construction would cause air pollutant emissions due to fuels normally used by the construction vehicles and equipment. Diesel and gasoline-powered construction equipment would include trucks, light-duty vehicles, and off-road or portable equipment such as lifts, trenchers, welders, pumps and generators. Equipment and motor vehicles would directly emit air pollutants including toxics due to fuel use and combustion. These one-time quantities of pollutants during construction would cease at the conclusion of construction, when the new renewable parallel generation facility transitions into producing electricity for the customer. Construction emissions related to fuel combustion in vehicles and equipment used in developing substitute parallel generation would be relatively minor and limited to the installing the generation technology at the customer site. Construction emissions for parallel generation using a pipeline supply of biomethane or renewable natural gas would be no different than those that would occur for non-renewable parallel generation using natural gas.

Operation of substitute renewable parallel generation at customer sites in the City would create minor quantities of emissions depending on whether the customer decides to substitute an available renewable fuel in response to the Project. For example, a fuel cell or microturbine could use an eligible renewable energy resource instead of the non-renewable resource that may have otherwise been developed. The emissions from the renewable parallel generation system may be exempt from local air district permit requirements or subject to review by the local air quality management district, in this case BAAQMD, depending on the project-specific technology. Technologies that are exempt from local air district permit requirements would still be subject to statewide Distributed Generation Certification Program emission standards. The emissions of criteria air pollutants from operation of parallel generation using a pipeline supply of renewable natural gas would be no different than those that would occur for non-renewable parallel generation using natural gas. The offset requirements in the BAAQMD New Source Review program ensure that no significant net emission increases would occur from new parallel generation. As a result, operation of renewable parallel generation would be unlikely to cause any new unmitigated increase in emissions of nonattainment pollutants or cause any attainment area to become a nonattainment area with respect to any pollutant.

Table 3.3-5 quantifies the potential emissions factors for a typical fossil-fueled and biogas-fueled parallel generation fuel cell system, based on a review of vendor specifications, for comparison with receiving a mix of power from grid resources. Additional information appears in EIR Appendix B, Air Pollutant and GHG Emission Factors.

Table 3.3-5. Air Pollutant Emissions Factors for Resource Options

Emission Factors	NO _x (lb/MWh)	VOC (lb/MWh)	CO (lb/MWh)	SO _x (lb/MWh)	PM _{2.5} (lb/MWh)
Natural gas fuel cell parallel generation	0.0017	0.01	0.012	N/A	N/A
Fuel cell parallel generation using biogas, including renewable natural gas	0.0017	0.01	0.012	N/A	N/A
Grid resources (2020), over 30 percent renewable	0.069	0.022	0.133	0.006	0.043
Grid resources (2021-2024), over 33 percent renewable	0.066	0.021	0.127	0.005	0.042
Grid resources (2025-2027), over 44 percent renewable	0.055	0.017	0.106	0.004	0.035
Grid resources (2028-2030), over 52 percent renewable	0.048	0.015	0.091	0.004	0.030
Grid resources (2030-after), over 60 percent renewable	0.040	0.012	0.076	0.003	0.025
Grid resources (after 2045), 100 percent renewable and zero-carbon	< 0.040	< 0.012	< 0.076	< 0.003	< 0.025

Source: Emission factors for natural gas fuel cell system and fuel cell on directed biogas (Bloom, 2022). Emission factors for use of grid resources (2020) based on 30 percent eligible renewable resources and 70 percent natural gas resources as advanced combustion turbine power plants (CEC, 2019).

Under the most-likely Project effect for customers contemplating natural gas fuel cell systems, the air pollutant emissions from construction and operation of new renewable parallel generation using biomethane or renewable natural gas delivered over a common carrier pipeline would be no different from those that would occur for non-renewable parallel generation using natural gas. Compared with existing conditions, air pollutant emissions would not occur in quantities that would be considerable in the context of existing nonattainment conditions.

New renewable parallel generation in the City would continue to be subject to all applicable local air district permitting requirements. Customers that propose discretionary parallel generation facilities that meet the City's definition of an electric power plant would continue to be subject to project-specific CEQA review if not exempt.

Providing Grid Resources. Electric utility service would be provided by SVP to serve the demand of customers, including those planning to use non-renewable parallel generation but prohibited by the Project from doing so. The electricity supply to serve SVP customers, including those affected by the Project, will be delivered from SVP's existing portfolio of resources and renewable resources added as a result of implementing the 2018 IRP and other established plans and policies for increasing the procurement of energy from renewable electricity sources. SVP's current resources include a mix of at least 30 percent renewable resources, other zero-carbon hydroelectric resources, and power plants using non-renewable resources. Serving customer load from SVP's grid resources occurs in the baseline of existing conditions and results in air pollutant emissions from the existing fossil-fueled power plants in SVP's supply.

The existing mix of grid resources creates air pollutant emissions that are attributable to serving SVP's retail load, and natural gas power plants owned by the City also create emissions attributable to making

deliveries to other California load-serving entities. The overall level of emissions related to serving SVP's customer demand varies depending on the use of City-owned natural gas resources and other natural gas resources and also on the level of spot market purchases of 'unspecified resources,' which the ARB considers to be similar to an average single-cycle natural gas power plant (ARB, 2018).

The diversified portfolio of grid resources consists of a mix of City-owned power plants, partial ownership shares in power plants, and deliveries of power from facilities operated by third parties through purchase agreements or open market purchases. It is not possible to quantify the potential increase in the operation of any specific power plant as being driven by a change in individual customer behavior.

Regardless of the level of on-site generation installed by customers, SVP must still plan for the peak energy needs of all customers, including those with parallel generation, and SVP's obligation to provide adequate resources to meet these load and energy needs is identical with or without the Project.

The BAAQMD in the Project area, or other local air districts for plants elsewhere in California, require the power plants in SVP's mix of electricity supplies to hold permits authorizing the emissions of air pollutants. In each local air district, power plants are subject to location-specific air pollution emissions control requirements, offsetting strategies, permitting processes and other oversight. Each generating facility in SVP's mix of supplies must operate within the provisions of valid air permits or operating licenses that establish minimum performance standards and contain enforceable limits on potential emissions, to ensure that adverse air quality impacts do not occur under the maximum operating profile for each facility. For example, prior to commencing operation in 2004, the SVP Donald Von Raesfeld (DVR) facility was required to provide federally enforceable offsets for its emissions, and the offsets form the basis for federally enforceable emissions limits that apply to the facility. As such, all emissions occurring, or which may occur under the facility's existing permit, are fully offset. Because each facility must remain within the maximum allowable emissions limits of its air permits, and the permitted emissions are subject to control and offsetting requirements, incremental variations in operational emissions from existing individual power plants are unlikely to result in significant net emission increases.

Table 3.3-5 quantifies emissions factors for receiving a mix of power from grid resources. In the baseline, all customers receive a mix of power that exceeds 30 percent renewable energy resources. After 2020, SVP must procure at least 33 percent renewable resources for retail sales of electricity. Accordingly, Table 3.3-5 presents a conservatively high estimate of emissions factors by assuming a lower renewable energy content and by assuming that the remaining 70 percent would be from typical combustion turbine power plants. This would conservatively overestimate emissions because the baseline resource mix also includes zero-emissions large hydroelectric resources. Additionally, SVP must continue to increase the renewable energy content to achieve the RPS targets.

The emissions factors in Table 3.3-5 are indicative of the existing mix of grid resources and the potential for incremental system emissions increases. For the portion of SVP's power supply from open market purchases, which are treated by ARB as unspecified imports, the electricity is purchased through open market transactions and is not traceable to a specific generation facility. Emissions related to unspecified resources would be most likely to occur outside of the Project area or outside of California. Emissions factors shown in Table 3.3-5 account for the baseline level of renewables plus unspecified imports, which could be produced by renewable or natural gas power plants.

The baseline level of emissions from grid resources will be reduced by SVP's procurement strategy that includes reducing the use of natural gas power plants and reducing the level of market purchases of unspecified imports in SVP's mix of electricity supplies. Consistent with SB 100, SVP must provide a mix of power that is at least 33 percent from renewable resources after 2020. The renewable energy content is

subject to a series of RPS compliance periods, as follows: 33 percent by December 31, 2020, 44 percent by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030.

The variability of emissions related to SVP serving customers' load and energy needs occurs in the context of SVP's existing commitments to reduce the use of natural gas power plants and unspecified imports in the electricity supply going forward. If the Project causes City customers to be served an incremental amount of electrical production from grid resources, the change in operational emissions from power plants would be limited to the customer's change in energy demand brought about by the Project. This effect would not change the City's ongoing plans and policies for procuring renewable energy supplies. Going forward, the potential change in future emissions attributable to power plants using natural gas in the electricity supply to serve electricity to customers affected by the Project would be further reduced by the City's established plans and policies for increasing the procurement of energy from renewable electricity sources.

Emissions in Nonattainment Areas. Emissions from existing and new or modified power plants are subject to the regulatory programs of each local air district, depending on the location of each power plant in the electricity supply. New Source Review requirements, emissions control requirements, and offsetting strategies are applied during the permitting process for each modern power plant facility to avoid potentially adverse air quality impacts. Nonattainment New Source Review is a federal program for preconstruction review and permitting of new and modified sources of pollutants, that is implemented by local air districts, including BAAQMD in Regulation 2, Rule 2. Under Sections 172 and 173 of the Federal Clean Air Act, emissions from new or modified stationary sources must be included in local nonattainment plans, and air districts must demonstrate that these emissions will not interfere with attainment of the applicable National Ambient Air Quality Standard. Under local air district rules implementing Sections 172 and 173, stationary sources such as power plants are required to fully offset all emissions of nonattainment pollutants. In some cases, offsets must be provided at a ratio greater than one-to-one. Further, these federal standards are only a floor – local air districts may themselves require offsets in a manner that equals or exceeds what the federal program requires. The requirements under this program ensure that the effects of serving electricity to customers affected by the Project would not cause any new unmitigated increase in emissions of nonattainment pollutants.

Emissions in Attainment Areas. In areas that are classified as being in "attainment" with the National Air Ambient Quality Standards, major new and modified sources of pollutants are subject to the preconstruction permitting requirements of the federal Prevention of Significant Deterioration program. Under Section 165 of the Federal Clean Air Act, facilities must not cause, or contribute to, air pollution in excess of any National Ambient Air Quality Standard or certain increments to protect attainment. New or modified sources at power plants are also subject to BACT requirements, category-specific control requirements in the Standards of Performance for New Stationary Sources (Section 111 of the Federal Clean Air Act), and Acid Rain Acid Rain Program (Title IV of the Clean Air Act). Pursuant to these requirements, emission increases that would cause a significant deterioration in air quality of areas in attainment are not permitted. The quantity considered significant for purposes of this analysis is required to be established by air districts at a level that ensures that the area's air quality does not degrade into nonattainment. Therefore, these requirements ensure that the effects of serving electricity to customers affected by the Project would not cause any new unmitigated increase in emissions of pollutants that could deteriorate air quality in areas that attain the standards.

Summary of Project Effects on Air Pollutant Emissions. The overall effects on air pollutant emissions from the Project would depend on whether customers switch to an available renewable fuel for parallel generation projects or use SVP's grid resources. No new non-renewable parallel generation facilities would be built in the City and therefore no additional air pollutant emissions would be caused by such

facilities. Construction and operation of substitute renewable parallel generation facilities at customer sites in the City may be proposed by customers that previously considered developing a non-renewable parallel generation project. However, the air pollutant emissions from construction and operation of substitute renewable parallel generation project would be no different from those that would occur for non-renewable parallel generation using natural gas.

For customers that choose to use SVP's grid resources, the baseline levels of air pollutant emissions from the existing power plants in SVP's supply are variable. However, the City's adopted plans and policies rely on reducing SVP's use of fossil-fueled resources and adding renewable resources to the existing portfolio to serve load. Variability in emissions from existing grid resources if brought about as a result of the Project would occur in a manner consistent with existing regulations and individual facility air permits to protect air quality and prevent substantial net emissions increases. The Project would not change the City's ongoing plans and policies for increasing the procurement of energy from renewable electricity sources. With existing regulations protecting air quality and the ongoing additional procurement of renewable resources to the power supply, serving electricity to customers affected by the Project would not cause any new unmitigated increase in emissions of nonattainment pollutants or cause any attainment area to become a nonattainment area with respect to any pollutant. As a result, this impact would be less than significant.

AQ-3. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations and would not result in the approval of any specific construction activities or the approval of any new source of air pollutant emissions including TACs.

No Additional Use of Non-Renewable Parallel Generation. By limiting the interconnection of parallel generation to facilities using renewable resources, customers would no longer be able to use natural gas or other fossil fuels in new or modified parallel generation. No additional emissions of air pollutants including toxic air contaminants would be caused by new parallel generation facilities using natural gas or fossil fuels.

Construction and Operation of Renewable Parallel Generation. Customers that may otherwise have developed non-renewable parallel generation projects could instead choose to undertake development of new renewable parallel generation at customer sites. Under the most-likely Project effect for customers contemplating natural gas fuel cell systems, customers would use an alternative renewable gas fuel that is treated to remove contaminants like siloxanes or sulfur contaminants before the supply is interconnected to California's pipelines.³³ The air pollutant emissions from construction and operation of new renewable parallel generation using biomethane that is treated to achieve pipeline-quality standards or renewable natural gas delivered over a common carrier pipeline would be no different from those that would occur for non-renewable parallel generation using natural gas. Technologies using pipeline-quality biomethane or renewable natural gas would not result in any different localized pollutant concentrations when compared with the use of fossil natural gas by non-renewable parallel generation technologies that might otherwise have been proposed. Locally substantial concentrations of TACs would be avoided through compliance with City policies for buffer distances to separate parallel generation facilities from sensitive receptors and zoning standards. City Zoning Code (Section 18.60.050) permits construction or operation of electric power plants only in certain industrial and public facilities zoning districts and only after first securing a use permit. With implementation of these land use policies and zoning standards, this impact would be less than significant. Customers that propose discretionary parallel generation facil-

³³ For example, the CPUC requires utilities to establish renewable gas quality standards for protecting human health (Decisions 20-08-035 and 20-12-031 in R.13-02-008).

ities with a generating capacity over 500 kW would continue to be subject to project-specific CEQA review if not exempt.

Providing Grid Resources. As in the baseline of existing conditions, electric utility service would be provided by SVP to serve the demand of customers including those planning to use non-renewable parallel generation but prohibited by the Project from doing so. SVP's current resources include a mix of at least 30 percent renewable resources, other zero-carbon hydroelectric resources, and power plants using non-renewable resources. Emissions from power plants in the electricity supply that serves SVP customers occur in the baseline of existing conditions, and these baseline conditions may include elevated air pollutant concentrations in the local and regional context of each generating facility.

Emissions from natural gas power plants in SVP's supply are variable and can be attributable to serving SVP's retail load and also attributable to making deliveries from the power plants to other California load-serving entities. The Project would not change any of the provisions of air permits or operating licenses that establish minimum performance standards and contain enforceable limits on potential emissions from power plants.

Any potential variation in emissions from the use of existing grid resources brought about by the Project will be minimized through the City's established plans and policies to add renewable resources to the existing portfolio. The variability emissions related to SVP serving customers' load and energy needs occurs in the context of SVP's existing commitments to reduce the use of natural gas power plants and unspecified imports in the electricity supply going forward. Consistent with SB 100, SVP must provide a mix of power that is at least 33 percent from renewable resources after 2020 and must increase the use of renewable energy subject to a series of RPS compliance periods, described under Impact AQ-2. With the electricity supply subject to these programs to reduce emissions, the Project would not be likely to cause any localized emissions increases in criteria air pollutants or toxic air contaminants resulting in substantial pollutant concentrations, and this impact would be less than significant.

AQ-4. *Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

LESS THAN SIGNIFICANT. The Project would not directly or indirectly cause construction or development of any new or modified sources of air pollution or any sources likely to create objectionable odors. For development of substitute renewable parallel generation at customer sites using combustion-free technologies would not result in odors. Technologies that use biofuels such as biomethane are similarly unlikely to generate any substantial or notable odors as any renewable fuel delivered by common carrier pipeline would need to be pre-treated and purified to pipeline-quality standards before being delivered to customers' sites. Serving customer load from SVP's grid resources in the baseline of existing conditions does not result in emissions such as odors that adversely affect a substantial number of people.

Pursuant to the BAAQMD CEQA Guidelines, odor impacts could result from siting a new odor source near existing sensitive receptors or siting a new sensitive receptor near an existing odor source. The BAAQMD CEQA Guidelines provide examples of land uses that have the potential to generate considerable odors, none of which would be subject to change in response to the Project. There would be no potential to result in objectionable odors affecting a substantial number of people. This impact would be less than significant, and no mitigation is required.

3.4. Biological Resources

3.4.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. Parallel generation involves the production and delivery of electric power electrically connected to SVP's distribution system. New or modified parallel generation facilities proposed for interconnection would need to be near SVP's distribution system and within or near the customer's site of electricity use. Previously developed and disturbed areas are the locations most likely to see proposals for new or modified parallel generation facilities.

Vegetation Communities

Vegetation in the City includes landscaping along streets, in parks, and on private properties. Much of the vegetation consists of ornamental shrubs and trees, and highly disturbed habitat. There are few natural areas within the City, and native habitats have largely been replaced with urban hardscape accompanied by ornamental landscaping. Overall, the biological resources in the City are limited and constrained by the urbanized character of the area.

The Ulistac Natural Area is an important natural area, located within, owned, and maintained by the City of Santa Clara. Restoration of this 40-acre open space parcel has focused on returning the site to a natural condition, and now supports multiple natural communities, including grassland, oak savannah, oak woodland, sycamore woodland, riparian woodland, coastal scrub, and emergent wetlands. The area also supports many native species of songbirds, insects, amphibians, and small mammals (City of Santa Clara, 2011).

The installation of new or modified parallel generation facilities would occur within the site of or adjacent to the facilities they are planned to serve. Areas around office and industrial buildings are typically sparsely vegetated.

Developed and Disturbed Areas

Developed/disturbed areas occur throughout the City, and include paved roads, bare ground associated with disturbance or development, buildings, paved parking lots, road medians and roadsides, railroad tracks and right-of-way, and landscaped areas. There are few natural areas within Santa Clara and native habitats have largely been replaced with urban hardscape and ornamental landscaping. Landscaped areas can provide some habitat for common native species such as birds and insects, though they are not generally representative of the Bay Area environment. Due to this, the biological resources in the City of Santa Clara are limited by the urbanized character of the planning area (City of Santa Clara, 2011).

Non-native annual grassland is the most common "natural community" or undeveloped habitat type in the City of Santa Clara. In urban areas, this habitat type is often called ruderal, or disturbed, and is almost entirely composed of annual grasses and other herbaceous species such as: brome (*Bromus spp.*), wild oats (*Avena spp.*), filarees (*Erodium spp.*), schismus (*Schismus spp.*), fescues (*Vulpia spp.*), and a variety of native wildflowers such as California poppy (*Eschscholtzia californica*) and phacelia (*Phacelia spp.*), along with other non-native species. These ruderal grasslands can be found in freeway cloverleaves, along roadways, and in vacant undeveloped urban lots. Within the City, special status species that may occur in ruderal area include western burrowing owl and Congdon's tarplant (City of Santa Clara, 2011).

The California Department of Fish and Wildlife's Natural Community Conservation Planning (NCCP) program is as a cooperative effort to protect habitats and species. It is broader in its orientation and objectives than the California and Federal Endangered Species Acts, as these laws are designed to identify and protect individual species that have already declined in number significantly. The Santa Clara Valley Habitat Conservation Plan (HCP) is also an NCCP under the State program. The City is outside of the area covered by the Santa Clara Valley HCP/NCCP, which applies to areas south and east of the City (Santa Clara Valley Habitat Agency, 2012).

Special-Status Plants and Animals

Special-status species include those listed, proposed for listing, or candidates for listing as threatened or endangered under the federal or State Endangered Species Acts, are California Species of Special Concern, and other species identified by USFWS, CDFW, or another agency as unique or rare. The EIR for the General Plan reviewed the California Native Plant Society (CNPS) and CNDDDB records and identified 15 special status plant species. The EIR also reviewed 26 special status wildlife species identified by the USFWS and CNDDDB records (City of Santa Clara, 2011). Most special status plant and wildlife species are unlikely to occur in the City because of the narrow range of habitats available in the largely developed area. For customer sites that are most likely to see proposals for new or modified parallel generation facilities, there would be little potential for special-status plants or animals to occur due to the lack of habitat in the highly urbanized industrial environment. Animals would include urban adapted birds and mammals such as raccoon, skunk, and opossum.

Nesting Birds

Nesting birds are protected under the Migratory Bird Treaty Act (MBTA) as well as California Fish and Game Code. A variety of birds may nest in the City. Nests may be built in trees or other vegetation, on the ground, or on adjacent structures.

Jurisdictional Waters

Jurisdictional waters or features are streams, lakes, and wetlands subject to federal or state regulation. Depending on the site, a parallel generation facility may affect jurisdictional waters. This can only be determined when a site is known, then its relationship to nearby jurisdictional waters could be analyzed.

Regulatory Background

Federal

Federal Endangered Species Act of 1973 (16 U.S.C. § 1538). The federal Endangered Species Act (FESA) designates and provides for protection of threatened and endangered plant and wildlife species and their critical habitat. "Take" of a federally listed species is prohibited without the appropriate permits, which may be obtained through Section 7 consultation (between federal agencies) or a Section 10 Habitat Conservation Plan.

Migratory Bird Treaty Act (16 U.S.C. §§ 703–711). The Migratory Bird Treaty Act (MBTA) of 1918 protects all migratory birds. Birds protected under the MBTA include all native waterfowl, shorebirds, hawks, eagles, owls, doves, and other common birds such as ravens, crows, sparrows, finches, swallows, and others, including their body parts (for example feathers and plumes), active nests, and eggs. A complete list of protected species is found at 50 CFR 10.13. Enforcement of the provisions of the MBTA is the responsibility of USFWS.

Clean Water Act (33 USC §§ 1251-1376). The Clean Water Act (CWA) regulates the chemical, physical, and biological integrity of the nation's waters. Section 401 of the CWA requires that an applicant obtain State certification for discharge into waters of the United States. The Regional Water Quality Control Boards administer the certification program in California. Section 404 of the CWA established a permit program, administered by the U.S. Army Corps of Engineers, to regulate the discharge of dredged or fill material into waters of the United States, including wetlands.

State

CEQA Guidelines § 15380

Enacted in 1970, CEQA requires an applicant to fully disclose environmental impacts before issuance of a permit by state and local agencies. State CEQA Guidelines Section 15380(b) articulates the classifications of species to be analyzed under CEQA. In general, impacts to plants or their habitat having a California Rare Plant Rank of 1A (plants presumed extirpated in California and either rare or extinct elsewhere), 1B (plants rare, threatened, or endangered in California and elsewhere), 2A (plants presumed extirpated in California, but common elsewhere), 2B (plants rare, threatened, or endangered in California), or 3 (plants about which more information is needed — a review list) must be analyzed during preparation of the environmental documents relating to CEQA. According to the California Native Plant Society's (CNPS) Rare Plant Program, species with these California Rare Plant Rank rankings meet the definition of "rare and endangered" under the CEQA Guidelines.

California Endangered Species Act (CESA) (CFGC §§ 2050-2098). Sections 2050-2098 of the California Fish and Game Code (CFGC) prohibit the take of state-listed endangered and threatened species unless specifically authorized by CDFW. The state definition of "take" is to hunt, pursue, catch, capture, or kill a member of a listed species or attempt to do so. CDFW administers the California Endangered Species Act (CESA) and authorizes take through permits or memoranda of understanding issued under Section 2081 of CFGC or through a consistency determination issued under Section 2080.1. A consistency determination allows CDFW to authorize a project to proceed if that agency agrees with terms and conditions developed for a federal Biological Opinion and Incidental Take Permit. Section 2090 of CFGC requires state agencies to comply with threatened and endangered species protection and recovery and to promote conservation of these species.

Fully Protected Species (CFGC §§ 3511, 4700, 5050, and 5515). CFGC designates certain animal species as "fully protected" under Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish). "Take" permits for fully protected species may only be issued for fully protected species that are "covered" species in a Natural Community Conservation Plan (NCCP). Fully protected species in the San Francisco Bay Area include species such as the California clapper rail (*Rallus longirostris obsoletus*), brown pelican (*Pelecanus occidentalis*), and peregrine falcon (*Falco peregrinus*).

CFGC Protection for Birds (CFGC § 3503 et seq.). CFGC Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Section 3503.5 makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird. Section 3513 makes it unlawful to take or possess any migratory non-game birds designated under the MBTA, except as provided by rules and regulations adopted under the MBTA

California Species of Special Concern. "Species of Special Concern" is a designation assigned by the CDFW to species it considers at risk. Species of Special Concern meet one or more of the following criteria: (1) is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role; (2) is federally, but not State, listed as threatened or endangered; meets the State definition of threatened or endangered

but has not formally been listed; (3) is experiencing, or formerly experienced, serious (nonscyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; (4) has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status. “Species of Special Concern” is an administrative designation intended to focus attention on at-risk species during environmental review and conservation planning. Species of Special Concern should be considered during the environmental review process. CEQA (California Public Resources Code §§ 21000-21177) requires state agencies, local governments, and special districts to evaluate and disclose impacts from “projects” in the state. Because Section 15380 of the CEQA Guidelines defines endangered, rare or threatened species to include species which meet criteria consistent with the criteria required for listing under the federal and/or state endangered species acts regardless of whether such species are formally listed, Species of Special Concern are appropriately considered in the analysis of project impacts.

Porter-Cologne Water Quality Control Act (Water Code Section 13000 et seq.) This act regulates surface water and groundwater and assigns responsibility for implementing federal CWA Section 401. It established the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) to protect State waters.

Local

City of Santa Clara General Plan (2010-2035). The City’s current General Plan was adopted on November 16, 2010, and updated on December 9, 2014. The General Plan goals and policies pertaining to the biological resources are listed below.

Conservation Goals and Policies

- **Goal 5.10.1-G1.** The protection of fish, wildlife and their habitats, including rare and endangered species.
- **Goal 5.10.1-G2.** Conservation and restoration of riparian vegetation and habitat.
- **Policy 5.10.1-P1.** Require environmental review prior to approval of any development with the potential to degrade the habitat of any threatened or endangered species.
- **Policy 5.10.1-P2.** Work with Santa Clara Valley Water District and require that new development follow the “Guidelines and Standards for Lands Near Streams” to protect streams and riparian habitats.
- **Policy 5.10.1-P3.** Require preservation of all City-designated heritage trees listed in the Heritage Tree Appendix 8.10 of the General Plan.
- **Policy 5.10.1-P4.** Protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size, and all other trees over 36 inches in circumference measured from 48 inches above-grade on private and public property as well as in the public right-of-way.
- **Policy 5.10.1-P5.** Encourage enhancement of land adjacent to creeks in order to foster the reinstatement of natural riparian corridors where possible.
- **Policy 5.10.1-P11.** Require use of native plants and wildlife-compatible non-native plants, when feasible, for landscaping on City property.
- **Policy 5.10.1-P12.** Encourage property owners and landscapers to use native plants and wildlife-compatible non-native plants, when feasible.

3.4.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service.
- Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

The analysis of biological resources focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for biological resources, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects to biological resources. Operating existing grid-connected generating facilities may cause physical effects, including light, noise, air pollution, or other emissions or discharges, that interact with habitat and wildlife depending on the setting of the facilities. However, any Project-related change in the continued operation and use of grid-connected facilities would be unlikely to lead to a new physical change affecting biological resources. As a result, no further discussion of the biological resources effects of serving electricity to the customers affected by the Project is necessary.

BIO-1. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations, and the amendments would not directly or indirectly result in the approval of any specific construction activities that could cause habitat modifications.

Customers could choose to undertake development of new renewable parallel generation at customer sites that may provide limited habitat for species identified as a candidate, sensitive, or special status species. By design, parallel generation facilities are normally likely to be located within or near the

customer's site of electricity use. Customer's sites are normally on previously disturbed land and not in an area of habitat for species identified as a candidate, sensitive, or special status species. Because customers contemplating new fossil-fueled technologies could substitute the fossil fuel supply with a renewable feedstock, the potential for new renewable parallel generation facilities to cause habitat modifications of the setting would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project.

Special-Status Plants and Animals. The setting and baseline of existing conditions of the Project area is highly developed and urban. Sites where parallel generation facilities would be proposed would be near existing buildings and are unlikely to include suitable habitat for any special-status plant or wildlife species, as the sites would have been disturbed by previous construction and would currently be paved or landscaped. For customers that choose to undertake development of new renewable parallel generation, depending on the site, there is the potential for a new or modified parallel generation facility to cause limited habitat modifications and this effect would not differ from that which could occur during the development of a facility using fossil fuels. New renewable parallel generation facilities would normally be located near existing facilities in previously disturbed and modified landscapes, similar to the siting of facilities using fossil fuels. It is unlikely that special-status plants or animals would be found in such areas due to the lack of habitat in the highly urbanized industrial environment. Animals would include urban adapted birds and mammals such as raccoon, skunk, and opossum. Implementation of City policies for conservation and zoning standards would avoid significant impacts to special status plants and animals (City of Santa Clara, 2011).

Customers that propose discretionary parallel generation facilities that meet the City's definition of an electric power plant would continue to be subject to project-specific CEQA review if not exempt, which may involve surveys and conservation strategies to identify and prevent the degradation of habitat for species identified as a candidate, sensitive, or special status species.

Nesting Birds. Nesting birds are protected under the MBTA as well as California Fish and Game Code. Further, raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and State regulations. California Fish and Game Codes Section 3503 prohibits the needless destruction of the nest, eggs, or young of any bird covered under the MBTA and Section 3503.5 prohibits the destruction of raptor nests, eggs, or young.

A variety of common birds may nest in the City. Nests may be built in trees or other vegetation or on the ground, or on adjacent structures. Birds may also attempt to nest in construction materials or on idle construction equipment.

Construction disturbance, including tree trimming, tree removal, and other vegetation removal (e.g., shrubs), during the breeding season and avian nesting season that regularly occurs from February 15 through August 31 could adversely impact breeding birds through the removal of potential nesting habitat (e.g., trees and vegetation), damage to nests and injury or mortality to eggs and young, and disruption of nesting behavior or care of young due to noise and disturbance during construction. Because of the urban environment, nesting birds in the Project area would likely be somewhat tolerant of noise, dust, and vibration from construction. However, some construction activities in close proximity to nests may still disturb nesting birds, potentially causing nest failure.

The Project would not directly or indirectly result in the approval of any specific activity that could create potential disturbances to nesting birds. Individual proposals for new renewable parallel generation facilities, however, could affect wildlife and vegetation during construction, and this effect would not differ from that which could occur during the development of a facility using fossil fuels. Implementation

of City policies for conservation and zoning standards would avoid significant impacts to nesting birds (City of Santa Clara, 2011).

Individual proposals for new renewable parallel generation facilities would be evaluated under a project-specific CEQA review if not exempt, which provides an opportunity for project-specific evaluation. Project-specific review may involve surveys for nesting birds and measures to limit vegetation removal during the bird breeding and nesting season. to avoid significant impacts to nesting birds.

BIO-2. *Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

LESS THAN SIGNIFICANT. Sensitive natural communities are communities that have limited distribution statewide or within a county or region and are often vulnerable to the environmental effects of projects. The highly developed nature of the City has altered the natural environment. There is no riparian habitat or other sensitive natural community likely to be affected by new renewable parallel generation facilities requesting interconnection to the SVP distribution system.

For customers that choose to undertake development of new renewable parallel generation facilities at customer sites, any new renewable parallel generation facility would be located within or near the customer's site of electricity use, on previously disturbed land and not in an area with riparian habitat or other sensitive natural community. Implementation of City policies for conservation and zoning standards would avoid significant impacts to riparian habitat or other sensitive natural communities (City of Santa Clara, 2011).

BIO-3. *Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) either individually or in combination with the known or probable impacts of other activities through direct removal, filling, hydrological interruption, or other means?*

LESS THAN SIGNIFICANT. The Project would not directly or indirectly result in the approval of any specific construction activities that could cause a change to wetlands or other hydrological systems. Proposals for new renewable parallel generation facilities are unlikely to be located at sites that could have a substantial adverse effect on wetlands. For any individual proposal at a location that could adversely affect waters or wetlands under the jurisdiction of USACE, RWQCB, or CDFW, the individual proposal would be evaluated under a project-specific CEQA review to assess the circumstances and would also need to comply with applicable regulations and implement appropriate Best Management Practices or other mitigation measures, where applicable. Implementation of City policies for conservation and zoning standards would avoid significant direct and indirect impacts to jurisdictional waters or wetlands (City of Santa Clara, 2011).

BIO-4. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?*

LESS THAN SIGNIFICANT. The Project would not result in the approval of any specific construction activities that could interfere with any native resident or migratory species, interfere with migratory corridors, or impede use of wildlife nursery sites.

The City a highly urbanized area with residential, commercial, and industrial areas and busy roadways. For customers that choose to undertake development of new renewable parallel generation facilities at customer sites, the facilities would normally be located near existing facilities in previously disturbed and modified landscapes and would not affect the movement of wildlife. However, landscaped areas and trees provide some habitat for avian foraging and breeding. Individual proposals for new renewable parallel

generation facilities would be evaluated under a project-specific CEQA review if not exempt. If warranted, project-specific mitigation measures would be imposed, if required to address an impact. Implementation of City policies for conservation and zoning standards would avoid significant direct and indirect impacts to avian and wildlife foraging and breeding (City of Santa Clara, 2011).

BIO-5. *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations and would not directly or indirectly result in activities that could conflict with policies or ordinances protecting biological resources.

Customers could choose to undertake development of new renewable parallel generation at customer sites where certain trees may qualify as "protected trees" under the City of Santa Clara General Plan. The General Plan Conservation Policy 5.10.1-P4 states, "Protect all healthy cedars, redwoods, oaks, olives, bay laurel and pepper trees of any size, and all other trees over 36 inches in circumference measured from 48 inches above-grade on private and public property as well as in the public right-of-way" (2014). Heritage Trees are listed by the City of Santa Clara General Plan Heritage Tree Appendix 8.10.

Depending on the site, there is the potential for a new renewable parallel generation facility to adversely affect or remove a protected tree or Heritage Tree, similar to that which could occur during the development of a facility using fossil fuels. Once a site-specific design is complete, a final assessment of the proposed components would need to be conducted to confirm the actual number of protected trees removed for the new renewable parallel generation facility.

Where impacts may occur, typically a Tree Protection Plan and a Tree Replacement Plan would be prepared and implemented by the developer as a condition of approval. The Tree Protection Plan would avoid and minimize impacts to trees, and the Tree Replacement Plan would mitigate for tree removal by replacing trees at a specified ratio. These plans would also comply with General Plan Policy 5.3.1-P10 and 5.10.1-P4 and implemented to the satisfaction of the City Arborist. Implementation of City policies for protection of trees and zoning standards would avoid the potential for conflicts with local policies or ordinances protecting biological resources and avoid significant impacts (City of Santa Clara, 2011).

BIO-6. *Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or State habitat conservation plan?*

NO IMPACT. The City is outside of the Santa Clara Valley Habitat Conservation Plan area. No approved habitat conservation plans or natural communities conservation plans apply to the City.

3.5. Cultural Resources

3.5.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. Previously disturbed areas near customer facilities are the locations most likely to see proposals for new or modified parallel generation facilities. The Project area includes all developed areas in the City, which is largely built out in commercial, industrial, and government buildings, infrastructure, and residential development. While there are known historic and pre-historic resources in the City, undiscovered resources may also exist.

Environmental Setting

Cultural Resources

Cultural resources are historic and prehistoric archaeological sites, historic-aged architectural or engineering features and structures, and places of traditional cultural significance to Native Americans and other ethnic groups.

A summary of the area's cultural setting is provided below. The Prehistoric Period covers the era prior to sustained European contact (AD 1776), while the Historic Period covers the time subsequent to that contact. The Ethnohistoric Period is discussed in Section 3.18, Tribal Cultural Resources.

Prehistory

Paleo-Indian Period (11,500–4,500 years before present [BP]). In the broad northern California setting, cultural resources are documented as early as early as 9,000-11,500 BP. Native American occupation and use of the Santa Clara Valley, however, is documented as beginning around 11,000 BP. Natural environmental changes to the Bay Area landscape have occurred since humans' first arrival. Many of the landforms originally available for human habitation in prehistory were inundated as sea levels rose and flooded the Franciscan Valley, burying sites with sediments. Since the earliest systematic studies of central California and Bay Area archaeology in the 1950s, researchers have recognized that a significant portion of the archaeological record is buried in the fans and massive alluvial plains of the lowland valleys (Heizer, 1949, 1950, 1952; Heizer and Cook, 1953; Lillard et al., 1939; Meighan, 1965).

Paleoindian cultural material in the Bay Area is sparse. The Coyote Narrows (SCR-177) and Blood Alley (CA-SCL-178) sites in the Santa Clara Valley, are considered two of the oldest cultural deposits in the Bay Area and were discovered in a buried soil, dated between 11,000 and 9,500 years old (Fitzgerald and Porcasi, 2003; Hildebrandt, 1983). Their deposits, which indicate diverse resource exploitation, demonstrate that the general region was occupied throughout this time segment, but strong insight into the nature of this early occupation is still lacking.

Early Horizon (4,500–3,500 BP). The Early Horizon is characterized by a mobile forager pattern throughout the Bay Area. The Metcalf Creek Site (SCL-178), a deeply stratified deposit in the southern Santa Clara Valley, yielded cultural materials as deep as 9 meters below the surface (Fitzgerald and Porcasi, 2003). New groundstone technology and the first cut shell beads in mortuaries signal sedentism, regional symbolic integration, and increased regional trade in the Bay Area, beginning at 3500 BP (calibrated date), signaling the end of the Early Horizon.

Middle Horizon (3,500–1,500 BP). Sites of the Middle Horizon period are more common throughout the Santa Clara Valley. These sites usually have deep, stratified deposits that contain large quantities of ash and charcoal, fire-altered rock, and fish, bird, and mammal faunal remains. The presence of significant

numbers of mortars and pestles is suggestive of a growing reliance upon gathered plant foods as opposed to hunted animal foods. An increase in violence is suggested by the number of Middle Horizon burials found with projectile points embedded in the bones or with other physical markers of violence (Fitzgerald, 1991).

Late Horizon Period (1,500 BP–A.D. 1769). Sites during this time period are the most numerous and are composed of extensive midden deposits. Important mound/midden sites along the Peninsula margins include the University Village site (SMA-77), the San Bruno Mountain mound (SMA-40), and the Ynigo Mound (SCL-12/H). Several technological and social developments characterize the Late Horizon. Bow and arrow introduced replace atlatl and dart. Dietary emphasis on acorns and seeds are prevalent in the materials recovered from excavated sites. Evidence exists of a large, expansive trade system with surrounding areas to obtain valuable items and resources. Territorial boundaries became well established with evidence of distinctions in social status linked to wealth becoming increasingly common (Levy, 1978).

Archaeological information suggests a slow steady increase in the prehistoric population over time with an increasing focus on permanent settlements with large populations in later periods. This change from hunter-collectors to an increased sedentary lifestyle is due both to more efficient resource procurement as well as a focus on staple food exploitation, the increased ability to store food at village locations, and the development of increasingly complex social and political systems including long-distance trade networks. Prehistoric site types recorded in the region consist of lithic scatters, quarries, habitation sites including main villages, bedrock mortars or other milling feature sites, petroglyph sites, and isolated burial sites.

Ethnography

A review of the ethnographic context for the area appears in Section 3.18, Tribal Cultural Resources.

Regional History

The Historic Period of the Santa Clara Valley is generally divided into three major periods: the Spanish period (1777–1821), the Mexican period (1822–1848), and the American period (1848–present).

Spanish Period (A.D. 1777–1821). Spanish explorers in the late 1760s and 1770s were the first Europeans to traverse the Santa Clara Valley. The first party, led by Gaspar de Portola and Father Juan Crespi, arrived in the Alviso-San Jose area in the fall of 1769. The following year, Pedro Fages led another party through the Santa Clara Valley, and in 1772 Fages returned to the same vicinity with Crespi. In 1776, the exploration party of Juan Bautista de Anza and Father Pedro Font traveled through the Santa Clara Valley. The favorable reports of Anza and Font led to the establishment of both Mission Santa Clara and the Pueblo San Jose de Guadalupe in 1777 (Hart, 1987; Cutter, 1978).

Mexican Period (A.D. 1822–1848). The Mexican revolt against Spain (1822) followed by the secularization of the missions (1834) changed land ownership patterns in the Santa Clara Valley. The Spanish philosophy of government was directed at the founding of presidios, missions, and secular towns with the land held by the Crown, whereas the later Mexican policy stressed individual ownership of the land. During the Mexican Period, vast tracts of land were granted to individuals, including former mission lands that had reverted to public domain (Broek, 1932; Hendry and Bowman, 1940; Hart, 1987).

American Period (A.D. 1848–Present). The population of the Santa Clara Valley began to expand significantly following the 1848 Gold Rush, followed later by further population expansion during the construction of the railroad to San Francisco in 1864, and the completion of the transcontinental railroad in 1869 (Findlay and Garaventa, 1983). Throughout the late nineteenth century in the Santa Clara Valley, rancho, pueblo, and mission lands were subdivided as the result of population growth, Anglo-American

takeover, and the confirmation of property titles. Large cattle ranches were converted to facilitate farming varied crops, and this agricultural land-use pattern continued throughout the American Period. From 1875 onward, the need for an expanding fruit market led to innovations in fruit preservation and shipping, including: drying fruit, canning fruit, and shipping fresh fruit in refrigerated cars. This created a wider economic boom that attracted new residents to the Santa Clara Valley (Broek, 1932). Since the 1990s, this agrarian land-use pattern has been gradually displaced by residential housing, commercial centers, and the development of research and manufacturing facilities associated with the electronics industry. The contemporary focus on technological advancement has resulted in the designation of the general region as the “Silicon Valley.”

Native American Consultation

Please refer to Section 3.18, Tribal Cultural Resources, for information concerning tribal consultation.

Paleontology

Please refer to Section 3.7, Geology and Soils, for information concerning paleontological resources.

Regulatory Background

State

State of California CEQA Guidelines. State of California CEQA Guidelines require that historical resources and unique archaeological resources be taken into consideration during the CEQA planning process (CEQA Guidelines §15064.5; PRC §21083.2). If feasible, adverse effects to the significance of historical resources must be avoided or the effects mitigated (CEQA Guidelines §15064.5(b)(4)). State CEQA Guidelines require that all feasible mitigation be undertaken even if the prescribed mitigation does not mitigate impacts to a less than significant level (California Office of Historic Preservation (OHP) 2001b:6).

The term that CEQA uses for significant cultural resources is “historical resource,” which is defined as a resource that meets one or more of the following criteria: (1) listed in, or determined eligible for listing, in the California Register of Historical Resources (California Register); (2) listed in a local register of historical resources as defined in PRC Section 5020.1(k); (3) identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or (4) determined to be a historical resource by a project’s lead agency (PRC Section 21084.1 and State CEQA Guidelines §15064.5(a)). A historical resource consists of:

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.... 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

CEQA Guidelines Section 15064.5(a)(3). In accordance with State CEQA Guidelines Section 15064.5(b), a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a significant effect on the environment.

CEQA requires a lead agency to determine if an archaeological resource meets the definition of a historical resource, a unique archaeological resource, or neither (State CEQA Guidelines §15064.5(c)). Prior to considering potential impacts, the lead agency must determine whether an archaeological resource meets the definition of a historical resource in State CEQA Guidelines §15064.5(c)(1). If the archaeological

resource meets the definition of a historical resource, then it is treated like any other type of historical resource in accordance with State CEQA Guidelines §15126.4. If the archaeological resource does not meet the definition of a historical resource, then the lead agency determines whether it meets the definition of a unique archaeological resource as defined in CEQA Statutes §21083.2(g). In practice, most archaeological sites that meet the definition of a unique archaeological resource also meet the definition of a historical resource. If the archaeological resource meets the definition of a unique archaeological resource, then it must be treated in accordance with CEQA Statutes §21083.2. If the archaeological resource does not meet the definition of a historical resource or a unique archaeological resource, then effects to the resource are not considered significant effects on the environment (State CEQA Guidelines §15064.5(c)(4)).

California Health and Safety Code Section 7050.5. California HSC Section 7050.5 states that in the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the remains are discovered has determined whether or not the remains are subject to the coroner's authority. If the human remains are of Native American origin, the County Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of this identification. The NAHC will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and associated grave goods.

Public Resources Code Section 5097.5. PRC Section 5097.5 provides for the protection of cultural resources. This PRC section prohibits the removal, destruction, injury, or defacement of archaeological features on any lands under the jurisdiction of State or local authorities. PRC Section 5097.5 also affirms that no person shall willingly or knowingly excavate, remove, or otherwise destroy a vertebrate paleontological site or paleontological feature without the express permission of the overseeing public land agency. Section 3.7, Geology and Soils, in this EIR includes more information on the topic of paleontological resources.

California Register of Historical Resources Criteria of Evaluation. The State of California Historical Resources Commission has designed the California Register for use by State and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The California Register is the authoritative guide to the State's significant historical and archaeological resources.

The California Register program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for State historic preservation grant funding, and affords certain protections under CEQA. The following criteria are used when determining if a particular resource has architectural, historical, archaeological, or cultural significance.

- **Criterion 1:** Is the resource associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States?
- **Criterion 2:** Is the resource associated with the lives of persons important to local, California, or national history?
- **Criterion 3:** Does the resource embody the distinctive characteristics of a type, period, region, method of construction, or represent the work of a master or possesses high artistic values?
- **Criterion 4:** Has the resource yielded, or have the potential to yield, information important to the prehistory or history of the local area, California, or the nation?

Local

City of Santa Clara General Plan (2010-2035). The City's current General Plan (2014) provides information to the community to define acceptable development. The General Plan and its supporting EIR (City of Santa Clara, 2011) are a guide for decisions by the City Council, Planning Commission and other governmental agencies on specific development applications. The current General Plan reports existing conditions, policies and implementation measures for archaeological resources including:

Continue to require archeological investigations of all proposed construction sites in sensitive area, such as within 500 feet of a natural watercourse. An archaeological survey shall be prepared by the project applicant to the City's satisfaction, including limited sub-surface excavation, and possibly to include a detailed subsurface investigation when important resources cannot be avoided. (Ongoing, Planning Div., Bldg. Div.)

Continue to require prior to development, whenever archeological remains are found, a plan for preserving, removing, and recording the find, to be prepared to the City's satisfaction by a professional archeologist. (Ongoing, Planning Div., Bldg. Div.)

In addition, the following Goals and Policies are identified:

Archaeological and Cultural Resources Goals

- **Goal 5.6.3-G1.** Protection and preservation of cultural resources, as well as archaeological and paleontological sites.
- **Goal 5.6.3-G2.** Appropriate mitigation in the event that human remains, archaeological resources or paleontological resources are discovered during construction activities.

Archaeological and Cultural Resources Policies

- **Policy 5.6.3-P1.** Require that new development avoid or reduce potential impacts to archaeological, paleontological and cultural resources.
- **Policy 5.6.3-P2.** Encourage salvage and preservation of scientifically valuable paleontological or archaeological materials.
- **Policy 5.6.3-P3.** Consult with California Native American tribes prior to considering amendments to the City's General Plan.
- **Policy 5.6.3-P4.** Require that a qualified paleontologist/archaeologist monitor all grading and/or excavation if there is a potential to affect archeological or paleontological resources, including sites within 500 feet of natural water courses and in the Old Quad neighborhood.
- **Policy 5.6.3-P5.** In the event that archaeological/paleontological resources are discovered, require that work be suspended until the significance of the find and recommended actions are determined by a qualified archaeologist/paleontologist.
- **Policy 5.6.3-P6.** In the event that human remains are discovered, work with the appropriate Native American representative and follow the procedures set forth in State law.

City of Santa Clara Historical and Landmarks Commission. In order to support its historic preservation goals, the City established a Historical and Landmarks Commission and obtained recognition by the State

Office of Historic Preservation of the City as a Certified Local Government (CLG). The City currently uses the following tools to evaluate historic resources:

The Historical and Landmarks Commission advises the City Council on all matters pertaining to historical landmarks, names, and renaming of streets, museums and the establishment thereof in the City, and in the marking and preservation of historical landmarks and places. As required by the State CLG program, the City has established a list of Architecturally or Historically Significant Properties, which is the foundation for the Commission's recommendations.

The Criteria for Local Significance, establishes evaluation measures, to ensure that the resource is at least 50 years old and that the property is associated with an important individual or event, an architectural innovation, and/or an archaeological contribution in order to be deemed significant. The City maintains a list of qualified historic consultants for these evaluations.

Architecturally or Historically Significant Properties refer to prehistoric and historic features, structures, sites or properties that represent important aspects of the City's heritage. Historic Preservation policies strengthen the City's Historic Preservation Goals, providing direction for changes to historic resources and new development proposed within 100 feet of historic properties in order to evaluate any potential effects on the historic context for the resource. A 100-foot radius, defined as the Area of Historic Sensitivity, is approximately equal to all properties abutting, across the street, and adjacent to abutting properties from a historic resource. This would comprise a little less than a typical City block. Preservation of Santa Clara's long history is also supported by policies that protect archaeological resources, such as relics found in burial sites.

City of Santa Clara Criteria for Local Significance. The Criteria for Local Significance were adopted on April 8, 2004, by the City of Santa Clara City Council. These criteria establish evaluation measures that help to determine significance for properties not yet included on the historic list. Any building, site, or property in the City that is 50 years old or older and meets certain criteria of architectural, cultural, historical, geographical or archeological significance is potentially eligible. As buildings and other resources age, additional properties will be added to the inventory. In order to accomplish this, a property owner can apply to have their property listed as a historic resource, or the City can nominate properties. The Historical and Landmarks Commission evaluates these applications and forwards a recommendation to the City council. Updates to the Historic Preservation and Resource Inventory require an amendment to the General Plan.

■ **Criteria for Historical or Cultural Significance.** To be historically or culturally significant, a property must meet at least one of the following criteria:

1. *The site, building or property has character, interest, integrity and reflects the heritage and cultural development of the city, region, State, or nation.*
2. *The property is associated with a historical event.*
3. *The property is associated with an important individual or group who contributed in a significant way to the political, social and/or cultural life of the community.*
4. *The property is associated with a significant industrial, institutional, commercial, agricultural, or transportation activity.*
5. *A building's direct association with broad patterns of local area history, including development and settlement patterns, early or important transportation routes or social, political, or economic trends and activities.*

6. *Included is the recognition of urban street pattern and infrastructure.*
7. *A notable historical relationship between a site, building, or property's site and its immediate environment, including original native trees, topographical features, outbuildings or agricultural setting.*

■ **Criteria for Architectural Significance.** To be architecturally significant, a property must meet at least one of the following criteria:

1. *The property characterizes an architectural style associated with a particular era and/or ethnic group.*
2. *The property is identified with a particular architect, master builder or craftsman.*
3. *The property is architecturally unique or innovative.*
4. *The property has a strong or unique relationship to other areas potentially eligible for preservation because of architectural significance.*
5. *The property has a visual symbolic meaning or appeal for the community.*
6. *A building's unique or uncommon building materials, or its historically early or innovative method of construction or assembly.*
7. *A building's notable or special attributes of an aesthetic or functional nature. These may include massing, proportion, materials, details, fenestration, ornamentation, artwork or functional layout.*

■ **Criteria for Geographic Significance.** To be geographically significant, a property must meet at least one of the following criteria:

1. *A neighborhood, group or unique area directly associated with broad patterns of local area history.*
2. *A building's continuity and compatibility with adjacent buildings and/or visual contribution to a group of similar buildings.*
3. *An intact, historical landscape or landscape features associated with an existing building.*
4. *A notable use of landscaping design in conjunction with an existing building.*

■ **Criteria for Archaeological Significance.** For the purposes of CEQA, an "important archaeological resource" is one which:

1. *Is associated with an event or person of:*
2. *Recognized significance in California or American history, or*
3. *Recognized scientific importance in prehistory.*
4. *Can provide information, which is both of demonstrable public interest, and useful in addressing scientifically consequential and reasonable or archaeological research questions;*
5. *Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;*
6. *Is at least 100 years old and possesses substantial stratigraphic integrity; or*
7. *Involves important research questions that historical research has shown can be answered only with archaeological methods.*

3.5.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5.

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

The analysis of cultural resources focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for cultural resources, the continued operation and use of existing grid resources to serve electricity would not change the significance of historical or archaeological resources in the surroundings of existing grid-connected generating facilities. Any Project-related change in the continued operation and use of existing grid-connected generating facilities would be unlikely to lead to any new ground disturbance, earthwork, or other physical change that could cause substantial adverse effects to cultural resources. As a result, no further discussion of the cultural resources effects of serving electricity to the customers affected by the Project is necessary.

CUL-1. Would the project cause a substantial adverse change in the significance of an historical resource pursuant to §15064.5 [§15064.5 generally defines historical resource under CEQA]?

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations, and the amendments would not directly or indirectly result in the approval of any specific construction activities that could substantially affect historical resources.

Customers could choose to undertake development of new renewable parallel generation at customer sites where development could affect historical resources during construction and as a consequence of the presence of the new facilities. By design, parallel generation facilities are normally likely to be located within or near the customer's site of electricity use. Implementation of City policies for protection of landmarks and historical resources would avoid significant impacts to the City's known historical resources (City of Santa Clara, 2011).

In addition to the City's known historical resources, there is the possibility that presently unidentified historical resources exist below the ground surface that could be discovered and damaged or destroyed during ground disturbing work. The possibility of a discovery during the development of a renewable parallel generation facility would not differ from the possibility of a discovery during the development of a facility using fossil fuels and would not be changed by the Project. Laws and regulations are in place that serve to mitigate adverse impacts to historic resources. For any individual proposal at a location that could affect known or potential historical resources, measures available to avoid impacts could include pre-construction surveys, worker training on dealing with unanticipated discoveries, and halting construction in the vicinity of a discovery until the resource is evaluated by a qualified archaeologist. If warranted by the project, implementation of project-specific measures, and compliance with applicable laws and regulations, would avoid significant impacts to historical resources.

CUL-2. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations, and the amendments would not directly or indirectly result in the approval of any specific construction activities that could substantially affect archaeological resources.

Customers could choose to undertake development of new renewable parallel generation at customer sites where development could affect archaeological resources during construction. Because parallel generation facilities are normally located within or near the customer's site of electricity use, development activities would normally be confined to areas previously disturbed by construction of the customer's site. While some archaeological resources are known, many others may remain buried and there is the possibility that unidentified archaeological resources could be discovered and damaged or destroyed during ground disturbing work. The possibility of a discovery during the development of a parallel generation facility would not be changed by the Project. For individual proposals, measures to avoid impacts could include pre-construction surveys, worker training on dealing with unanticipated discoveries, and halting construction in the vicinity of a discovery until the resource is evaluated by a qualified archaeologist. Implementation of City policies for protection of archaeological resources would minimize the potential effects and avoid significant impacts to archaeological resources (City of Santa Clara, 2011).

CUL-3. Would the project disturb any human remains, including those interred outside of formal cemeteries?

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations, and the amendments would not directly or indirectly result in the approval of any specific construction activities that could lead to disturbance of human remains.

Customers could choose to undertake development of new renewable parallel generation at customer sites where development could disturb human remains during construction. There exists the possibility that undocumented historic and prehistoric burials and human remains may occur in the City. While new renewable parallel generation facilities are most likely to be proposed for sites near existing buildings on previously disturbed land, human remains could be discovered and damaged or destroyed during ground disturbance. The possibility of a discovery during the development of a parallel generation facility would not be changed by the Project. Specific laws and regulations are in place that address the protocols to follow in the event of such a discovery. Measures to minimize adverse effects could include evaluation, protection, and appropriate disposition of human remains consistent with applicable laws and regulation. Implementation of City policies for discovery of human remains would avoid a significant impact associated with human remains (City of Santa Clara, 2011).

3.6. Energy

3.6.1. Setting

Approving the Renewable Parallel Generation Facilities Resolution and changing SVP's Rules and Regulations would limit the interconnection of parallel generation to facilities that meet the criteria for renewable electrical generation facilities as defined in the California Public Resources Code.

As the City of Santa Clara municipal electric utility, SVP owns power generation facilities, has investments in joint ventures that produce electric power, and trades power on the open market. These efforts are directed toward ensuring its retail electricity customers (the citizens, organizations, and businesses of the City of Santa Clara) a highly reliable source of electric power at low, stable rates (City of Santa Clara, 2022).

The energy sources that make up the mix of power supplied to SVP's customers, relative to the 2020 California power mix, are summarized from utility-specific Power Content Label data gathered by the California Energy Commission shown in Table 3.6-1 (CEC, 2022a).

Table 3.6-1. Energy Sources of Electricity Supplied to Customers (2020 Power Content)

Energy Resources	Santa Clara Residential Mix	Santa Clara Non-Residential Mix	2020 California Power Mix
Eligible Renewable	40.2%	31.7%	33.1%
Biomass & biowaste	0%	2.6%	2.5%
Geothermal	0%	8.1%	4.9%
Eligible hydroelectric	0%	8.8%	1.4%
Solar	11.1%	0%	13.2%
Wind	29.1%	12.2%	11.1%
Coal	0%	0%	2.7%
Large Hydroelectric	59.8%	12.2%	12.2%
Natural Gas	0%	18.4%	37.1%
Nuclear	0%	0%	9.3%
Other	0%	0%	0.2%
Unspecified sources of power*	0%	37.6%	5.4%
Total	100%	100%	100%

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

Source: CEC 2022a, 2020 Power Content Label for SVP.

For recent years including 2020, the annual volume of electricity consumption served to SVP customers increased from 2,986 gigawatt-hours (GWh) in 2014 to 3,723 GWh in 2020. Table 3.6-2 shows the recent rates of annual baseline electricity consumption in SVP according to California Energy Commission (CEC) data, separated by customer classes.

Table 3.6-2. Electricity Consumption for Load Served by SVP (GWh per year)

Sector, Served by SVP	2014	2015	2016	2017	2018	2019	2020
Ag & Water Pump	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.1	0.1
Commercial Building	1,525.5	1,953.6	2,216.7	2,332.2	2,393.2	2,437.1	2,547.2
Commercial Other	51.4	44.6	42.3	41.0	41.5	43.8	44.2
Industry	1,126.1	986.8	911.7	896.2	862.6	821.7	816.7
Mining & Construction	40.6	20.2	19.1	18.8	24.7	35.6	46.5

Table 3.6-2. Electricity Consumption for Load Served by SVP (GWh per year)

Sector, Served by SVP	2014	2015	2016	2017	2018	2019	2020
Residential	233.8	228.4	222.2	235.6	226.0	234.5	264.7
Streetlight	8.7	6.5	4.3	4.3	3.5	3.0	3.0
SVP Total Usage	2,986.1	3,240.1	3,416.4	3,528.1	3,551.5	3,575.7	3,722.5

Note: For usage expressed in gigawatt-hours of energy, one GWh equals 1,000 megawatt-hours (MWh).
Source: CEC, 2022b; Electricity Consumption by Entity (<http://www.ecdms.energy.ca.gov/elecbyutil.aspx>).

Regulatory Background

Energy Action Plan and Loading Order. California has mandated and implemented aggressive energy-use reduction programs for electricity and other resources. In 2003, California’s first Energy Action Plan (EAP) established a high-level, coherent approach to meeting California’s electricity and natural gas needs and set forth the “loading order” to address California’s future energy needs. The “loading order” established that the state, in meeting its energy needs, would invest first in energy efficiency and demand-side resources, followed by renewable resources, and only then in clean conventional electricity supply (CPUC, 2008). Since that time, the California Public Utilities Commission (CPUC) and CEC have overseen the plans, policies, and programs for prioritizing the preferred resources, including energy efficiency and renewable energy.

California’s Renewables Portfolio Standard (RPS). Electric utilities in California must procure a minimum quantity of the electricity sales from eligible renewable energy resources as specified by RPS requirements. The most-recent update to the RPS targets was set forth in 2018 with the “100 Percent Clean Energy Act of 2018” [Senate Bill 100 (SB 100)], which establishes the policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers by December 31, 2045. SB 100 requires the CPUC and CEC to ensure that implementation of this policy does not cause or contribute to greenhouse gas emissions increases elsewhere in the western grid.

Integrated Resource Planning. An Integrated Resource Plan (IRP) is an electricity system planning document that lays out the energy resource needs, policy goals, physical and operational constraints, and the general priorities or proposed resource choices of an electric utility, including customer-side preferred resources. Through Senate Bill 350 (De León, Chapter 547, Statutes of 2015) (SB 350), the publicly owned utilities (POU) such as SVP must adopt and file an IRP that is subject to a review by the CEC for consistency with statewide targets for energy efficiency, renewable resources, and greenhouse gas emissions reductions.

The CEC prepares the biennial Integrated Energy Policy Report (IEPR) that provides an economy-wide assessment of California’s energy demand. The IEPR process provides forecasts for electricity, natural gas, and transportation fuel sectors, and the CEC routinely updates these forecasts to facilitate planning by utilities throughout California.

Consistent with SB 350 requirements, SVP’s 2018 IRP documents the 20-year resource plan that includes increasing the procurement of renewable resources and reducing SVP’s use of fossil-fueled resources to serve load (SVP, 2019). The 2018 IRP was approved by City Council in November 2018 and reviewed for consistency with Public Utilities Code Section 9621 requirements, in a technical report by California Energy Commission staff (CEC, 2019).³⁴

³⁴ CEC. 2019. *Staff Paper: Review of Silicon Valley Power’s 2018 Integrated Resource Plan*. California Energy Commission. Publication Number: CEC-200-2019-017.

The CEC review considers consistency with the statewide forecasts. SVP’s energy demand is projected to increase from 4,448 GWh in 2020 to 5,281 GWh in 2030; and SVP’s system peak demand is projected to grow from 680 MW in 2020 to 770 MW in 2030 (SVP, 2019). The CEC bases its growth forecasts on an analysis of historical electricity use and how demand varies with economic and demographic trends. The forecasts account for efficiency gains and additional deployment of solar PV. For SVP, the CEC staff adjusted its forecasts to also account for load growth in SVP due to the high density of data centers and planned addition of new data centers, that drive a higher energy demand within the SVP territory (CEC, 2019).

Table 3.6-3 summarizes the load and growth trend presented in SVP’s 2018 IRP.

Table 3.6-3. Projected SVP System Peak Demand and Energy Requirements

Year	Projected System Peak Demand (MW)	Projected System Energy Demand (GWh)
2020	680	4,448
2021	702	4,632
2022	715	4,745
2023	730	4,855
2024	723	4,979
2025	736	5,053
2026	742	5,114
2027	747	5,126
2028	754	5,177
2029	762	5,229
2030	770	5,281
2031	778	5,334
2032	786	5,387
2033	794	5,441
2034	803	5,495
2035	811	5,550
2036	820	5,606
2037	828	5,662
2038	837	5,719

Note: For energy in gigawatt-hours, one GWh equals 1,000 MWh.

Source: SVP, 2019: Table 8-3 (System Peak Demand, MW) and Table 8-4 (System Energy Demand, GWh).

City of Santa Clara, Building Electrification and Electric Vehicle Reach Code Ordinance. In October 2021, through Ordinance No. 2034, the City adopted updates to the Santa Clara City Code to modernize the “Energy Code for the City of Santa Clara” in Chapter 15.36 and the “Green Building Standards Code” in Chapter 15.38. These updated building standards reduce the need for natural gas plumbing and piping inside buildings and achieve greenhouse gas reductions by increasing the electrification of building energy use.

City of Santa Clara General Plan. The City of Santa Clara 2010-2035 General Plan (General Plan) includes the three overarching energy goals and policies that seek to conserve energy and generate energy using renewable sources (City of Santa Clara, 2014):

- **Goal 5.10.3-G1.** Energy supply and distribution maximizes the use of renewable resources.
- **Goal 5.10.3-G2.** Implementation of energy conservation measures to reduce consumption.
- **Goal 5.10.3-G3.** Adequate energy service to residents, businesses, and municipal operations.
- **Policy 5.10.3-P1.** Promote the use of renewable energy resources, conservation and recycling programs.
- **Policy 5.10.3-P2.** Transition away from using coal as an energy source to renewable resources by replacing coal in Silicon Valley Power's portfolio, exploring City owned property for renewable energy projects, developing solar projects, and incentivizing solar projects for residents and businesses, consistent with the CAP.
- **Policy 5.10.3-P7.** Encourage installation of solar energy collection through solar hot water heaters and photovoltaic arrays.
- **Policy 5.10.3-P11.** Continue innovative energy programs to develop cost effective alternative power sources and encourage conservation.
- **Policy 5.10.3-P12.** Work with Silicon Valley Power to implement adequate energy distribution facilities to meet the demand generated by new development.

State CEQA Guidelines. The California Natural Resources Agency adopted certain amendments to the State CEQA Guidelines effective in 2019, to change how CEQA Lead Agencies consider the environmental impacts of energy use. CEQA Guidelines Section 15126.2(b) and Appendix F require analysis of a project's energy use, in order to assure that energy implications are considered in project decisions. CEQA requires a discussion of the potential environmental effects of energy resources used by projects, with particular emphasis on avoiding or reducing the "wasteful, inefficient, and unnecessary consumption of energy" (see Public Resources Code section 21100(b)(3)).

3.6.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

EN-1. *Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations. The amendments would not directly or indirectly result in the approval of any specific construction activities or the approval of any new energy consumption by customers or SVP. However, because the amendments may change the type of energy consumption by customers planning to interconnect parallel generation, this EIR evaluates whether the Project would result in potentially significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources.

From Appendix F of the State CEQA Guidelines, the following types of energy-related environmental impacts would be relevant to the Project:

Project Energy Requirements and Effects on Energy Resources. The Project would require use of renewable energy resources for any new or modified parallel generation, and customers could choose to undertake development of new renewable parallel generation at customer sites.

Electric utility service would be provided by SVP to serve the demand of customers including those planning to use non-renewable parallel generation but prohibited by the Project from doing so. The 2018 IRP includes increasing the procurement of renewable resources and reducing SVP's use of fossil-fueled resources to serve load. Growing peak demand will be met by adding renewable capacity to SVP's existing generating capacity. All power that flows to the customers from SVP must meet California's RPS. Consistent with SB 100, SVP is also planning for 100 percent of total retail sales of electricity to come from eligible renewable energy resources and zero-carbon resources by 2045.

Any potential variation in the use of existing grid resources brought about by the Project will be minimized through the City's established plans and policies to add renewable resources to the existing portfolio. Wasteful, inefficient, or unnecessary use of energy resources would be unlikely to occur because of SVP's existing commitments to reduce the use of natural gas power plants and unspecified imports in the electricity supply going forward, and this impact would be less-than-significant.

Project Effects on Local and Regional Energy Supplies and on Requirements for Additional Capacity. The Project would not result in the approval of any specific construction activities or direct use of energy by customers or SVP. With the Project, customers would not be able to use natural gas or other fossil fuels for new or modified parallel generation, and no additional use of natural gas or other fossil fuels would occur for new or modified parallel generation in the City.

The electricity supply to serve SVP customers, including those affected by the Project, will be delivered from SVP's existing portfolio of resources and renewable resources added as a result of implementing the 2018 IRP. SVP's obligation to serve customers includes planning for and procuring the necessary supply of energy resources and ensuring resource adequacy and the adequacy of transmission and distribution service. In the baseline of existing conditions, SVP routinely imports power from facilities both within California and outside the State or generates electricity to serve the electrical demand of its customers. Because the Project would not change SVP's plans to procure the necessary power supply and generating capacity to serve the customer load, this impact would be less than significant.

Project Effects on Peak and Base Period Demands for Electricity and Other Forms of Energy. Regardless of the level of on-site generation installed by customers, SVP must plan for and procure the necessary energy resources to serve the peak and base period demands of all customers at all times. SVP has the obligation to serve the customer load and the peak energy needs in the case of an outage of customer-sited parallel generation. Thus, SVP's obligation to provide adequate resources to meet these load and energy needs would not change with the Project. Relative to existing conditions, the peak demand and demand for electricity in the City is forecasted to grow (Table 3.6-3).

To the extent that a change in SVP's anticipated peak or base period demands and energy needs could indirectly occur as a result of the Project, such changes would be met by the City's established plans and policies to provide adequate resources for reliability and to add renewable resources to the existing portfolio. Consistent with the California Public Utilities Code, Section 9620(a), and other statutory requirements, SVP must prudently plan for and procure resources to efficiently provide grid resources and serve customer load, and this would occur regardless of any change in energy demand brought about by the Project. While the Project could incrementally increase the use of grid resources by customers, any incre-

mental demand would be satisfied by SVP's ongoing use of energy from the state energy grid. The Project would not change the City's ongoing plans and policies for procuring renewable energy supplies. Wasteful, inefficient, or unnecessary use of energy resources would be unlikely to occur because of SVP's existing commitments to serve the growing demand while reducing the use of natural gas power plants and unspecified imports in the electricity supply going forward. This impact would be less-than-significant.

Because the Project-related effects on energy resources and on energy supplies and capacity would not lead to wasteful, inefficient, or unnecessary consumption of energy, requiring use of renewable resources by new or modified parallel generation would have no potential to cause a significant environmental impact due to direct or indirect energy use.

EN-2. *Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

LESS THAN SIGNIFICANT. The Project would change SVP's Rules and Regulations to limit the interconnection of parallel generation to facilities that meet the criteria for renewable electrical generation facilities. The Project would apply to customers seeking to interconnect new or modified parallel generation. By requiring use of renewable resources, the Project would be consistent with state and local plans for renewable energy because the Project would ensure that renewable resources are used for any new or modified parallel generation at customers' sites.

The SVP territory is experiencing retail demand growth driven primarily from the industrial sector and secondarily from the commercial sector. The 2010-2035 General Plan anticipated the energy implications of the projected future growth in the City that has energy implications, including land use, housing, transportation and water usage (City of Santa Clara, 2014). The Project would require use of on-site renewable energy generation for parallel generation, and this would be consistent with the General Plan Goal 5.1.3-G1, to maximize the use of renewable resources.

The 2018 IRP shows that the SVP system had a peak demand of 587 MW in 2017 that was projected to increase to 680 MW for 2020 (SVP, 2019). Since 2011, SVP had seen a steady 2 to 3 percent increase in demand, until 2015-2017 when the average growth increased to 5 percent or more each year. With recent load growth of 5 to 7 percent and increasing demand from data centers, SVP plans to increase the capacity of its existing system (SVP, 2019).

The 2018 IRP indicates that growing peak demand will be met by adding renewable capacity to SVP's existing generating capacity. The Project would have no impact on SVP's ability to respond to load growth and provide a reliable supply of electricity. Similarly, the Project would not change how SVP complies with energy standards governing reliability or change how customers comply with energy-use standards. As in the baseline of existing conditions, to provide service and retail sales of electricity to customers affected by the Project, SVP must procure renewable energy generation in compliance with RPS targets.

The Project would not conflict with any state or local plan for prioritizing renewable energy or energy efficiency. This impact would be less than significant, and no mitigation is required.

3.7. Geology and Soils

3.7.1. Setting

The Project would apply to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. The most likely locations for parallel generation facilities would be developed and disturbed areas near or adjacent to the customer's site of electricity use.

Baseline geologic, seismic, and soils information pertinent to this section are available from published and unpublished literature, GIS data, and online sources. Paleontological resources are also addressed in this section. These resources include fossil plants and animals, and other evidence of past life, such as preserved animal tracks and burrows, and can include whole geologic units that are documented as containing sensitive and unique paleontological remains.

Regional Geologic Setting

The City of Santa Clara is located in the Santa Clara Valley (Valley), a relatively flat alluvial basin. The Santa Cruz Mountains borders the Valley to the southwest and west. The Diablo Mountain Range borders the Valley to the east and the San Francisco Bay borders the Valley to the north. The Valley rises from sea level at the southern end of San Francisco Bay to more than 2,000 feet to the east. The average grade of the valley floor ranges from nearly zero, or horizontal, to about 2 percent, with the surrounding hillsides have steeper grades (City of Santa Clara, 2011).

The Santa Clara Valley is located within the Coast Ranges geomorphic province of California. This area is characterized by ridges and valleys and by strongly deformed sedimentary and metamorphic rocks of the Franciscan Complex and sediments deposited by a series of merging alluvial fans from streams that drain the adjacent mountains during recent geologic times. The area's groundwater aquifers are in the alluvial sediments. The alluvial deposits in the Valley derive from the Diablo Range and the Santa Cruz Mountains. In the north-central area of the Valley, the alluvial deposits are interbedded with bay and lacustrine deposits. Soil types in the area include clay (low-lying central areas), loam and gravelly loam (northern area of the Valley), and eroded rock clay loam (foothills) (City of Santa Clara, 2011).

Local Geology

Most of the City of Santa Clara is located on a gently sloping alluvial fan deposits making up the valley floor in the north-central Santa Clara Valley. The deposits consist of gravel, sand and finer sediments. Natural levee deposits consisting of silt and clay are located along the City's major streams. Man-made engineered levees have been constructed over many but not all of the natural levee deposits for flood control (City of Santa Clara, 2011).

Artificial Fill

Artificial fill, often referred to as undocumented or man-made fill, has been placed throughout the City. Generally, artificial fill is comprised varying amounts of sand, clay, and gravel, with local areas of man-made debris such as lumber, concrete and brick fragments, and industrial slag materials. Consistency of the clays range from soft to very stiff, and density of the sands range from very loose to medium dense. The artificial fills in the City include materials that were placed to fill in naturally low areas, to create building pads and roadways, and to construct landfills. In some cases, older, non-engineered fills have been placed in the City without standards for fill materials or compaction. Building on non-engineered fills can result in the excessive settlement of structures, pavements, and utilities. However, artificial fills placed

using current engineering practices would avoid impacts from excessive or differential settlement (City of Santa Clara, 2011).

Soils

Soils within the City reflect the underlying rock type, the extent of weathering of the rock, the degree of slope, and the degree of human modification. The soils in the City have undergone a high degree of modification due to the development of the area and are mapped by the Natural Resource Conservation Service (NRCS) in many areas as urban land and soil complexes including urban land (NRCS, 2021). Soils mapped as urban land are soils in areas of high population in built environments that may have been altered by human activities, may be minimally altered, and may have areas of “native” soil within areas of altered soils.

Expansive soils are characterized by their ability to undergo significant volume change (shrink and swell) due to variations in soil moisture content. Changes in soil moisture can result from rainfall, landscape irrigation, utility leakage, roof drainage, and/or perched groundwater. Expansive soils are typically very fine grained with a high to very high percentage of clay. Such soil conditions can impact the structural integrity of buildings and other structures. Soils with moderate to high shrink-swell potential would be classified as expansive soils. Expansion potential is generally low in the soils underlying the City, with several small pockets of moderately to highly expansive soil in the northern part of the City (County of Santa Clara, 2021a; NRCS, 2021). Although mapped as low expansion potential, some of the mapped urban land soil complexes in the City contain soil units that have moderate to high expansion potential that may be present in areas where native or only partially modified soils exist (NRCS, 2021).

Unconsolidated, loose/soft soils can compress, collapse, or spread laterally under the weight of buildings and fill, causing settlement relative to the soil layer thickness. Commonly the thickness of unconsolidated soil can vary and differential settlement may occur across areas of different soil strength. Unconsolidated loose/soft soils also tend to amplify shaking during an earthquake, and can be susceptible to liquefaction, as discussed further below (City of Santa Clara, 2011). According to hazard mapping compiled by the County of Santa Clara (2021b), only a small area of soils near the Bay at the City’s northernmost edge are identified as compressible.

Potential soil erosion hazards vary depending on the use, conditions, and textures of the soils. The properties of soil that influence erosion by rainfall and runoff are those that affect the infiltration capacity of a soil, and those that affect the resistance of a soil to detachment and being carried away by falling or flowing water. Additionally, soils on steeper slopes would be more susceptible to erosion due to the effects of increased surface flow (runoff) on slopes where there is little time for water to infiltrate before runoff occurs. Soils containing high percentages of fine sands and silt and that are low in density, are generally the most erodible. With increasing clay and organic matter content of these soils, the potential for erosion decreases. Clays act as a binder to soil particles, reducing the potential for erosion. Soil erosion hazards are low to moderate throughout the City (City of Santa Clara, 2011; NRCS, 2021).

Slope Stability

Important factors that affect the slope stability of an area include the steepness of the slope, the relative strength of the underlying rock material, and the thickness and cohesion of the overlying colluvium and alluvium. The steeper the slope and/or the less strong the rock, the more likely the area is susceptible to landslides. The steeper the slope and the thicker the colluvium, the more likely the area is susceptible to debris flows. Another indication of unstable slopes is the presence of old or recent landslides or debris flows.

Since the City is located on a gently sloping and nearly flat valley floor, the City is not subject to landslide risk. According to landslide hazard mapping compiled by the County of Santa Clara (2012), the City of Santa Clara is not within a landslide hazard zone.

Subsidence

Land subsidence is a gradual settling or sudden sinking of the ground surface due to removal or displacement of subsurface earth materials. The principal causes of subsidence in California include compaction associated with withdrawal of fluids such as groundwater or petroleum. The compaction of susceptible aquifer systems caused by excessive groundwater pumping is the single largest cause of subsidence in California. As the groundwater is withdrawn, the pore-fluid pressure in the sediments decreases allowing the weight of the overlying sediment to permanently compact or compress the fine-grained units. This effect is most pronounced in younger, unconsolidated sediments. Land subsidence is generally characterized by a broad zone of deformation where differential settlements are small.

The northern Santa Clara Valley has experienced land subsidence due to excessive groundwater pumping for irrigation. Land subsidence that was first detected in the 1930s and by the mid-1990s measured up to a maximum of 14 feet, with approximately 100 square miles of land having subsided by more than one foot (USGS, 2021). Recharge of the groundwater basin and other projects to decrease over pumping of the basin were started in the mid-1930s to slow or arrest the subsidence. This recharge and management of pumping in the basin has effectively halted subsidence in the northern Santa Clara Valley (USGS, 2021).

Seismicity

Seismic faults can be classified as historically active, active, potentially active, or inactive, based on the following criteria (CGS, 1999):

- Faults that have generated earthquakes accompanied by surface rupture during historic time (approximately the last 200 years) and faults that exhibit aseismic fault creep are defined as Historically Active.
- Faults that show geologic evidence of movement within Holocene time (approximately the last 11,000 years) are defined as Active.
- Faults that show geologic evidence of movement during the Quaternary (approximately the last 1.6 million years) are defined as Potentially Active.
- Faults that show direct geologic evidence of inactivity during all of Quaternary time or longer are classified as Inactive.

Although it is difficult to quantify the probability that an earthquake will occur on a specific fault, this classification is based on the assumption that if a fault has moved during the Holocene epoch, it is likely to produce earthquakes in the future.

Periodic earthquakes accompanied by surface displacement can be expected to continue in the City. Active and potentially active faults within approximately 50 miles of the Project area that are significant potential seismic sources are shown in Table 3.7-1.

Table 3.7-1. Significant Active and Potentially Active Faults within 50 miles of the City

Fault Name	Approximate Distance ¹ (miles)	Estimated Maximum Magnitude ^{2,3}
Calaveras	3	6.3–7.0
Monte Vista-Shannon	15	6.5
Ortogonalita	16	7.1

Table 3.7-1. Significant Active and Potentially Active Faults within 50 miles of the City

Fault Name	Approximate Distance¹ (miles)	Estimated Maximum Magnitude^{2,3}
San Andreas	18	7.1
Greenville	19	7.0
Zayante-Vergeles	21	7.0
Hayward-Rodgers Creek	22	6.8–7.3
Quien Sabe	23	6.6
Great Valley 8	27	6.8
Great Valley 7	27	6.9
Great Valley 9	33	6.8
Monterey Bay-Tularcitos	37	7.3
Mount Diablo Thrust	38	6.7
Rinconada	39	7.5
San Gregorio	40	7.5

1 - Fault distances rounded to nearest mile, from the 2008 National Seismic Hazard Maps – Source Parameters website (USGS, 2018).

2 - Maximum Earthquake Magnitude – the maximum earthquake that appears capable of occurring under the presently known tectonic framework; magnitude listed is “Ellsworth-B” magnitude from USUSGS OF08-1128 (Documentation for the 2008 Update of the U.S. National Seismic Hazard Maps) unless otherwise noted.

3 - Range of Magnitude represents varying potential rupture scenarios with single or multiple segments rupturing in various combinations.

Fault Rupture

Fault rupture is the surface displacement that occurs when movement on a fault deep within the earth breaks through to the surface. Fault rupture and displacement almost always follows preexisting faults, which are zones of weakness; however, not all earthquakes result in surface rupture (i.e., earthquakes that occur on blind thrusts do not result in surface fault rupture). Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. In addition to damage caused by ground shaking from an earthquake, fault rupture is damaging to buildings and other structures due to the differential displacement and deformation of the ground surface that occurs from the fault offset, leading to damage or collapse of structures across this zone.

While the closest fault is the active Calaveras fault, the City does not contain any faults zoned under the Alquist-Priolo Earthquake Fault Zoning Act (CGS, 2007, as cited in City of Santa Clara, 2011). There is no risk of surface fault rupture in the City of Santa Clara (County of Santa Clara, 2012).

Ground Shaking

An earthquake is classified by the amount of energy released, which traditionally has been quantified using the Richter scale. Recently, seismologists have begun using a Moment Magnitude (M) scale because it provides a more accurate measurement of the size of major and great earthquakes. For earthquakes of less than M 7.0, the Moment and Richter Magnitude scales are nearly identical. For earthquake magnitudes greater than M 7.0, readings on the Moment Magnitude scale are slightly greater than a corresponding Richter Magnitude.

The intensity of the seismic shaking, or strong ground motion, during an earthquake depends on the distance between the affected site and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding the affected site. Earthquakes occurring on faults closest to area site would most likely generate the largest ground motion. Earthquake damage resulting from ground shaking is determined by several factors: the magnitude of an earthquake, depth of focus, distance from the fault, intensity and duration of shaking, local groundwater and soil conditions, presence

of hillsides, structural design and the quality of workmanship and materials used in construction. The USGS National Seismic Hazard (NSH) Maps were used to estimate approximate peak ground accelerations (PGAs) in the City. The NSH Maps depict peak ground accelerations with a 2 percent probability of exceedance in 50 years which corresponds to a return interval of 2,475 years and for a maximum considered earthquake. The estimated approximate peak ground acceleration from large earthquakes for the area is 0.80 g, which corresponds to strong ground shaking (USGS, 2014). The City is located in a region characterized by a moderate to high ground shaking hazard. (City of Santa Clara, 2011)

Liquefaction

Liquefaction is the phenomenon in which saturated granular sediments temporarily lose their shear strength during periods of earthquake-induced strong ground shaking. The susceptibility of a site to liquefaction is a function of the depth, density, and water content of the granular sediments and the magnitude and frequency of earthquakes in the surrounding region. Saturated, unconsolidated silts, sands, and silty sands within 50 feet of the ground surface are most susceptible to liquefaction. Liquefaction-related phenomena include lateral spreading, ground oscillation, flow failures, loss of bearing strength, subsidence, and buoyancy effects (Youd and Perkins, 1978). In addition, densification of the soil resulting in vertical settlement of the ground can also occur. In order to determine liquefaction susceptibility of a region, three major factors must be analyzed. These include: (a) the density and textural characteristics of the alluvial sediments; (b) the intensity and duration of ground shaking; and (c) the depth to groundwater.

The City of Santa Clara is almost entirely within the zone of liquefaction hazard (County of Santa Clara, 2021b). Ground failure caused by liquefaction is thus a substantial concern for much of the City's development. Based on County hazards mapping, the City's southern and southwestern edge, approaching Stevens Creek Boulevard and Interstate 280, is likely at less risk of liquefaction due to the underlying soil types (City of Santa Clara, 2011).

Paleontology

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. These are valued for the information they yield about the history of the earth and its past ecological settings. According to the City of Santa Clara General Plan EIR, the City is situated on alluvial fan deposits of the Holocene age, consisting of gravel, sand and finer sediments. Along the City's major streams are natural levee deposits consisting of silt and clay, also of the Holocene age. Geologic units of Holocene age are generally not considered sensitive for paleontological resources, because biological remains younger than 10,000 years are not usually considered fossils. Holocene materials in the Santa Clara Valley may have some level of sensitivity for paleontological resources (City of Santa Clara, 2011).

The City is in the Santa Clara Valley, where these Holocene age sediments overlie older Pleistocene age sediments that have a high potential to contain paleontological resources. The Pleistocene age sediments, often found at depths of 10 feet (3 meters) or more below the ground surface in the region, have yielded the fossil remains of plants and extinct terrestrial Pleistocene vertebrates (City of Santa Clara, 2011).

Regulatory Background

Federal

The Clean Water Act. The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the Waters of the U.S. The Act authorized the Public Health Service to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters with the goal of improvements to

and conservation of waters for public water supplies, propagation of fish and aquatic life, recreational purposes, and agricultural and industrial uses. For construction activities that may disturb a surface area greater than one acre, the applicant would be required to obtain a National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity under Clean Water Act regulations. Compliance with the NPDES would require that the applicant prepare and submit a Storm Water Pollution Prevention Plan (SWPPP).

The International Building Code (IBC). The International Building Code (IBC) is published by the International Code Council (ICC). The scope of this code covers major aspects of the design and construction of structures and buildings, except for three-story one- and two-family dwellings and town homes. The International Building Code has replaced the Uniform Building Code as the basis for the California Building Code and contains provisions for structural engineering design. The 2018 IBC addresses the design and installation of structures and building systems through requirements that emphasize performance. The IBC includes codes governing structural as well as fire- and life-safety provisions covering seismic, wind, accessibility, egress, occupancy, and roofs.

State

The California Building Code, Title 24, Part 2 (CBC, 2019). The California Building Code, Title 24, Part 2 provides building codes and standards for design and construction of structures in California. The 2019 CBC is based on the 2018 International Building Code with the addition of more extensive structural seismic provisions. Chapter 16 of the CBC contains definitions of seismic sources and the procedure used to calculate seismic forces on structures.

The Alquist-Priolo Earthquake Fault Zoning Act of 1972, Public Resources Code (PRC), sections 2621–2630 (formerly the Special Studies Zoning Act). The Alquist-Priolo Earthquake Fault Zoning Act regulates development and construction of buildings intended for human occupancy to avoid the hazard of surface fault rupture. While this Act does not specifically regulate transmission and telecommunication lines; it does help define areas where fault rupture is most likely to occur. This Act groups faults into categories of active, potentially active, and inactive faults. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive. These classifications are qualified by the conditions that a fault must be shown to be “sufficiently active” and “well defined” by detailed site-specific geologic explorations in order to determine whether building setbacks should be established.

The Seismic Hazards Mapping Act (the Act) of 1990 (Public Resources Code, Chapter 7.8, Division 2, sections 2690–2699). The Act directs the California Department of Conservation, Division of Mines and Geology [now called California Geological Survey (CGS)] to delineate Seismic Hazard Zones. The purpose of the Act is to reduce the threat to public health and safety and to minimize the loss of life and property by identifying and mitigating seismic hazards. Cities, counties, and State agencies are directed to use seismic hazard zone maps developed by CGS in their land-use planning and permitting processes. The Act requires that site-specific geotechnical investigations be performed prior to permitting most urban development projects within seismic hazard zones.

Public Resources Code Section 5097.5. PRC Section 5097.5 affirms that no person shall willingly or knowingly excavate, remove, or otherwise destroy a vertebrate paleontological site or paleontological feature without the express permission of the overseeing public land agency. Under PRC Section 30244, any development that would adversely impact paleontological resources shall require reasonable mitigation. These regulations apply to projects located on land owned by or under the jurisdiction of the State or any city, county, district, or other public agency (PRC §5097.5). The importance of paleontological resources is based on their scientific and educational value. The Society of Vertebrate Paleontology identifies

vertebrate fossils, their taphonomic and associated environmental data, and fossiliferous deposits as scientifically significant nonrenewable paleontological resources (Society of Vertebrate Paleontology, 2010). Botanical and invertebrate fossils and assemblages may also be significant. Absent specific agency guidelines, most professional paleontologists in California adhere to guidelines set forth in “Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources” (Society of Vertebrate Paleontology, 2010). These categories include high, undetermined, low, and no potential.

Local

City of Santa Clara General Plan. The purpose of the City’s safety policies is to identify potential hazards and measures that can lessen risks for the City’s population and property. The following policies in the General Plan generally relate to the provision of utility service in the City (City of Santa Clara, 2014):

- **Policy 5.10.5-P5.** Regulate development, including remodeling or structural rehabilitation, to ensure adequate mitigation of safety hazards, including flooding, seismic, erosion, liquefaction and subsidence dangers.
- **Policy 5.10.5-P6.** Require that new development is designed to meet current safety standards and implement appropriate building codes to reduce risks associated with geologic conditions.
- **Policy 5.10.5-P7.** Implement all recommendations and design solutions identified in project soils reports to reduce potential adverse effects associated with unstable soils or seismic hazards.
- **Policy 5.10.5-P10.** Support efforts by the Santa Clara Valley Water District to reduce subsidence.
- **Policy 5.10.5-P15.** Require new development to minimize paved and impervious surfaces and promote on-site Best Management Practices for infiltration and retention, including grassy swales, pervious pavement, covered retention areas, bioswales, and cisterns, to reduce urban water run-off.
- **Policy 5.10.5-P16.** Require new development to implement erosion and sedimentation control measures to maintain an operational drainage system, preserve drainage capacity and protect water quality.
- **Policy 5.10.5-P17.** Require that grading and other construction activities comply with the Association of Bay Area Governments’ Manual of Standards for Erosion and Sediment Control Measures and with the California Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook for Construction.

Archaeological and Cultural Resources Goals

- **Goal 5.6.3-G1.** Protection and preservation of cultural resources, as well as archaeological and paleontological sites.
- **Goal 5.6.3-G2.** Appropriate mitigation in the event that human remains, archaeological resources or paleontological resources are discovered during construction activities.

Archaeological and Cultural Resources Policies

- **Policy 5.6.3-P1.** Require that new development avoid or reduce potential impacts to archaeological, paleontological and cultural resources.
- **Policy 5.6.3-P2.** Encourage salvage and preservation of scientifically valuable paleontological or archaeological materials.
- **Policy 5.6.3-P4.** Require that a qualified paleontologist/archaeologist monitor all grading and/or excavation if there is a potential to affect archeological or paleontological resources, including sites within 500 feet of natural water courses and in the Old Quad neighborhood.

- **Policy 5.6.3-P5.** In the event that archaeological/paleontological resources are discovered, require that work be suspended until the significance of the find and recommended actions are determined by a qualified archaeologist/paleontologist.

3.7.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; ii) Strong seismic ground shaking; iii) Seismic-related ground failure, including liquefaction; or, iv) Landslides?
- Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property.
- 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.
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

The analysis of geology and soils focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for geology and soils, the continued operation and use of existing grid resources to serve electricity would not change the geologic, seismic, or soils conditions that surround or affect existing grid-connected generating facilities. Any Project-related change in the continued operation and use of existing grid-connected generating facilities would be unlikely to lead to any new ground disturbance, earthwork, or other physical change that could cause substantial adverse effects to geology and soils. As a result, no further discussion of the effects to geology and soils of serving electricity to the customers affected by the Project is necessary.

GS-1. *Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

- (a) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.***

NO IMPACT. The Project would amend SVP's Rules and Regulations, and the amendments would not directly or indirectly result in the approval of any specific construction activities leading to development of a structure on a known earthquake fault. For customers that undertake development of renewable parallel generation facilities, the facilities would not be located on a known fault because there are no delineated

faults in the City. Individual proposals would be required to comply with all applicable building and life safety codes.

(b) Strong seismic ground shaking?

NO IMPACT. The Project would not directly or indirectly result in the approval of any specific construction activities that may establish any structures or facilities that could be affected by seismic ground shaking. However, any structures developed or installed by customers to provide renewable parallel generation capacity at their sites could be subject to strong seismic ground shaking during large earthquakes. Nonetheless, the potential for new renewable parallel generation facilities to cause increased risk involving seismic ground shaking would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project.

The City is in an area mapped as likely to experience strong ground shaking in the event of a large earthquake with PGA's of 0.70 or a 2 percent probability of exceedance in 50 years. The area has historically experienced moderate to severe groundshaking due to the numerous earthquakes that have occurred in the San Francisco Bay Area, as can be expected from the active faults shown in Table 3.7-1. These earthquakes have resulted in severe damage to structures, millions of dollars in property damage, and deaths.

The potential for new renewable parallel generation facilities to change potential risks involving seismic ground shaking posed by the setting would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. Parallel generation technologies can typically be installed in a series of individual units with a relatively low profile and secured to foundations. New and modified facilities would be built consistent with local, state, and national electrical and building standards. While they could potentially be damaged, shifted, or displaced during a seismic event, safety features would limit the potential for injury or death to occur.

(c) Seismic-related ground failure, including liquefaction?

NO IMPACT. The Project would not directly or indirectly result in the approval of any specific construction activities that may be subject to ground failure or liquefaction hazards. However, any structures developed or installed by customers to provide renewable parallel generation capacity at their sites could be subject to liquefaction risk. Most of the City is underlain by sediments with the potential for seismically related ground failure or liquefaction. Therefore, the potential for liquefaction-related damage is high for facilities located on susceptible soils. Individual proposals for new renewable parallel generation facilities would be subject to environmental and engineering review.

The potential for new renewable parallel generation facilities to change potential risks involving seismic-related ground failure posed by the setting would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. To ensure that direct and indirect impacts associated with damage to future parallel generation facilities from seismically induced ground failures or liquefaction would be less than significant certain actions are likely to be required, such as conducting geotechnical investigations to determine the potential for ground failure or liquefaction to occur during a seismic event. Appropriate measures, such as mechanical soil compaction, subsurface drainage, or special foundations may be required, as well safety features such as flexible bus connections and automatic feedstock shutoffs. Implementation of appropriate engineering measures would ensure that people or structures are not exposed to hazards associated with earthquake-induced liquefaction. There would be no impact.

(d) Landslides?

NO IMPACT. The Project would not directly or indirectly result in the approval of any specific construction activities that may cause landslides. Topography in the City is flat to gently sloping, and the most likely locations for the potential development of new renewable parallel generation facilities would be at the

existing developed customer's site of electricity use. Therefore, landslides and other slope failures are highly unlikely to occur. There would be no impact related to landslides or slope instability.

GS-2. *Would the project result in substantial soil erosion or the loss of topsoil?*

NO IMPACT. The Project would not directly or indirectly result in the approval of any specific construction activities that may disturb soil or create a source of runoff, therefore it would not result in substantial soil erosion or the loss of topsoil. For customers that choose to undertake development of new renewable parallel generation facilities at customer's sites, the individual proposals would normally occur on level surfaces in areas that have been previously disturbed and are likely to have been compacted or paved. The potential for new renewable parallel generation facilities to cause substantial soil loss would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. Increased rates of soil erosion are not expected to result from the installation of such facilities. Individual proposals would be required by grading and building permits to control and prevent erosion and runoff. There would be no impact.

GS-3. *Would the project be located on geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

NO IMPACT. As discussed above under Impact GS-1(c) regarding liquefaction, most of the geologic units underlying the City are prone to liquefaction; therefore, structures could potentially suffer liquefaction-related damage. For customers that choose to undertake development of new renewable parallel generation facilities at customer's sites, geotechnical evaluation and the building permit process prior to site development would avoid the potential that people or structures are exposed to hazards associated with earthquake-induced liquefaction. Although the Santa Clara area has a history of subsidence, subsidence has been halted due to recharge programs, and as a result, individual proposals would be able to avoid damage due to subsidence. Additionally, as discussed above under Impact GS-1(d) Landslides, there would be no impact from landslides as topography of the City is flat to gently sloping terrain and would not be subject to landslides. Nonetheless, the potential for new renewable parallel generation facilities to cause impacts related to landslides or unstable soil would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. There would be no impact.

GS-4. *Would the project located on expansive soil, as defined in Section 1803.5.3 of the California Building Code (2019), creating substantial direct or indirect risks to life or property?*

NO IMPACT. The Project would not directly or indirectly result in the approval of any specific construction activities that may be subject to damage due to expansive soil. Although most of the soils underlying the City are mapped as having low expansion potential, some pockets of soils with moderate to high expansion potential have been mapped (County of Santa Clara, 2021a; NRCS, 2021). For customers that choose to undertake development of new renewable parallel generation facilities at customer's sites, geotechnical evaluation and the building permit process would avoid the potential of exposing life or property to unsuitable soil conditions such as expansive soil. Implementation of appropriate engineering standards would ensure that people or structures are not exposed to hazards associated with expansive soil. Further, the potential for new renewable parallel generation facilities to cause impacts related to expansive soil would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. There would be no impact.

GS-5. *Would the project 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?*

NO IMPACT. Businesses that might develop a parallel generation capacity would use the public sewer system extant through the City. For customers that choose to undertake development of new renewable parallel generation facilities at customer sites, the facilities are not likely to include any components requiring septic tanks or alternative wastewater systems. Further, the potential for new renewable parallel generation facilities to cause impacts related to soils and supported wastewater disposal systems would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. Therefore, there would be no impact.

GS-6. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

NO IMPACT. The Project would not directly or indirectly result in the approval of any specific construction activities that may disturb any soil surface or geologic formation that could impact paleontological resources. Development of new renewable parallel generation facilities would require shallow excavation as needed for equipment pads or foundations, pipelines, and conduits. Sites for parallel generation facilities are expected to be in areas of previous ground disturbance. The potential to encounter a unique paleontological resource during the development of a renewable parallel generation facility would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. Older Pleistocene sediments with high potential to contain paleontological resources occur in the City, often at depths of 10 feet or more (City of Santa Clara, 2011). These sediments have the potential to contain unique paleontological resources or sites, or unique geologic features. Because excavations for parallel generation facilities would be shallow and of limited extent, and likely in previously disturbed areas, there is a very low possibility that previously unknown paleontological resources or unique geologic features could be discovered and damaged or destroyed during ground disturbance. Further, the potential for new renewable parallel generation facilities to cause impacts related to paleontological resources or geologic features would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. There would be no impact.

3.8. Greenhouse Gas Emissions

3.8.1. Setting

Physical Setting and Effects of GHG Emissions. The global climate depends on the presence of naturally occurring greenhouse gases (GHG) to provide what is commonly known as the “greenhouse effect” that allows heat radiated from the Earth’s surface to warm the atmosphere. The greenhouse effect is driven mainly by water vapor, aerosols, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and other constituents. Globally, the presence of GHG affects temperatures, precipitation, sea levels, ocean currents, wind patterns, and storm activity.

Human activity directly contributes to emissions of six primary anthropogenic GHGs: CO₂, CH₄, N₂O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). The standard definition of anthropogenic GHG includes these six substances under the 1997 Kyoto Protocol (UNFCCC, 1998). The most important and widely occurring anthropogenic GHG is CO₂, primarily from the use of fossil fuels as a source of energy.

Changing temperatures, precipitation, sea levels, ocean currents, wind patterns and storm activity provide indicators and evidence of the effects of climate change. For the period 1950 onward, relatively comprehensive data sets of observations are available. Research by the CalEPA Office of Environmental Health Hazard Assessment (OEHHA) documented effects of climate change including impacts on terrestrial, marine, and freshwater biological systems, with resulting changes in habitat, agriculture, and food supply. These changes are occurring in conjunction with the potential to impact human well-being (OEHHA, 2018). The OEHHA categorizes climate change indicators as: changes in California’s climate; impacts to physical systems including oceans, lakes, rivers, and snowpack; and impacts to biological systems including humans, vegetation and wildlife. The primary observed changes in California’s climate include increased annual average air temperatures, more-frequent extremely hot days and nights, and increasing severity of drought. Impacts to physical systems affected by warming temperatures and changing precipitation patterns show decreasing snowmelt runoff, shrinking glaciers, and rising sea levels (OEHHA, 2018). Examples of the terrestrial effects include increasing tree mortality, large wildfires, and changes in vegetation density and distribution (OEHHA, 2013).

GHG-Emissions Trends. California first formalized a strategy to achieve GHG reductions in 2008, when California produced approximately 484 million metric tons of CO₂ equivalent (MMTCO₂e) according to the official Air Resources Board inventory (ARB, 2021). The economy-wide emissions have been declining in recent years, and California emitted approximately 418 MMTCO₂e in 2019 (ARB, 2021). Globally, anthropogenic GHG emissions have increased by roughly 80%, from around 27,000 to 49,000 MMTCO₂e per year between 1970 and 2010 (IPCC, 2014). In this global context, California emits less than one percent of the global anthropogenic GHG.

City of Santa Clara GHG Community Inventory. The City maintains a community inventory of GHG emissions, most recently updated to include calendar year 2016. Future community inventory updates would capture SVP’s divestment from coal-fired generation resources (City of Santa Clara, 2018).

Table 3.8-1 shows the community-wide GHG emissions totals by sector for 2008 and 2016.

Table 3.8-1. City of Santa Clara, GHG Emissions Community Inventory

Community Sectors	2008 GHG Emissions (MTCO ₂ e)	2016 GHG Emissions (MTCO ₂ e)
Commercial & Industrial	1,110,100	1,080,261
Transportation	554,300	505,989

Table 3.8-1. City of Santa Clara, GHG Emissions Community Inventory

Community Sectors	2008 GHG Emissions (MTCO ₂ e)	2016 GHG Emissions (MTCO ₂ e)
Residential	153,200	132,912
Solid Waste	27,500	25,724
Water & Wastewater	9,200	24,292
Total Community GHG Emissions	1,854,300	1,769,178

Source: City of Santa Clara, 2018.

SVP's Carbon Intensity. The City's Community Inventory of GHG provides a review of the carbon intensity or GHG emissions intensity of SVP's grid resources, illustrating a sharp decline in years leading up to the existing conditions. As of January 1, 2018, SVP was completely divested from coal, eliminating coal-fired resources from the City's energy mix. The City's energy mix now consists only of wind, solar, geothermal, hydroelectric, landfill gas and natural gas (City of Santa Clara, 2018). Eliminating coal and promoting low carbon and zero-carbon power procurement, with additional hydroelectric generation, substantially reduced SVP's carbon intensity between 2016 and 2018.

The carbon intensity of SVP's mix has decreased from 666 pounds of CO₂ per MWh (2016) to 430 lb CO₂/MWh (2017) and 380 lb CO₂/MWh (2018). These levels are equivalent to: 0.302 MTCO₂e/MWh (2016) to 0.195 MTCO₂e/MWh (2017) and 0.172 MTCO₂e/MWh in 2018 (City of Santa Clara, 2018).

Table 3.8-2 shows the declining carbon intensity of SVP's electricity supply, as reported in the City's latest community-wide GHG emissions inventory.

Table 3.8-2. City of Santa Clara, SVP's Baseline CO₂ Emissions Intensity

Calendar Years	CO ₂ Emissions Intensity (lb/MWh)	CO ₂ Emissions Intensity (MTCO ₂ e/MWh)
2016 SVP's Carbon Intensity	666	0.302
2017 SVP's Carbon Intensity	430	0.195
2018 SVP's Carbon Intensity	380	0.172

Source: City of Santa Clara, 2018.

Regulatory Background

California's long-term efforts to reduce GHG emissions and adapt for the consequences of climate change were first set forth in June 2005 by Governor's Executive Order S-3-05, which established the targets of reducing California's greenhouse gas emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. To further these efforts, California maintains an extensive regulatory framework for reducing GHG emissions. According to the California Legislative Analyst's Office (LAO) assessment from January 2020, policies targeting the generation of electricity are a primary driver of GHG emission reductions in California. Between 2009 and 2019, the electricity sector was the primary driver of statewide GHG emission reductions. Annual GHG emissions from the electricity sector have declined by about 40 million metric tons (40 percent) over this period. Reductions have mostly been due to a change in the mix of resources used to generate electricity—primarily large increases in renewables (solar and wind) and, to a lesser extent, reductions in the amount of coal (LAO, 2020).

California Global Warming Solutions Act of 2006 [Assembly Bill 32 (AB 32)]. The California Global Warming Solutions Act of 2006 (AB 32) required that California's greenhouse gas (GHG) emissions be reduced to 1990 levels by 2020. The reduction is being accomplished through an enforceable statewide cap on global warming emissions beginning in 2012. AB 32 directs the ARB to develop regulations and a mandatory

reporting system to track and monitor global warming emissions levels (AB 32, Chapter 488, Statutes of 2006). The ARB Climate Change Scoping Plan, initially approved December 2008 and most recently updated by ARB in December 2017, provides the framework for achieving California's goals (ARB, 2017a). AB 32 requires ARB to update the Scoping Plan at least every 5 years. Accordingly, the 2022 Scoping Plan Update is under development, and ARB released a proposed final 2022 Scoping Plan Update in November 2022 (ARB, 2022).

In passing AB 32, the California Legislature found that:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."

Other major Executive Orders, legislation, and regulations adopted for the purpose of reducing GHG emissions support the implementation of AB 32 and California's climate goals, as described below.

California Governor's Executive Order B-30-15 and Senate Bill 32 (SB 32). Executive Order B-30-15 (April 2015) establishes a California greenhouse gas reduction target of 40 percent below 1990 levels by 2030. One purpose of this interim target is to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. This executive order also specifically addresses the need for climate adaptation and directs state agencies to update the California Climate Adaptation Strategy to identify how climate change will affect California infrastructure and industry and what actions the state can take to reduce the risks posed by climate change. Senate Bill 32 (SB 32) of 2016 codifies this GHG emissions target to 40 percent below the 1990 level by 2030. The 2017 Climate Change Scoping Plan Update (ARB, 2017a) demonstrates the approach necessary to achieve the 2030 GHG reduction target, and the 2022 Scoping Plan Update assesses progress towards achieving the SB 32 2030 target, while laying out a path to achieve carbon neutrality no later than 2045.³⁵

Climate Change Scoping Plan Measures. The initial AB 32 Scoping Plan and 2017 Scoping Plan Update identified a mix of direct regulations, market-based approaches, voluntary measures, policies, and other emission reductions calculated to limit California's GHG emissions and to initiate the transformations needed to achieve the long-range GHG reductions. Requiring use of on-site renewable energy generation is one example of a Scoping Plan action that can be undertaken at a local level to support California's climate goals, as identified in Appendix B of the 2017 Scoping Plan (ARB, 2017a). Other examples of plan-level GHG reduction actions that could be implemented by local governments through local municipal code changes or local policies, include:

- Streamline permitting and environmental review and reduce fees for small-scale renewable energy systems.
- Adopt a community solar program to help realize economies of scale and help residents without appropriate rooftop space to participate in clean energy generation.
- Adopt residential and commercial energy conservation, renewable energy, and/or zero net energy ordinances (consider requirements for audits or upgrades at major renovation or time of sale).
- Incorporate renewable energy and energy efficiency into public facilities' capital improvements.

³⁵ Information on the status of the 2022 Scoping Plan Update is available at: <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan>.

- Permit renewable energy generation facilities as of right in zones with compatible uses.
- Require on-site renewable energy generation by large-scale residential and commercial projects.
- Encourage the use of on-site renewable energy combined with storage.

Short-Lived Climate Pollutant Reduction Strategy. Strategies that capture or produce methane and utilize it for production of renewable energy and fuels are part of California’s efforts to reduce pollutants that have greater global warming potential in the near term, compared to longer-lived GHGs, such as CO₂. In 2017, CARB approved and began implementing the comprehensive SLCP Reduction Strategy to achieve reductions of emissions of 40 percent below 2013 levels by 2030 for methane and HFCs and 50 percent below 2013 levels by 2030 for anthropogenic black carbon. As an alternative to using methane in fossil natural gas, “renewable natural gas” (RNG) refers to a form of biogas³⁶ derived from biomethane that is purified to remove impurities and CO₂ and is suitable for injection into natural gas pipelines.³⁷ CARB indicates that implementing the SLCP Strategy will also require continued efforts to overcome barriers to connecting distributed electricity, generated from renewable natural gas, to the grid and injecting renewable natural gas into the pipeline (ARB, 2017b).

Clean Energy and Pollution Reduction Act of 2015 [Senate Bill 350 (SB 350)]. California’s state policy objectives on long-term energy planning were updated with SB 350 legislation that was signed into law on October 7, 2015. The requirements include demonstrating through integrated resource planning how each energy service provider, such as SVP, will continue to expand the use of renewable energy supplies in the mix of electricity delivered to end-use customers.

With SB 350 California expanded the specific set of objectives to be achieved by 2030, with the following:

- To increase the Renewable Portfolio Standard (RPS) from 33 percent to 50 percent for the procurement of California’s electricity from renewable sources, a target that was accelerated in 2018; and
- To double the energy efficiency savings in electricity and natural gas end uses by retail customers.

Consistent with SB 350 requirements, SVP’s Integrated Resource Plan (IRP) documents the 20-year resource plan that includes increasing the procurement of renewable resources and reducing SVP’s use of fossil-fueled resources to serve load (SVP, 2019). The 2018 IRP was approved by City Council in November 2018 and reviewed for consistency with Public Utilities Code Section 9621 requirements, in a technical report by California Energy Commission staff (CEC, 2019).

California Governor’s Executive Order B-55-18 and Senate Bill 100 (SB 100). Beyond 2030, Executive Order B-55-18 establishes a statewide goal for California to achieve carbon neutrality by 2045. In September 2018, Senate Bill 100 (SB 100), to revise and extend California’s Renewables Portfolio Standard program, was signed into law. SB 100 accelerated the RPS targets and established the goals of 50 percent renewable energy resources by 2026 and 60 percent renewable energy resources by 2030. These RPS targets are codified according to compliance periods in Pub. Util. Code Section 399.30, as follows: 33 percent by December 31, 2020, 44 percent by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. SB 100 also sets a target for California to achieve a GHG-free electricity supply for 100 percent of retail sales of electricity to California end-use customers by December 31, 2045.

³⁶ The federal Renewable Fuel Standard for motor vehicle fuels defines biogas as: a mixture of hydrocarbons that is a gas at 60 degrees Fahrenheit and 1 atmosphere of pressure that is produced through the anaerobic digestion of organic matter (40 CFR 80 Subpart M).

³⁷ The California Public Utilities Commission (CPUC) oversees standards and development of tariffs for allowing injection of upgraded biomethane into the conventional utility-owned and operated common carrier natural gas pipeline system (https://www.cpuc.ca.gov/renewable_natural_gas/).

Mandatory Reporting of Greenhouse Gas Emissions (17 CCR 95100 to 95158). The ARB Regulation for the Mandatory Reporting of Greenhouse Gas Emissions, or mandatory reporting rule (MRR), applies to electric power distribution companies and to fossil fuel electricity generating facilities with a nameplate capacity equal or greater than 1 MW capacity. As an Electric Power Entity and an owner of fossil fuel electric power generation sources, the MRR requires SVP to separately report GHG emissions associated with the electricity delivered to its end-use customers (Section 95111) and emissions from SVP's owned electricity generation facilities (Section 95112).

The MRR captures the total electricity produced by SVP's facilities, and uses each 'specified' facilities' emission factors to compute GHG per megawatt-hour (MWh). The MRR separately captures the electricity from 'unspecified' sources and assigns a default 'unspecified' emission factor [Section 95111(b)(1)]. The emission factor for unspecified resources is 0.428 MTCO₂e/MWh and was originally adopted with ARB's 2010 version of the MRR (ARB, 2018).

The unspecified resources emission factor was developed through coordination with Western Climate Initiative (WCI) partners and an analysis of the average marginal generation for power plants located throughout the territory of the Western Energy Coordinating Council (WECC). Marginal generation includes plants that are assumed to be capable of generating additional electricity in response to a marginal increase in electricity demand. Renewable and hydroelectric resources and fossil plants with a capacity factor greater than 60 percent were excluded and considered to serve baseload or not available to be exported to California. The resulting unspecified resources emission factor of 0.428 MTCO₂e/MWh is similar to the emission factor from an average single-cycle natural gas power plant (ARB, 2018).

Emission factors for the existing natural gas resources and market purchases that are available to SVP as part of providing reliable electric utility service in the baseline of existing conditions are shown below. These existing natural gas resources, including individual power plants owned by the City, are within SVP's diversified portfolio of grid resources. The 2018 IRP itemizes the individual natural gas resources and includes emissions factors for GHG forecasting.

Table 3.8-3 shows the facility-specific GHG emissions factors for natural gas resources owned by the City. The overall carbon intensity (Table 3.8-2) of the City's resource mix is much lower than these facility specific factors because the GHG emission factor is zero for eligible renewable and large hydroelectric resources in the supply.

Table 3.8-3. GHG Emission Factors for Utility-Owned Natural Gas and Unspecified Resources

Generation Resource	Fuel Type	GHG Emissions Intensity (MTCO ₂ e/MWh)
Donald Von Raesfeld (DVR)	Natural gas	0.422
Gianera Generating Station	Natural gas	0.803
Lodi Energy Center (NCPA Joint Powers Agency Resource)	Natural gas	0.390
NCPA CT (NCPA Joint Powers Agency Resource)	Natural gas	0.803
Santa Clara Cogeneration	Natural gas	0.858
ARB Unspecified Resources Emission Factor	System marginal generation	0.428

Source: Review of SVP's 2018 Integrated Resource Plan (CEC, 2019); 17 CCR 95111 for Unspecified Resources.

Cap-and-Trade Program (17 CCR 95801 to 96022). The California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation (Cap-and-Trade Program) was initially approved by ARB in 2011. The Cap-and-Trade Program applies to covered entities that fall within certain source categories, including first deliverers of electricity (such as fossil fuel power plants) and electrical distribution

utilities, such as SVP. The covered entities must hold compliance instruments sufficient to cover the actual GHG emissions, as evidenced through the MRR requirements. This means that SVP, as an owner of fossil fuel power plants and also as an electrical distribution utility, bears separate GHG compliance obligations for delivering electricity to the grid from its power plants and for making deliveries to end-users that are not otherwise covered entities in the Cap-and-Trade Program.

City of Santa Clara, 2022 Climate Action Plan (CAP) Update. The Santa Clara CAP, adopted on June 7, 2022 aligns the City's strategies with evolving state and local requirements for climate planning to achieve SB 32 targets for 2030 and carbon neutrality by 2045 (City of Santa Clara, 2022).

The strategies in the 2022 Climate Action Plan establish a pathway toward reducing GHG to 40 percent below 1990 levels by 2030, 80 percent below 1990 levels by 2035, and to achieve net carbon neutrality no later than 2045. By building on the prior Climate Action Plan adopted in 2013, the 2022 update accounts for the effects of ongoing state and local actions for reducing GHG, identifies additional actions to further reduce GHG, and evaluates actions enhance climate resiliency throughout the City.³⁸

At the time of initiating this environmental review, the GHG emission reduction strategies in the 2013 CAP pertaining to electric power were:

- **1.1 Coal-free by 2020.** Replace the use of coal in Silicon Valley Power's portfolio with natural gas by 2020.
- **1.2 Renewable energy resources.** Investigate the use of City-owned property for large-scale renewable energy projects.
- **1.3 Utility-installed renewables.** Develop up to five solar PV projects with a total installed capacity of 3 to 5 MW.
- **2.1 Community electricity efficiency.** Achieve City-adopted electricity efficiency targets to reduce community-wide electricity use by 5% through incentives, pilot projects, and rebate programs.
- **2.2 Community natural gas efficiency.** Work with community and social services agencies to provide information from Pacific Gas & Electric (PG&E) to promote voluntary natural gas retrofits in 5% of multi-family homes, 7% of single-family homes, and 7% of nonresidential space through strategic partnerships connecting residents and business owners to available financing resources.
- **2.3 Data centers.** Encourage new data centers with an average rack power rating of 15 kW or more to identify and implement cost-effective and energy-efficient practices.
- **2.4 Customer-installed solar.** Incentivize and facilitate the installation of 6 MW of customer-owned residential and nonresidential solar PV projects.
- **2.5 Municipal energy efficiency.** Reduce municipal electricity use by 10% through comprehensive energy retrofits of existing equipment and implementation of previously identified energy efficiency projects with a benefit-cost ratio of one or greater.
- **2.6 Municipal renewables.** Install 1 MW of solar or other renewables at City-owned facilities.

The current GHG emission reduction strategies in the 2022 CAP include shifting new and existing buildings to use electricity as a substitute to on-site fossil fuel use and supporting the electrification of residential and commercial buildings. Part of the interim (2035) and longer-term (2045) strategy is to require all new data centers to operate on 100 percent carbon neutral energy, through allowing use of carbon offsets as

³⁸ Information on the status of the Climate Action Plan update is available at: <https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan/climate-action-plan>.

needed (Action B-1-7). The policy would apply to data centers that achieve a planning application approval more than 6 months after the CAP adoption date of June 7, 2022, to ease the transition to carbon neutral energy by new data center customers.

Under the 2022 CAP, the supply of electricity will continue along a transition to low carbon and zero-carbon power resources, according to “Strategy B3: Maximize renewable energy generation and storage capacity,” as follows:

- B-3-1 SVP Integrated Resource Plan (IRP) for renewable electricity.
- B-3-2 City-owned renewable energy projects.
- B-3-3 Renewable installations at municipal facilities.
- B-3-4 Renewable energy generation and storage on private property.
- B-3-5 Local grid resiliency and energy storage improvements.
- B-3-6 Alternative fuel backup generators.
- B-3-7 Renewable electricity for new data centers.

3.8.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

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

For GHG emissions, this EIR considers any net increase in GHG emissions as a result of the Project to be a significant impact on the environment.

This analysis considers the Project for its potential to guide the long-term development of parallel generation in the City. At the time of adopting the 2013 Climate Action Plan, the City demonstrated that the CAP and accompanying environmental documentation were consistent with the guidelines set forth by BAAQMD for a qualified local GHG reduction strategy (City of Santa Clara, 2013). In the resolution adopting the 2022 CAP, on June 7, 2022, the City Council found that the updated 2022 CAP 2022 is consistent with the State CEQA Guidelines Section 15183.5(b)(1) criteria for a qualified climate action plan.

The analysis of GHG emissions discusses the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers’ loads would be served from the available existing grid resources. Compared with the environmental baseline for GHG emissions, any Project-related change in the continued operation and use of existing grid-connected generating facilities could indirectly cause GHG emissions from those facilities to be changed. Accordingly, the analysis also discusses the potential GHG emissions changes brought about by serving electricity from the grid to the customers affected by the Project.

GHG-1. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

LESS THAN SIGNIFICANT. The Project would approve the Renewable Parallel Generation Facilities Resolution and amend SVP’s Rules and Regulations. The Project would not directly or indirectly result in the approval

of any specific construction activities or the approval of any new source of GHG emissions by customers or SVP.

No Additional Use of Non-Renewable Parallel Generation. Natural gas fuel cell systems are the typical non-renewable parallel generation technology in the City. The Project would limit the future use of new or modified non-renewable parallel generation. With the Project, customers would no longer be able to use natural gas or other fossil fuels in new or modified parallel generation, and no additional GHG emissions would be created by new parallel generation using fossil fuels in the City.

Construction and Operation of Renewable Parallel Generation. Customers that may otherwise have developed non-renewable parallel generation projects could instead choose to undertake development of new renewable parallel generation at customer sites. This would be limited to only those customers that might otherwise have proposed development of non-renewable parallel generation facilities deciding to undertake development of substitute renewable parallel generation instead.

Construction of new renewable parallel generation at customer sites instead of new non-renewable parallel generation could involve short-term periods of construction-phase GHG emissions. Construction of new renewable parallel generation facilities would require mobilizing construction equipment, crews, and materials, preparing customer sites, and installing the generating units. These activities during construction would cause GHG emissions due to fuels normally used by the construction vehicles and equipment. Diesel and gasoline-powered construction equipment would include trucks, light-duty vehicles, and off-road or portable equipment such as lifts, trenchers, welders, pumps and generators. Equipment and motor vehicles would directly emit CO₂, CH₄, and N₂O due to fuel use and combustion. These one-time GHG quantities during construction would be relatively minor and limited to the installing the renewable parallel generation technology at the customer site. Construction emissions would not recur annually because they would cease when the parallel generation transitions into producing electricity for the customer. Construction-related GHG emissions for a new renewable parallel generation facility would be no different than those that would occur for non-renewable parallel generation facility and would not be changed by the Project.

Operation of new renewable parallel generation at customer sites in the City would provide those customers' loads with a GHG-free or zero-carbon on-site power supply. Customer sites may install a renewable technology that achieves GHG-free operation at the site, for example by using solar photovoltaic systems or fuel cell systems that use a qualified hydrogen gas from a non-fossil-based fuel or feedstock. Direct GHG emissions could occur at sites where a customer decides to substitute use of fossil natural gas with a biogas including biomethane and RNG, depending on the source of fuel chosen in response to the Project. For example, parallel generation using fuel cell systems may qualify as renewable if the gas is an RPS-eligible renewable energy resource, such as biomethane derived from digester gas or landfill gas. Although a biogas-powered system would still directly emit GHG at the site, using biogas reduces GHG emissions by displacing fossil natural gas use. Compared with conventional natural gas, biogas, biomethane, and RNG are among the lower-carbon alternatives for satisfying the energy demand at industrial facilities and buildings within California's decarbonization policies (ARB, 2022). By displacing the fossil natural gas that would be used in the absence of the Project, using biogas, biomethane, or RNG would result in no net GHG emissions increase. The life-cycle effect depends on the source of the feedstock and method of producing the fuel. For biogas from biomass conversion, the biogenic portions of GHG emissions would be excluded from the end-user's emissions, as the CO₂ sequestered by the biomass during its lifetime offsets any combustion or end-use-related CO₂ emissions (IPCC, 2006; AGF,

2019).³⁹ The process of producing RNG by livestock facilities can be carbon negative by avoiding methane that would otherwise be vented to the atmosphere (CEC, 2022). While on-site emissions of using biogas would be equivalent with or without the Project, customers that use biogas would avoid emissions that otherwise would have occurred as a result of producing and using fossil natural gas. For these reasons, the use of biogas and renewable natural gas would have a GHG-reducing effect, and GHG emissions would be avoidable by operating renewable parallel generation when compared with those that would occur during operation of non-renewable parallel generation.

Table 3.8-4 quantifies the potential GHG emissions factors for a typical fossil-fueled and biogas-fueled parallel generation fuel cell system, based on a review of vendor specifications, for comparison with receiving a mix of power from grid resources. Additional information appears in EIR Appendix B, Air Pollutant and GHG Emission Factors.

Table 3.8-4. GHG Emissions Factors for Resource Options

Emission Factors	GHG (MTCO ₂ e/MWh)
Natural gas fuel cell parallel generation	0.3080
Fuel cell parallel generation using biogas, including renewable natural gas	GHG-free or zero-carbon
Grid resources (2020), over 30 percent renewable	0.2996
Grid resources (2021-2024), over 33 percent renewable	0.2868
Grid resources (2025-2027), over 44 percent renewable	0.2397
Grid resources (2028-2030), over 52 percent renewable	0.2054
Grid resources (2030-after), over 60 percent renewable	0.1712
Grid resources (after 2045), 100 percent renewable and zero-carbon	100 percent renewable and zero-carbon retail sales

Source: Emission factors for natural gas fuel cell system based on lowest GHG emission factor in specified range and fuel cell on directed biogas as “carbon neutral” (Bloom, 2022a); although if delays in scheduled maintenance occur, the systems will likely experience adverse performance impacts including reduced output and/or efficiency (Bloom, 2022b, Form 10-K Annual Report for 2021). Emission factors for use of grid resources (2020) based on 30 percent eligible renewable resources and 70 percent unspecified resources at 0.428 MTCO₂e/MWh (17 CCR 95111).

The GHG-free or zero-carbon operation of new renewable parallel generation would be a beneficial effect of the Project when compared with the GHG that could be caused by a natural gas fuel cell system or deliveries from grid resources in the existing conditions.

Compared with existing conditions, the GHG emissions from construction of new renewable parallel generation facilities are not likely to occur at a quantity that may have a significant impact on the environment, and operation of renewable parallel generation facilities would provide a GHG-free or zero-carbon supply of electricity.

As in the baseline of existing conditions, with the Project, customers that obtain the necessary permits would be allowed to negotiate interconnection agreements with SVP for new or modified parallel generation facilities that meet the criteria for renewable generation. Customers that propose discretionary

³⁹ According to 2006 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC, 2006): “2.3.3.4 Treatment Of Biomass. Biomass is a special case: Emissions of CO₂ from biomass fuels are estimated and reported in the [Agriculture, Forestry and Other Land Use] AFOLU sector as part of the AFOLU methodology. In the reporting tables, emissions from combustion of biofuels are reported as information items but not included in the sectoral or national totals to avoid double counting. In the emission factor tables presented in this chapter, default CO₂ emission factors are presented to enable the user to estimate these information items. . . . The emissions of CH₄ and N₂O, however, are estimated and included in the sector and national totals because their effect is in addition to the stock changes estimated in the AFOLU sector. . . .”

parallel generation facilities that meet the City's definition of an electric power plant would continue to be subject to project-specific CEQA review if not exempt.

Providing Grid Resources. Electric utility service would be provided by SVP to serve the demand of customers, including those planning to use non-renewable parallel generation but prohibited by the Project from doing so. The 2018 IRP presents a plan for increasing the procurement of renewable resources and reducing SVP's use of fossil-fueled resources to serve load. SVP divested its interest in coal generation, and this helped put SVP on the way to attaining the 2030 GHG emissions targets consistent with IRP filing requirements. SVP owns natural gas-fired power plants and plans to continue to use those resources in a manner consistent with meeting CARB's GHG targets and California's RPS (SVP, 2019).

In the baseline of existing conditions, SVP routinely imports power from facilities both within California and outside the State to serve the electrical demand of its customers. The electricity supply to serve SVP customers, including those affected by the Project, will be delivered from SVP's existing portfolio of resources and renewable resources added as a result of implementing the 2018 IRP and other established plans and policies for increasing the procurement of energy from renewable electricity sources.

The existing mix of grid resources creates GHG emissions. The City's individual power plants are within SVP's diversified portfolio of grid resources. As with other power plants that contribute to California's overall grid operations, SVP's facilities can be dispatched to the market to serve load outside of SVP territory. This means that emissions from the natural gas power plants owned by SVP can be attributable to serving SVP's retail load and also attributable to making deliveries from the power plants to other California load-serving entities. The GHG emissions intensity of serving SVP's customer demand varies depending on the use of City-owned natural gas resources and other natural gas resources and also on the level of spot market purchases of 'unspecified' resources.

The diversified portfolio of grid resources consists of a mix of City-owned power plants, partial ownership shares in power plants, and deliveries of power from facilities operated by third parties through purchase agreements or open market purchases. It is not possible to quantify the potential increase in the operation of any specific power plant as being driven by a change in individual customer behavior.

Regardless of the level of on-site generation installed by customers, SVP must still plan for the peak energy needs of all customers, including those with parallel generation, and SVP's obligation to provide adequate resources to meet these load and energy needs is identical with or without the Project.

Eligible renewable resources are a growing portion of SVP's mix, and other zero-carbon hydroelectric resources are in SVP's portfolio. Going forward, the GHG emission intensity of the supply would be reduced through planned changes in the mix of supplies. The 2018 IRP includes increasing the procurement of renewable resources and reducing SVP's use of fossil-fueled resources to serve load from 2019 through 2038 (SVP, 2019). The 2018 IRP was reviewed for consistency with Public Utilities Code Section 9621 requirements, in a technical report by California Energy Commission staff (CEC, 2019). The CEC affirmed that SVP's 2018 IRP demonstrates achieving the RPS targets through the duration of the planning period, including attaining the 60 percent RPS by 2030 target under SB 100.

The use of natural gas power plants in SVP's mix of electricity supplies would be reduced by SVP's procurement strategy (SVP, 2019). Although the system GHG emissions related to SVP serving customers' load and energy needs will vary with system energy demand and as the resource mix changes over time, and the sources of the electricity distributed to City customers will change over time, the overall effect of City's adopted plans and policies will decrease the intensity of GHG emissions as the energy demand grows.

The City's established plans and policies for increasing the procurement of energy from renewable electricity sources appear in SVP's current Integrated Resource Plan (2018 IRP) approved in November 2018 by the City Council and in the City's 2022 Climate Action Plan. These plans aim to satisfy and fulfill the City's commitments to comply with California's long-term efforts to reduce GHG emissions (see Section 1, Introduction). The 2022 Climate Action Plan sets the City on a pathway to achieve carbon neutrality by 2045. SVP's current procurement plans ensure that the resource mix will change so that serving customer load in future years creates fewer GHG emissions per megawatt-hour than in the baseline of existing conditions. Consistent with SB 100, SVP must provide a mix of power that is subject to a series of RPS compliance periods, as follows: 33 percent by December 31, 2020, 44 percent by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030.

Table 3.8-4 quantifies emissions factors for receiving a mix of power from grid resources. In the baseline, all customers receive a mix of power that exceeds 30 percent renewable energy resources. After 2020, SVP must procure at least 33 percent renewable resources for retail sales of electricity. Accordingly, Table 3.8-4 presents a conservatively high estimate of emissions factors by assuming a lower renewable energy content and by assuming the remaining 70 percent would be delivered at the unspecified resources emission factor of 0.428 MTCO₂e/MWh (ARB, 2018). This would conservatively overestimate GHG emissions because the baseline resource mix also includes zero-emissions large hydroelectric resources. Additionally, SVP must continue to increase the renewable energy content to achieve the RPS targets. This demonstrates that parallel generation using a natural gas fuel cell system would cause greater GHG emissions per MWh than deliveries from grid resources in the existing conditions.

Any potential variation in GHG emissions from the use of existing grid resources brought about by the Project will be minimized through the City's established plans and policies to add renewable resources to the existing portfolio. Adding renewable resources to the mix, as required by the 2018 IRP and consistent with SB 100, ensures that the overall GHG emissions of providing grid service will continue to decline. The variability of system GHG emissions related to SVP serving customers' load and energy needs occurs in the context of SVP's existing commitments to reduce the use of natural gas power plants and unspecified imports in the electricity supply going forward. If the Project causes City customers to be served an incremental amount of electrical production from grid resources, the change in operational emissions from power plants would be less than the emissions of parallel generation using a natural gas fuel cell system and would be consistent with the City's adopted GHG reduction strategy. Because the Project would be consistent with an adopted GHG reduction strategy that meets the BAAQMD's standards, the Project would not result in a change in GHG emissions that could have a significant impact on the environment. Because the GHG emissions related to providing grid resources would be consistent with the City's established plans and policies for increasing the procurement of energy from renewable electricity sources, this impact would be less than significant.

Summary of Project Effects on GHG Emissions. The overall effects on GHG emissions resultant from the Project would be to reduce GHGs by changing the types of energy generation facilities allowed to negotiate interconnection agreements with SVP. No additional GHG emissions would occur from non-renewable parallel generation facilities in the City. In serving electricity to SVP's customer load, the Project would not change the City's plans for procuring only renewable resources, and the Project would be consistent with the City's adopted GHG reduction strategy. This ensures that the Project would not generate GHG emissions that could have a significant impact on the environment. The impact associated with GHG emissions would be less than significant.

GHG-2. *Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?*

LESS THAN SIGNIFICANT. The Project would limit the interconnection of parallel generation to facilities that meet the criteria for renewable electrical generation facilities as defined in the California Public Resources Code. As discussed below, this is consistent with all applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions.

Consistency with ARB 2017 Scoping Plan and 2022 Scoping Plan Update. California’s regulatory setting for GHG emissions (Section 3.8.1) ensures that most of the existing and foreseeable GHG sources in electric power sector are subject to one or more programs aimed at reducing GHG. The 2017 Scoping Plan (ARB, 2017a) and 2022 Scoping Plan Update (ARB, 2022) each provide an outline of local government actions to reduce California’s GHG emissions. The Scoping Plan requires ARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. Between 2009 and 2019, the electricity sector was the primary driver of statewide GHG emission reductions (LAO, 2020). One example of a Scoping Plan action that can be undertaken at a local level to support California’s climate goals is for a community to require on-site renewable energy generation by large-scale residential and commercial projects. Adopting all-electric reach code requirements for new buildings and facilitating deployment of renewable energy production on privately owned land uses are priority reduction strategies for local action in the 2022 Scoping Plan Update (ARB, 2022). By requiring the use of renewable resources for parallel generation in the City, the Project would align with the ARB’s recommendations for local-agency actions.

Consistency with Mandatory Reporting Requirements and Cap-and-Trade Program. California’s Mandatory Reporting requirements and the Cap-and-Trade Program work together to cover the GHG emissions related to use of electricity. SVP bears compliance obligations in the Cap-and-Trade Program for the GHG from its power plants and GHG associated with delivering electricity to end-users that are not otherwise covered entities in the Cap-and-Trade Program.

The GHG emissions related to use of electricity from the grid, including electricity serving the demand of customers that would otherwise be served by customer-owned non-renewable parallel generation, would be “covered” by the first deliverers of electricity (such as fossil fuel power plants) and SVP as an electrical distribution utility and subject to Cap-and-Trade requirements. To the extent that use of grid resources and GHG emissions from existing power plants could be changed by the Project, emissions from grid-connected facilities would not conflict with California’s progress towards achieving GHG reductions.

Consistency with the City’s 2022 Climate Action Plan. The City’s 2022 Climate Action Plan establishes a pathway toward reducing GHG to 40 percent below 1990 levels by 2030 and to achieve net carbon neutrality no later than 2045. By limiting the interconnection of new or modified parallel generation to those facilities meeting the criteria for renewable electrical generation facilities, the Project would take a step towards phasing out natural gas infrastructure for customers that choose to obtain electricity from grid resources as an alternative to using non-renewable parallel generation. This would align with the strategic framework of the City’s 2022 Climate Action Plan.

Consistency with SVP’s 2018 IRP. In the 2018 IRP (SVP, 2019), SVP focused on attaining the 60 percent RPS by 2030 target under SB 100. California Code requires SVP to update the IRP at least once every 5 years, and through the IRP process, SVP establishes its plans for increasing the procurement of renewable resources as necessary to accommodate customer load growth. The 2018 IRP demonstrated that SVP has sufficient resources to meet a 60 percent RPS by 2030, as required by SB 100, and the resource procurement plan in the 2018 IRP is consistent with achieving the longer-term SB 100 policy to achieve 100 percent of total retail sales of electricity from eligible renewable energy resources and zero-carbon resources by 2045 (SVP, 2019). For SVP to serve electricity to the customers affected by the Project, SVP

would rely on the existing mix of available grid resources. The Project would not require or indirectly cause the development of any new generating or transmission capacity, and the Project would not change SVP's procurement strategy established with the 2018 IRP.

Summary of Consistency with Programs for Reducing GHG Emissions. Overall, with the Project, the City would reduce GHG emissions from new or modified parallel generation in the City and ensure the use of renewable energy resources for parallel generation. Restricting new and modified parallel generation facilities to renewable resources would be consistent with 2017 Scoping Plan measures that can be undertaken at a local level (ARB, 2017a) and consistent with the Short-Lived Climate Pollution Reduction Strategy (ARB, 2017b). The Project would allow parallel generation using biomethane or renewable natural gas if the generation facility meets the criteria of Section 25741 of the California Public Resources Code. In this context, the Project poses no conflict with California's goals for achieving GHG reductions.

As in the existing conditions, SVP would continue to comply with Public Utilities Code requirements through the IRP process, applicable targets for RPS procurement, and ARB requirements for mandatory reporting of GHG emissions and the Cap-and-Trade program, which all function to ensure progress toward reducing GHG. Because the Project would not obstruct SVP's compliance with these requirements, the Project would not conflict with any applicable GHG management plan, policy, or regulation. Therefore, this impact would be less than significant.

3.9. Hazards and Hazardous Materials

3.9.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's electric distribution system. The most likely locations for parallel generation facilities are previously developed and disturbed areas near the customer's site of electricity use.

Environmental hazards include accidental spills of hazardous materials, the presence of existing subsurface contamination, the risk of wildfire, and aircraft safety. Hazardous materials include fuel, oil, and lubricants. If encountered, contaminated soil or groundwater can pose a health and safety threat to workers or the public.

Existing and Past Land Uses

Existing and past land use activities are commonly used as indicators of sites or areas with potential for hazardous material storage and use or potential environmental contamination. For example, many industrial sites, historic and current, have soil or groundwater contamination by hazardous substances. Other hazardous materials sources include leaking underground tanks in commercial and rural areas, contaminated surface runoff from polluted sites, and contaminated groundwater plumes.

New renewable parallel generation could be proposed in any part of the City where an SVP customer has a facility, and it is allowed under local zoning. The City is an urban environment and highly developed with residential, commercial, office, and industrial land uses. Historically, much of the City was in agricultural uses; more recent uses include many industrial and commercial businesses that use and store hazardous materials and many industrial businesses use and store large quantities of hazardous materials for their routine operations.

Hazardous Materials

Construction activities generally involve routine use and storage of hazardous materials such as cleaning solvents, paints, adhesives, vehicle fuels, oil, hydraulic fluid, and other vehicle and equipment maintenance fluids. The use and storage of such materials must comply with federal, state, and local regulations. Hazardous materials typically used during construction include motor vehicle fuels and fluids associated with construction equipment.

Environmental Contamination

The City of Santa Clara includes commercial or industrial sites with known past contamination and sites that store and use large quantities of hazardous materials where unknown contamination may be present. A review of the California Department of Toxic Substance Control (DTSC) Hazardous Waste and Substances Site List (Cortese List), identified 1 site on this database within the City (DTSC, 2021a) and review of the DTSC EnviroStor (DTSC, 2021b) listed databases identified numerous State and federal hazardous material and environmentally contaminated sites within the City. These DTSC databases have been compiled pursuant to Government Code Section 65962.5.

Additional review was conducted of the State Water Resources Control Board (SWRCB) GeoTracker (SWRCB, 2021) databases which also revealed numerous hazardous materials sites listed on other various State and federal environmental databases throughout the City with many of the sites having known or potential soil and/or groundwater contamination. Contaminated groundwater or soil encountered during

any construction activities are required to be handles, disposed of, and transported per local, State, and federal regulations.

Schools

Schools and learning centers are located throughout the City and could be within a 0.25-mile radius of a proposed parallel generation facility, depending on where it would be sited.

Airports and Airstrips

The Norman Y. Mineta San Jose International Airport (Airport) is located to the east of, and adjacent to, the City of Santa Clara. Reid-Hillview Airport is a general aviation airport located approximately 8 miles east of the City. The Santa Clara Towers heliport in the City is atop a building on the northside of Highway 101 near Bowers Avenue. Moffett Field is approximately 3 miles west of the City.

Regulatory Background

Hazardous substances are defined by federal and State regulations that aim to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous substances are defined in the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 101(14), and also in the California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261, which provides the following definition:

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

For this analysis, soil that is excavated from a site containing hazardous materials would be considered to be a hazardous waste if it exceeded specific CCR Title 22 criteria or criteria defined in CERCLA or other relevant federal regulations. Remediation (cleanup and safe removal/disposal) of hazardous wastes found at a site is required if excavation of these materials occurs; it may also be required if certain other activities occur. Even if soils or groundwater at a contaminated site do not have the characteristics required to be defined as hazardous wastes, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking lead jurisdiction.

Federal

Toxic Substances Control Act. The federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the U.S. Environmental Protection Agency (EPA) for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the “cradle to grave” system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

CERCLA, including the Superfund program, was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements con-

cerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List (NPL). CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

State

California Environmental Protection Agency. The California Environmental Protection Agency (Cal/EPA) was created in 1991, which unified California's environmental authority in a single cabinet-level agency and brought the Air Resources Board (ARB), State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCBs), Integrated Waste Management Board (IWMB), DTSC, Office of Environmental Health Hazard Assessment (OEHHA), and Department of Pesticide Regulation (DPR) under one agency. These agencies were placed within the Cal/EPA "umbrella" for the protection of human health and the environment and to ensure the coordinated deployment of State resources. Their mission is to restore, protect and enhance the environment, to ensure public health, environmental quality, and economic vitality.

California Hazardous Waste Control Law. The California Hazardous Waste Control Law (HWCL) is administered by Cal/EPA to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the EPA approves the California program, both the State and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

California Department of Toxic Substance Control. Department of Toxic Substance Control (DTSC) is a department of Cal/EPA and is the primary agency in California that regulates hazardous waste, cleans-up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of RCRA and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

California Department of Industrial Relations, Division of Occupational Safety and Health Administration. The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

California Fire Plan. The Strategic California Fire Plan was finalized in June 2010 and directs each California Department of Forestry and Fire Protection (CAL FIRE) Unit to prepare a locally specific Fire Management Plan. In compliance with the California Fire Plan, individual CAL FIRE units are required to develop Fire Management Plans for their areas of responsibility. These documents assess the fire situation within each of CAL FIRE's 21 units and six contract counties. The plans include stakeholder contributions and priorities and identify strategic areas for pre-fire planning and fuel treatment, as defined by the people who live and work with the local fire problem. The plans are required to be updated annually.

Local

City of Santa Clara Community Risk Reduction Division, Santa Clara Fire Department Hazardous Materials Division. Under the Community Risk Reduction Division, the Santa Clara Fire Department Hazardous Materials Division acts as the Certified Unified Program Agency (CUPA) for the City and is responsible for implementing the following programs: Hazardous Materials Management Plans/Business Plans (HMBP), Aboveground Petroleum Storage Act, California Accidental Release Prevention Program (CalARP), Hazardous Waste Generator, On Site Treatment of Hazardous Wastes, and Underground Storage Tanks. The CUPA is charged with the responsibility of maintaining records for and conducting compliance inspections for regulated hazardous material facilities in the City of Santa Clara.

City of Santa Clara General Plan. The purpose of the City's safety policies is to identify potential hazards and measures that can lessen risks for the City's population and property. The following policies in the General Plan generally relate to the provision of utility service in the City (City of Santa Clara, 2014):

- **Policy 5.10.5-P22.** Regulate development on sites with known or suspected contamination of soil and/or groundwater to ensure that construction workers, the public, future occupants and the environment are adequately protected.
- **Policy 5.10.5-P23.** Require appropriate clean-up and remediation of contaminated sites.
- **Policy 5.10.5-P24.** Protect City residents from the risks inherent in the transport, distribution, use and storage of hazardous materials.
- **Policy 5.10.5-P25.** Use Best Management Practices to control the transport of hazardous substances and to identify appropriate haul routes to minimize community exposure to potential hazards.
- **Policy 5.10.5-P27.** Locate hazardous waste management facilities in areas designated as Heavy Industrial on the Land Use Diagram if compatible with surrounding uses and consistent with the County Hazardous Waste Management Plan.
- **Policy 5.10.5-P29.** Continue to refer proposed projects located within the Airport Influence Area to the Airport Land Use Commission.

3.9.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

The analysis of hazards and hazardous materials focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for hazards and hazardous materials, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects related to hazards and hazardous materials. Operating existing grid-connected generating facilities may create hazards to the public and involve handling or accidental release of hazardous materials that pose risks to setting of the facilities. However, any Project-related change in the continued operation and use of grid-connected facilities would be unlikely to lead to a new physical change in how existing facilities manage their existing hazards or hazardous materials. As a result, no further discussion of the effects related to hazards and hazardous materials of serving electricity to the customers affected by the Project is necessary.

HAZ-1. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations, and the amendments would not directly or indirectly result in the approval of any specific activities that could create a significant hazard through routine transport, use, or disposal of hazardous materials. With the Project, no additional use of natural gas or other fossil fuels would be allowed for new or modified parallel generation in the City.

Customers considering using fossil fuels in a parallel generation project could change their development plans to undertake development of substitute renewable parallel generation. Individual proposals for new renewable parallel generation are most likely to be within or near the customer's site of electricity use, where land would have been previously disturbed by earlier construction and site development. The use of hazardous materials for construction of a renewable parallel generation facility would be minimal. Hazardous materials may include gasoline, diesel fuel, hydraulic oils, equipment coolants, and any generated wastes that may include these materials. These materials are considered hazardous because they are flammable and/or contain toxic compounds, such as volatile organic compounds and heavy metals. The generation, transportation, treatment, storage, and disposal of hazardous waste is regulated. Wastes considered hazardous by the State of California would be transported and disposed of according to applicable federal, State, and local regulations, described in the Regulatory Background of this section. Fueling and routine maintenance of construction equipment and vehicles would be performed off site to the greatest extent feasible. However, minor spills or releases of hazardous materials could occur due to improper handling and/or storage practices during construction activities.

During operation and maintenance of renewable parallel generation, limited amounts of hazardous materials might be required; the generation, transportation, treatment, storage, and disposal of hazardous waste related to individual proposals would need to comply with existing laws and regulations. Renewable parallel generation facilities could need to connect to a pipeline if a pipeline supply of biomethane or renewable natural gas is necessary for an individual proposal. Delivery of gaseous renewable fuel using a common carrier pipeline would cause no different hazards than delivery of natural gas for non-renewable parallel generation. As with natural gas delivery, a customer that switches to common carrier pipeline

biomethane would obtain a supply of flammable gas to the site, which would need to be provided in accordance with design standards and regulations to substantially reduce the potential for significant hazards. Implementation of existing community risk reduction programs and City policies for controlling transport, use, and disposal of hazardous materials would avoid a significant impact (City of Santa Clara, 2011).

Customers that propose discretionary parallel generation facilities that meet the City's definition of an electric power plant would continue to be subject to project-specific CEQA review if not exempt, which would provide an opportunity for implementation of additional measures, if necessary to reduce potential impacts related to routine transport, use, or disposal of hazardous materials.

HAZ-2. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

LESS THAN SIGNIFICANT. The Project would not directly or indirectly result in the approval of any specific activities that could create a significant hazard through the use of hazardous materials or through upset or accident conditions that would release hazardous materials.

During construction of individual proposals for renewable parallel generation facilities, accidental spills of motor vehicles fluids associated with construction vehicles could occur as discussed under Impact HAZ-1. During operation, delivery of gaseous renewable fuel using a common carrier pipeline would cause no different hazards than delivery of natural gas for non-renewable parallel generation. The hazards related to a pipeline supply of renewable natural gas could include fire, explosion, and possible asphyxiation, and these hazards are the same as with a pipeline supply of natural gas. Implementation of existing community risk reduction programs and City policies for emergency response would avoid significant direct and indirect impacts that could be caused by potential upset or accident conditions (City of Santa Clara, 2011).

HAZ-3. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

LESS THAN SIGNIFICANT. The Project would not directly or indirectly result in the approval of any specific construction activities that may emit hazardous emissions or handle hazardous materials near a school. Although individual proposals for renewable parallel generation could occur near an existing or proposed school, the City Zoning Code (Section 18.60.050) permits, subject to a use permit, construction or operation of electric power plants only in certain industrial and public facilities zoning districts. For customers that are forced by the Project to change development plans and switch to an available renewable fuel, the potential for a renewable parallel generation facility to create new risks near an existing or proposed school would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. Existing laws and regulations for safe hazardous materials management, community risk reduction standards, and zoning standards would avoid significant effects that could be caused where hazardous emissions or the need to handle hazardous materials, substances, or waste could occur within 0.25 miles of a school.

HAZ-4. *Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

LESS THAN SIGNIFICANT. The Project would not directly or indirectly result in the approval of any specific construction activities that may be located on a listed hazardous materials site. Customers could choose to undertake development of new renewable parallel generation at customer sites where development could create a hazard by disturbing known contaminants. For customers that are forced by the Project to

change development plans and switch to an available renewable fuel, the potential for a renewable parallel generation facility to be located at a hazardous materials site would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. Customer proposals, which could be located at sites with environmental contamination, would be subject to local, State, and federal regulations regarding handling, disposal, and transportation of hazardous materials including contaminated soil or groundwater. Implementation of existing community risk reduction programs and City policies for controlling transport, use, and disposal of hazardous materials would avoid a significant impact (City of Santa Clara, 2011).

HAZ-5. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

LESS THAN SIGNIFICANT. To the east, the City is adjacent to the Norman Y. Mineta San Jose International Airport. This area of the City is highly developed with single story industrial buildings, including north of Highway 101, which separates the area from the airport's runways. Portions of the eastern part of the City fall within the noise restriction, height restriction, and safety restriction areas of the airport's adopted Comprehensive Land Use Plan. Individual proposals to develop parallel generation may require review by the County's Airport Land Use Commission for consistency with the adopted land use plan.

Federal Aviation Regulations, Part 77, "Objects Affecting Navigable Airspace," commonly referred to as "FAR Part 77," sets forth standards and review requirements for protecting the airspace for safe aircraft operation, particularly by restricting the height of proposed structures and minimizing other potential hazards to aircraft such as reflective surfaces, flashing lights, and electronic interference. These regulations require that the Federal Aviation Administration (FAA) be notified of certain proposed construction activities located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport's runways, or which would otherwise stand at least 200 feet tall above ground. The City is within the extended zone of the northern end of the airport's runways. Building in this portion of the City are single story. Individual proposals for new parallel generation would need to be lower in elevation than the existing buildings in this portion of the City. Renewable parallel generation facilities in the airport's adopted Comprehensive Land Use Plan areas would be reviewed to avoid creating a safety hazard for people residing or working in the area.

HAZ-6. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

LESS THAN SIGNIFICANT. The Project would not directly or indirectly result in the approval of any specific construction activities that may impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Construction of renewable parallel generation facilities could involve temporary travel lane closures or disruptions may be required for delivery of equipment and materials during the site-specific development. In June 2016, the Santa Clara City Council adopted a new comprehensive emergency response plan to replace the prior plan adopted in 2008. The plan provides a legal framework for the management of emergencies and guidance for the conduct of business in the City's Emergency Operations Center (EOC), including collaboration and coordination between different responsible agencies. The Emergency Operations Plan (EOP) establishes responsibilities and procedures for addressing potential emergencies related to natural disasters such as earthquakes, flooding, and dam failure; technological incidents; hazardous materials spills or releases; and incidents of domestic terrorism involving weapons of mass destruction, such as Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) devices. The EOP conforms to the requirements of the National Incident Management System (NIMS) mandated by the U.S. Department

of Homeland Security. The Santa Clara EOP also builds on and coordinates with the State's Standardized Emergency Management System (SEMS) and the California State Emergency Plan.

The EOP does not identify specific emergency shelters or evacuation routes in Santa Clara, though schools are identified as preferred facilities for lodging large numbers of people, with churches, hotels, and motels also likely to function as mass care facilities during large-scale disasters. Development of renewable parallel generation facilities is not likely to interfere with operation of any emergency shelters and would not permanently close off or otherwise alter any existing streets, and therefore would not create any obstructions to potential evacuation routes that might be used in the event of an emergency.

Temporary lane closures that might be needed would need to be coordinated with local agencies (see Section 3.17, Transportation). Additionally, any temporary road closures would follow applicable regulations and would not impede emergency response. Adherence to the City's EOP would ensure that individual proposals would not impair the implementation of or physically interfere with an adopted emergency response or evacuation plan; therefore, the impact related to emergency response would be less than significant.

HAZ-7. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

NO IMPACT. The Project would apply to electrical generating facilities seeking to interconnect to the SVP distribution system and would not result in any change in exposure of people or structures to risk of wildfire. While high heat or sparks from vehicles or equipment used during development of individual proposals could have the potential to cause fires, any new renewable parallel generation facilities would occur in the urban environment of the City with no risk of wildland fire owing to the lack of extensive vegetation. The City of Santa Clara area is not located in a Fire Hazard Severity Zone (FHSZ) in the CAL FIRE wildland fire hazard maps (CAL FIRE, 2007). The potential for a renewable parallel generation facility to introduce fire risks would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project.

3.10. Hydrology and Water Quality

3.10.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. New or modified parallel generation facilities proposed for interconnection would need to be near SVP's distribution system and within or near the customer's site of electricity use. Previously developed and disturbed areas are the locations most likely to see proposals for new or modified parallel generation facilities.

Surface Waters and Drainage

Surface water drainage in the City of Santa Clara is primarily into the Guadalupe River, San Tomas Aquino Creek, Saratoga Creek, and Calabazas Creek. All of the waterways originate in the Santa Cruz Mountains, which are largely undeveloped. These streams drain northward across Santa Clara Valley, discharging to the San Francisco Bay. Within the City, these regionally important streams have been substantially channelized and modified to reduce flood hazards. The City has a storm drainage system that consists of curb inlets that collect and channel surface water, such as rainwater, into a series of pipelines beneath City's roadways. The stormwater is transported through the underground pipelines to the four streams within the City. These streams then directly flow into the San Francisco Bay (City of Santa Clara, 2014).

Groundwater Resources

The Santa Clara Valley lies on an aquifer system with two subbasins: the Santa Clara Subbasin in the north and the Llagas Subbasin in the south (Santa Clara Valley Water District, 2017). Water production wells in the Santa Clara Valley have an average depth of about 278 feet below ground surface and yield an average of 425 gallons per minute (City of Santa Clara, 2014). The City of Santa Clara is within the Santa Clara Subbasin.

In contrast to other areas adjacent to San Francisco Bay, where saltwater intrusion has been an issue, total dissolved solids in the groundwater have not been a concern for the City of Santa Clara. Nitrates have also not been a problem and are below one-half of allowable levels in water extracted from the City's wells. However, manganese, a naturally occurring metal in groundwater, has been detected at a well, resulting in the City installing a manganese removal system for that well before putting it into production (City of Santa Clara, 2014).

Flood Hazard Areas

The Federal Emergency Management Agency (FEMA) designates the boundaries of Flood Hazard Areas, or those areas anticipated to be inundated in the event of a 100-year storm event. Approximately 10 percent of the City of Santa Clara is located within a Special Flood Hazard Area (SFHA), which are areas at high risk of flooding, as indicated by flood zone mapping prepared by FEMA (City of Santa Clara, 2014)..

Water Supply

Potable water for the City of Santa Clara comes from a combination of sources: City of San Francisco's Hetch Hetchy aqueduct system, Santa Clara Valley Water District, and groundwater from City-owned wells. Groundwater comprises almost 70 percent of the City's water supply. Recycled wastewater is also used in the City for certain landscape irrigation, industrial, and construction purposes (City of Santa Clara, 2014).

Regulatory Background

Federal

Clean Water Act. The Clean Water Act (CWA; 33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). NPDES permitting authority is delegated to, and administered by, California's nine Regional Water Quality Control Boards (RWQCB). In addition, the State Water Resources Control Board (SWRCB) regulates the NPDES stormwater program. The City is within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (Region 2) and the SWRCB.

Projects that disturb one or more acres are required to obtain NPDES coverage under the California General Permit for Discharges of Storm Water Associated with Construction Activity. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP describes Best Management Practices (BMPs) the discharger will use to protect stormwater runoff. The SWPPP must contain a visual monitoring program and a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs.

Section 401 of the CWA requires that any activity, including river or stream crossing during road, pipeline, or transmission line construction, which may result in discharges into a State waterbody, must be certified by the RWQCB through the issuance of a Waste Discharge Requirement. This certification ensures that the proposed activity does not violate State or federal water quality standards. The limits of nontidal waters extend to the Ordinary High Water Mark (OHWM), defined as the line on the shore established by the fluctuation of water and indicated by physical characteristics, such as natural line impressed on the bank, changes in the character of the soil, and presence of debris.

Section 404 of the CWA requires a permit for construction activities involving placement of any kind of fill material into waters of the U.S. or wetlands. The U.S. Army Corps of Engineers (USACE) may issue either individual, site-specific permits or general, nationwide permits for discharge into U.S. waters. A Water Quality Certification pursuant to Section 401 of the CWA is required for Section 404 permit actions. If applicable, construction would also require a request for Water Quality Certification (or waiver thereof) from the Central Valley RWQCB and/or the Lahontan RWQCB.

Section 303(d) of the CWA (CWA, 33 USC 1250, et seq., at 1313(d)) requires states to identify impaired waterbodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to the USEPA for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of Total Maximum Daily Load (TMDL) requirements. A TMDL is the maximum amount of a pollutant that a particular waterbody can receive while still meeting water quality standards, or an allocation of that water pollutant deemed acceptable to receiving waters. The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements.

National Flood Insurance Act/Flood Disaster Protection Act. The National Flood Insurance Act of 1968 made flood insurance available for flood prone areas. The Flood Disaster Protection Act of 1973 made the purchase of flood insurance mandatory for the protection of property located in Special Flood Hazard

Areas. These laws led to mapping of regulatory floodplains and to local management of floodplain areas following federal guidelines which include prohibiting or restricting development in flood hazard zones.

State

Porter-Cologne Water Quality Control Act. The Porter Cologne Water Quality Control Act of 1967, Water Code Section 13000 et seq., requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect State waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards, and implementation procedures. The criteria applicable within the City are contained in the Water Quality Control Plan (also referred to as a Basin Plan) for the San Francisco RWQCB. Constraints in the water quality control plans relate primarily to the avoidance of altering the sediment discharge rate of surface waters, and the avoidance of introducing toxic pollutants to the water resource. A primary focus of water quality control plans is to protect designated beneficial uses of waters. In addition, anyone proposing to discharge waste that could affect the quality of the waters of the state must make a report of the waste discharge to the Regional Water Board or State Water Board as appropriate, in compliance with Porter-Cologne.

California Water Code Section 13260. California Water Code Section 13260 requires that any person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the State, other than into a community sewer system, must submit a report of waste discharge to the applicable RWQCB. Any actions related to a project that would be applicable to Section 13260 would need to be reported to the San Francisco RWQCB, as applicable.

Local

Water Policies. The purpose of the City's water policies is off-set increased demand associated with the implementation of the City General Plan. The following policies in the General Plan generally relate to the provision of utility service in the City (City of Santa Clara, 2014):

- **Policy 5.10.4-P1.** Promote water conservation through development standards, building requirements, landscape design guidelines, education, compliance with the State Water Conservation Landscaping Ordinance, incentives, and other applicable City-wide policies and programs.
- **Policy 5.10.4-P4.** Require an adequate water supply and water quality for all new development.
- **Policy 5.10.4-P5.** Prohibit new development that would reduce water quality below acceptable State and local standards.
- **Policy 5.10.4-P10.** Work with Santa Clara Valley Water District to minimize undesirable compaction of aquifers and subsidence of soils.

Safety Policies. The purpose of the City's safety policies is to identify potential hazards and measures that can lessen risks for the City's population and property. The following policies in the General Plan generally relate to the provision of utility service (City of Santa Clara, 2014):

- **Policy 5.10.5-P11.** Require that new development meet stormwater and water management requirements in conformance with State and regional regulations.
- **Policy 5.10.5-P13.** Require that development complies with the Flood Damage Protection Code.
- **Policy 5.10.5-P14.** Coordinate with the Federal Emergency Management Agency to ensure appropriate designation and mapping of floodplains.
- **Policy 5.10.5-P15.** Require new development to minimize paved and impervious surfaces and promote on-site Best Management Practices for infiltration and retention, including grassy swales, pervious pavement, covered retention areas, bioswales, and cisterns, to reduce urban water run-off.

- **Policy 5.10.5-P16.** Require new development to implement erosion and sedimentation control measures to maintain an operational drainage system, preserve drainage capacity and protect water quality.
- **Policy 5.10.5-P17.** Require that grading and other construction activities comply with the Association of Bay Area Governments' Manual of Standards for Erosion and Sediment Control Measures and with the California Stormwater Quality Association (CASQA), Stormwater Best Management Practice Handbook for Construction.
- **Policy 5.10.5-P21.** Require that storm drain infrastructure is adequate to serve all new development and is in place prior to occupancy.
- **Policy 5.10.5-P22.** Regulate development on sites with known or suspected contamination of soil and/or groundwater to ensure that construction workers, the public, future occupants and the environment are adequately protected.

3.10.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
 - i) result in substantial erosion or siltation on- or off-site; ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

The analysis of hydrology and water quality focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for hydrology and water quality, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects to hydrology and water quality. Operating existing grid-connected generating facilities may cause physical effects, including use of groundwater or surface water resources for cooling or waste discharges, consistent with existing water supplies and waste discharge requirements. However, any Project-related change in the continued operation and use of grid-connected facilities would be unlikely to lead to a new physical change in how existing facilities affect water resources. As a result, no further discussion of the effects to hydrology and water quality of serving electricity to the customers affected by the Project is necessary.

HWQ-1. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations, and the amendments would not directly or indirectly result in the approval of any specific construction activities that may cause water consumption or a wastewater discharge that could degrade water quality. Customers could choose to undertake development of new renewable parallel generation facilities at customer sites served by the regional sewer and wastewater treatment systems.

Disturbance of soil for construction of renewable parallel generation at the customer's site could result in soil erosion and lowered water quality through increased turbidity and sediment transport into the storm drain system. Construction could also increase the potential for violations of water quality standards or waste discharge requirements as a result of accidental leaks, spills, or releases of hazardous or potentially hazardous materials.

Grading and building permit requirements would implement City policies for erosion control including Best Management Practices, if necessary to reduce potential water quality impacts, and requirements for a SWPPP may be triggered by State law if individual proposals cause more than one acre of soil disturbance. In addition, obtaining and adhering to applicable water quality permit requirements would offer protection to avoid adverse impacts to water quality from erosion and sedimentation. Where customers undertake construction of substitute renewable parallel generation facilities, instead of new non-renewable parallel generation, the potential to violate water quality standards or waste discharge requirements would not differ from that of using fossil fuels for parallel generation and would not be changed by the Project. Construction and operation would be consistent with regulatory standards to prevent degradation of water quality to the point where beneficial uses would be impaired. Implementation of the City's water and safety policies through grading and building permits would avoid significant impacts related to surface or groundwater discharge. Individual proposals for new renewable parallel generation facilities would continue to be evaluated under a project-specific CEQA review if not exempt.

HWQ-2. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

LESS THAN SIGNIFICANT. The Project would not result in the approval of any specific construction activities that could create a demand for groundwater supplies. Construction and operation of new renewable parallel generation facilities at customer sites could generate a minimal demand for water, primarily during construction.

For customers that choose to undertake development of new renewable parallel generation facilities, there would be minimal demand for water. Groundwater supplies could be adversely affected through direct consumption of groundwater resources or indirect depletion of groundwater supplies such as through conducting dewatering activities where the water is not returned to the subsurface. Any new demand for the City's water supplies caused by renewable parallel generation facilities would be minimal and unlikely to change groundwater supplies or recharge. Demand for water supplies for renewable generation would be no different than those that would occur for non-renewable parallel generation and would not be changed by the Project.

For any development activity, a water truck may be on-site to support dust suppression during ground disturbing work and to use for concrete foundation work. These uses would not result in a significant demand for water resources from the City of Santa Clara, where groundwater makes up 70 percent of the

City's water supply. The existing supply is adequate for use during construction. Dewatering may be necessary if groundwater is encountered during development of individual proposals for new renewable parallel generation facilities, but given the depth to the groundwater table, encountering groundwater during excavation is unlikely, and would be localized if it occurred. The small amount of dewatering would therefore not result in a substantial decrease of the groundwater supply or interfere substantially with groundwater recharge or sustainable groundwater management. Overall, any impacts to groundwater would be less than significant.

HWQ-3. *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

(a) result in substantial erosion or siltation on- or off-site;

LESS THAN SIGNIFICANT. The Project would not directly or indirectly result in the approval of any specific construction activities that could alter the existing drainage pattern of any site or area. Individual proposals for new renewable parallel generation facilities are likely to be in previously disturbed and graded land at or near the customer's site of electricity use in previously disturbed and modified landscapes. Installation of new renewable parallel generation may increase somewhat the amount of impervious surface at a site, but this would be readily accommodated by the existing drainage network or onsite infiltration. Customer sites often include drainage swales or pathways to prevent erosion or siltation from drainage patterns at graded sites. Implementation of the City's water and safety policies through grading and building permits would avoid significant impacts related to altering drainage patterns or generating runoff.

(b) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

LESS THAN SIGNIFICANT. As described under Impact HWQ-3(a) above, individual proposals for new renewable parallel generation facilities are unlikely substantially change drainage patterns or runoff generation at a site. Development of renewable parallel generation would be no more likely to adversely affect surface runoff than development of non-renewable parallel generation, and the potential to substantially increase surface runoff would not be changed by the Project. The amount of additional impervious surface created by new renewable parallel generation facilities would likely be minor in the context of existing impervious surfaces at customer sites that are previously-developed with existing buildings, parking lots, and roadways. New impervious areas would be minimized by City policies to promote onsite infiltration and retention. Implementation of the City's water and safety policies through grading and building permits would avoid significant impacts related to flooding (City of Santa Clara, 2011).

(c) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

LESS THAN SIGNIFICANT. As discussed above, individual proposals for new renewable parallel generation facilities are unlikely to substantially increase the rate or amount of runoff. Existing or planned stormwater drainage systems will therefore not be adversely affected, and renewable parallel generation has little or no potential to generate substantial polluted runoff. This impact is less than significant.

(d) impede or redirect flood flows?

LESS THAN SIGNIFICANT. Individual proposals for new renewable parallel generation facilities could be proposed in a floodplain. In such a case, the proposal would need to comply with laws and regulations

pertaining to obstruction of flood flows. Also, the profile of renewable parallel generation equipment would likely be minor in the context of the profiles of buildings at the customer's site of electricity use. Implementation of City policies for mapping of floodplains and requiring proper drainage capacity would ensure that flood flows would not be impeded or redirected in any substantial way (City of Santa Clara, 2011).

HWQ-4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

LESS THAN SIGNIFICANT. Individual proposals for new renewable parallel generation facilities could be proposed in a flood hazard or inundation area. Portions of the City are within known floodplains, including the area along San Thomas Expressway north of El Camino Real to the rail line and in scattered areas to the north (County of Santa Clara, 2021). The City is at very low risk of inundation by a tsunami or the effects of seiche, with the hazard area being north of Highway 237 (CDC, 2021). This impact is therefore less than significant.

HWQ-5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

LESS THAN SIGNIFICANT. As described under Impact HWQ-1 above, individual proposals for new renewable parallel generation facilities are unlikely to substantially impact water quality or use water, and renewable parallel generation has little or no potential to otherwise generate water quality impairments or otherwise conflict with the implementation of a water quality control plan or groundwater management plan. Implementation of City water and safety policies through grading and building permits would avoid significant impacts related to water quality impairments and sustainable groundwater management (City of Santa Clara, 2011).

3.11. Land Use and Planning

3.11.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. New or modified parallel generation facilities proposed for interconnection would need to be near SVP's distribution system and within or near the customer's site of electricity use. Previously developed and disturbed areas are the locations most likely to see proposals for new or modified parallel generation facilities. Any proposed parallel generation facility would be required to comply with applicable land use requirements.

Regulatory Background

This section includes a description of the land use and planning regulatory framework. There are no federal or state regulations or policies related to land use and planning are applicable to the Project.

Local

City of Santa Clara General Plan. The City's land use policies consider the effects of development to public facilities and infrastructure. The following land use policies in the General Plan may be generally relevant to the development of renewable parallel generation facilities and interconnection to SVP's distribution system (City of Santa Clara, 2014):

- **Policy 5.3.1-P1.** Preserve the unique character and identity of neighborhoods through community-initiated neighborhood planning and design elements incorporated in new development.
- **Policy 5.3.1-P2.** Encourage advance notification and neighborhood meetings to provide an opportunity for early community review of new development proposals.
- **Policy 5.3.1-P4.** Encourage new development that meets the minimum intensities and densities specified in the land use classifications or as defined through applicable Focus Area, Neighborhood Compatibility or Historic Preservation policies of the General Plan.
- **Policy 5.3.1-P6.** Allow planned development only if it is consistent with General Plan land use density and intensity requirements and provides a means to address unique situations to achieve high community design standards that would otherwise not be feasible.
- **Policy 5.3.1-P10.** Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect.
- **Policy 5.3.1-P15.** Require new developments and major public infrastructure projects to include adequate rights-of-way to accommodate all modes of transportation.
- **Policy 5.3.1-P17.** Promote economic vitality by maintaining the City's level of service for public facilities and infrastructure, including affordable utilities and high quality telecommunications.
- **Policy 5.3.1-P28.** Encourage undergrounding of new utility lines and utility equipment throughout the City.

City of Santa Clara Zoning Code. The City's Zoning Code regulates land uses within the boundaries of the City. The Code establishes zoning districts (e.g., Single-Family, General Office, Downtown Commercial) that are applied to individual properties consistent with the General Plan land use designations. For each of the zone districts in the city, the Code identifies land uses that are permitted, conditionally permitted,

and not permitted. It also establishes standards such as minimum lot size, maximum building height, and the minimum distance buildings must be set back from the street. Provisions for parking, landscaping, lighting, and other rules that guide land use development in the City are also included.

3.11.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Physically divide an established community.
- Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

The analysis of land use and planning focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for land use and planning, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects to land use and planning. Operation of existing grid-connected generating facilities normally occurs in a land use setting including zoning that permits the production and delivery of electricity in a manner that does not conflict with existing plans, policies, or regulations adopted to avoid or mitigate an environmental effect. Any Project-related change in the continued operation and use of grid-connected facilities would be unlikely to substantially change the land use setting of the facilities. As a result, no further discussion of the effects to land use and planning of serving electricity to the customers affected by the Project is necessary.

LUP-1. Would the project physically divide an established community?

NO IMPACT. The Project would approve the City's Renewable Parallel Generation Facilities Resolution and amend SVP's Rules and Regulations. The Project would not directly or indirectly result in the approval of any specific construction activities that could divide and established community or alter an existing land use. Customers choosing to develop renewable parallel generation facilities are likely to select locations adjacent to or near the buildings at the customer's site of electricity use, and therefore, have no potential impact with regard to physically dividing an established community.

LUP-2. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

LESS THAN SIGNIFICANT. The Project would not directly or indirectly result in the approval of any specific construction activities that could create a conflict with plans, policies, or regulations adopted to avoid or mitigate an environmental effect. The Project would require new or modified parallel generation facilities to meet the criteria for renewable electrical generation facilities as defined in the California Public Resources Code. This would have the effect of ensuring new facilities use renewable resources.

Proposals for new renewable parallel generation facilities would need to be consistent with the City's General Plan, zoning code, and building code as they apply to the specific proposal at a specific location, and implementation of the City's zoning standards and building permit process would avoid significant impacts related to land use conflicts.

3.12. Mineral Resources

3.12.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. The City of Santa Clara is located in an area of California where no significant mineral deposits are present, or there is little likelihood that they are present. There are no significant mineral resources present within the City boundaries, and no exploitable oil or gas resources within the City (City of Santa Clara, 2011).

Regulatory Background

There are no federal or local regulations associated with mineral resources that are relevant to the Project.

State

California Surface Mining and Reclamation Act of 1975 (SMARA). SMARA requires that the State Geologist classify land into Mineral Resource Zones (MRZs) according to the known or inferred mineral potential of the land. The California Department of Conservation's Office of Mine Reclamation (OMR) and the State Mining and Geology Board (SMGB) are jointly charged with administration of the Act's requirements. The OMR provides technical assistance to lead agencies and operators, maintains a statewide database of mine locations and operational information, and is responsible for matters involving SMARA compliance. The SMGB promulgates regulations to clarify and interpret SMARA requirements in addition to serving as a policy and appeals board (DOC, 2019). The SMGB has the authority to further regulate the authority of the local agencies if it finds that the agencies are not in compliance with the provisions of SMARA.

Mineral resources have been mapped using the California Mineral Land Classification System, which include the following four MRZs:

- **MRZ-1:** Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence;
- **MRZ-2:** Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence;
- **MRZ-3:** Areas containing mineral deposits, the significance of which cannot be evaluated; and
- **MRZ-4:** Areas where available information is inadequate for assignment to any other zone.

3.12.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

The analysis of mineral resources focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation

facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for mineral resources, the continued operation and use of existing grid resources to serve electricity would not change the use or availability of known mineral resources that may occur in the setting of existing grid-connected generating facilities. Any Project-related change in the continued operation and use of existing grid-connected generating facilities would be unlikely to lead to any new ground disturbance or change in availability of a known mineral resource that could cause substantial adverse effects. As a result, no further discussion of the effects to mineral resources of serving electricity to the customers affected by the Project is necessary.

MIN-1. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?

NO IMPACT. The Project would not directly or indirectly result in the approval of any specific construction activities that could affect a known mineral resource. For customers that choose to develop parallel generation in the City, there is no potential to cause the loss of availability of a known mineral resource of value to the region or State. The land in the City is classified as MRZ-1, and there are no known important mineral resources that would be impacted by the Project. There would be no impact.

MIN-2. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

NO IMPACT. As stated above, land in the City is designated as MRZ-1, and there are no known important mineral resources that could be impacted by development of parallel generation in the City. Therefore, the Project would have no impact on any locally important mineral resource recovery sites.

3.13. Noise

3.13.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. New or modified parallel generation facilities proposed for interconnection would need to be near SVP's distribution system and within or near the customer's site of electricity use. Previously developed and disturbed areas are the locations most likely to see proposals for new or modified parallel generation facilities.

Existing Conditions

Community Noise. Noise measurement uses the A-weighted decibel scale (dBA) to simulate human perception and assess impacts on areas that are sensitive to community noise. The A-weighted scale of frequency sensitivity accounts for the sensitivity of the human ear, which is less sensitive to low frequencies, and correlates well with human perceptions of the annoying aspects of noise. The A-weighted decibel scale is cited in most noise criteria. Decibels are logarithmic units that can be used to conveniently compare wide ranges of sound intensities.

Community noise levels can be highly variable from day to day as well as between day and night. For simplicity, sound levels are usually best represented by an equivalent level over a given time period (Leq) or by an average level occurring over a 24-hour day-night period (Ldn). The Leq, or equivalent sound level, is a single value (in dBA) for any desired duration, which includes all of the time-varying sound energy in the measurement period, usually one hour. The L50, is the median noise level that is exceeded fifty per cent of the time during any measuring interval. The Ldn, or day-night average sound level, is equal to the 24-hour A-weighted equivalent sound level with a 10-decibel penalty applied to nighttime sounds occurring between 10:00 p.m. and 7:00 a.m. Community Noise Equivalent Level (CNEL) is another metric that is the average equivalent A-weighted sound level during a 24-hour day, obtained after addition of five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and after addition of 10 decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m. To easily estimate the day-night level caused by any noise source emitting steadily and continuously over 24-hours, the Ldn is 6.4 dBA higher than the source's Leq. For example, if the expected continuous noise level from equipment is 50.0 dBA Leq for every hour, the day-night noise level would be 56.4 dBA Ldn.

Community noise levels are usually closely related to the intensity of human activity. Noise levels are generally considered low when below 45 dBA, moderate in the 45 to 60 dBA range, and high above 60 dBA. In wilderness areas, the Ldn noise levels can be below 35 dBA. In small towns or wooded and lightly used residential areas, the Ldn is more likely to be around 50 or 60 dBA. Levels around 75 dBA are more common in busy urban areas, and levels up to 85 dBA occur near major freeways and airports. Although people often accept the higher levels associated with very noisy urban residential and residential-commercial zones, they nevertheless are considered to be adverse to public health.

Surrounding land uses dictate what noise levels would be considered acceptable or unacceptable. Lower levels are expected in rural or suburban areas than what would be expected for commercial or industrial zones. Nighttime ambient levels in urban environments are about seven decibels lower than the corresponding daytime levels. In rural areas away from roads and other human activity, the day-to-night difference can be considerably less. Areas with full-time human occupation and residency are often considered incompatible with substantial nighttime noise because of the likelihood of disrupting sleep. Noise levels above 45 dBA at night can result in the onset of sleep interference. At 70 dBA, sleep interference effects become considerable (U.S. EPA, 1974).

Noise Sensitive Areas. Within the City are a diverse range of general plan designations, including areas with high density, medium density, and low density residential, and community-serving parks/open space. The City's General Plan includes policies on land use compatibility and a description of noise sensitive uses, such as residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, natural areas, parks and open spaces, where elevated noise is generally more objectionable than noise in less sensitive commercial and industrial areas (City of Santa Clara, 2014).

Regulatory Background

Regulating environmental noise is generally the responsibility of local governments. The U.S. EPA once published guidelines on recommended maximum noise levels to protect public health and welfare (U.S. EPA, 1974), and the State of California maintains recommendations for local jurisdictions in the General Plan Guidelines published by the Governor's Office of Planning and Research (OPR, 2017). The following summarizes the local requirements.

City of Santa Clara City Code. The City Code generally prohibits "loud and unreasonable noise" as a nuisance if it may disturb the peace "between the hours of 10:00 P.M. and 7:00 A.M." including specifically noise that is "made within two hundred fifty (250) feet of any building or place regularly used for sleeping purposes" (Section 9.05.010).

The City's Noise Ordinance (Chapter 9.10) sets standards to control unnecessary, excessive, unusually loud, and annoying noise or vibration. Exterior noise limits that must not be exceeded at receiving land uses ensure effective controls for noise generated by any fixed source (Section 9.10.040), and the ordinance prohibits disturbing, excessive, or offensive vibration above the vibration perception threshold of an individual at the closest property line (Section 9.10.050). Construction activities that occur during allowed hours and noise from city-owned electric facilities are exempt from the noise and vibration standards of the Noise Ordinance (Section 9.10.070). For construction that is "off-street," which would include staging areas, and within 300 feet of a residentially zoned property, construction activities shall be limited to occur within the hours of 7:00 A.M. to 6:00 P.M. on weekdays that are not holidays or within the hours of 9:00 A.M. to 6:00 P.M. on Saturdays that are not holidays (Section 9.10.230).

City of Santa Clara General Plan. The Environmental Quality chapter of the General Plan (2014) includes policies to encourage land uses that are compatible with areas of higher noise levels and to protect noise sensitive land uses in areas where existing ambient noise levels are high, as follows:

- **Policy 5.10.6-P3.** New development should include noise control techniques to reduce noise to acceptable levels, including site layout (setbacks, separation and shielding), building treatments (mechanical ventilation system, sound-rated windows, solid core doors and baffling) and structural measures (earthen berms and sound walls).
- **Policy 5.10.6-P4.** Encourage the control of noise at the source through site design, building design, landscaping, hours of operation and other techniques.
- **Policy 5.10.6-P5.** Require noise-generating uses near residential neighborhoods to include solid walls and heavy landscaping along common property lines, and to place compressors and mechanical equipment in sound-proof enclosures.
- **Policy 5.10.6-P6.** Discourage noise sensitive uses, such as residences, hospitals, schools, libraries and rest homes, from areas with high noise levels, and discourage high noise generating uses from areas adjacent to sensitive uses.

- **Policy 5.10.6-P7.** Implement measures to reduce interior noise levels and restrict outdoor activities in areas subject to aircraft noise in order to make Office/Research and Development uses compatible with the Norman Y. Mineta International Airport land use restrictions.
- **Policy 5.10.6-P8.** Continue to encourage safe and compatible land uses within the Norman Y. Mineta International Airport Noise Restriction Area.

3.13.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would result in:

- Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.
- Generation of excessive groundborne vibration or groundborne noise levels.
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

The analysis of noise focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for noise, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects related to noise levels. Mechanical equipment at grid-connected generating facilities could include stationary sources of noise that produce noise at levels that vary greatly. Any Project-related change in noise from generating facilities could cause adverse effects for existing sensitive receptors; however, the continued operation and use of existing facilities is typically limited by local noise ordinances so that changing levels of operation would not substantially change the conditions for sensitive receptors that are exposed to noise from generating facilities in the baseline. As a result, no further discussion of the noise-related effects of serving electricity to the customers affected by the Project is necessary.

N-1. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations, and the amendments would not directly or indirectly result in the approval of any specific construction activities that may generate noise. Customers could choose to undertake development of new renewable parallel generation facilities at customer sites where noise would be associated with construction and, depending on the nature of the facility, with its operation.

Table 3.13-1 summarizes the typical noise levels for individual pieces of construction equipment. Construction activities of new renewable parallel generation facilities could include mobilizing construction equipment, crews, and materials, and installing foundations and above-ground equipment. Construction activities would require use of vehicles and heavy-duty equipment capable of generating noise at the

customer's site, staging areas, and along roadways used to access these locations. Construction noise sources could include trucks for delivery of equipment, materials, and work crews, and operation of backhoes, graders, loaders, and cranes, and use of small welders, pumps and generators. Outside of work sites, increased traffic noise would be caused by vehicles transporting equipment and supplies to the sites, trucks removing debris, and workers commuting to and from work sites.

Construction activities could create both intermittent and continuous noises. Intermittent noise would be caused by periodic, short-term equipment operation. For example, a backhoe or loader needed to create foundations or trenches. Continuous noise would emanate from equipment operation over longer periods, such as steady generator or excavator use. The maximum intermittent noise levels from a construction work spread would typically range from 84 to 90 dBA at 50 feet. These would be the highest levels expected for foundation development or excavation activities. At 50 feet, continuous noise levels could range up to about 83 dBA. Because sound fades over distance, these levels would diminish over additional distance and could be reduced further by intervening structures. At 100 feet from a work spread, continuous noise levels could range up to 77 dBA and at 200 feet, up to 71 dBA.

Construction of parallel generation facilities would temporarily increase the noise levels near the customer's site of electricity use. Customer's sites are normally on previously disturbed areas, although depending on site-specific conditions, the sites may be near existing land uses that are sensitive to noise. The potential impact of construction noise would depend on site-specific circumstances, primarily related to nearby residences, schools, daycare centers, and similar noise-sensitive uses.

Construction noise would affect the locations closest to the work and staging areas and along site access routes used by haul trucks and other construction traffic. The surrounding land uses would experience a temporary increase in noise above the conditions that exist without the parallel generation facilities. However, the intermittent and variable nature of construction noise limits the potential for adverse effects such as annoyance to be experienced by off-site receptors, and sleep interference would not be a concern because work would most likely occur on sites designated for industrial or office activities and most activities would occur during daylight hours. Construction noise during daytime hours would be exempt from the standards established in the City's Noise Ordinance. The potential for new renewable parallel generation facilities to create excessive construction noise in the setting would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project.

Few noise sources would be associated with operation of combustion-free renewable parallel generation technologies, such as fuel cell systems. Renewable parallel generation facilities are normally unmanned or remotely operated and would generate little to no traffic noise for staffing or deliveries. For new renewable parallel generation facilities at customer sites that could involve new sources of mechanical noise, equipment enclosures or placement of equipment away from boundaries of noise sensitive land uses are typical approaches available to avoid creating a substantial increase in ambient noise levels and comply with the City Noise Ordinance. The potential for new renewable parallel generation facilities to

Table 3.13-1. Typical Noise Levels for Individual Construction Equipment

Equipment	Typical Lmax (dBA, at 50 ft)	Typical Leq (dBA, at 50 ft)
Drill rig, auger	84	77
Crane	81	73
Backhoe	78	74
Excavator	81	77
Compactor	83	76
Dump truck, haul truck, concrete mixer truck	76-79	73-76
Pickup truck, crew truck	75	62-71

Source: FHWA, 2006.

Lmax: Maximum noise level from Actual Measured in Roadway Construction Noise Model.

Leq: Equivalent noise level for one hour incorporating the Acoustical Usage Factor.

create increased noise levels due to equipment operation would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. Implementation of City policies for land use compatibility and the Noise Ordinance would avoid significant direct and indirect impacts related to changes in ambient noise levels that could be brought about by new renewable parallel generation in the City (City of Santa Clara, 2011).

N-2. *Would the project result in generation of excessive groundborne vibration or groundborne noise levels generation of excessive groundborne vibration or groundborne noise levels?*

LESS THAN SIGNIFICANT. Groundborne vibration levels from construction equipment and activities might be perceptible to receptors in the immediate vicinity of the work or staging areas. The activity that would be most likely to cause groundborne vibration would be the passing of heavy trucks on uneven surfaces. The impact from construction-related groundborne vibration would be short-term and confined to only the immediate area around activities (within about 25 feet). Equipment associated with operation of renewable parallel generation facilities would be installed so as to avoid unnecessary vibration at customer's sites. The City's Noise Ordinance (Section 9.10.050) ensures that operations must avoid creating public nuisances or vibration that is above the threshold of perception. Because construction and operation would be within or near the customer's site of electricity use, development of renewable parallel generation facilities is unlikely to be near-enough to expose homes to excessive vibration, and this impact would be less than significant.

N-3. *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

NO IMPACT. Parallel generation facilities are normally unstaffed. The San Jose International Airport is immediately east of the City. Customer sites located in the vicinity of the airport may expose people to noise from the airport; however, new renewable parallel generation facilities would be unstaffed and also would be unlikely to create excessive noise during operation that could impact people residing or working near the airport. Because the Project would have no potential to expose people to excessive aircraft noise, and there would be no impact.

3.14. Population and Housing

3.14.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. The City of Santa Clara is substantially built out. Substantial increases in population can be achieved only by development of higher density housing, either on vacant land or through redevelopment of existing land uses.

Regulatory Background

This section includes a description of the population and housing regulatory framework. There are no federal or state regulations, plans, and standards for population and housing that are relevant to the Project.

City of Santa Clara General Plan

The purpose of the City's housing policies is to plan for an adequate variety of safe, appropriate, and well-built housing for all residents of Santa Clara (City of Santa Clara, 2014b). The following policies from the City of Santa Clara General Plan and the Housing Element of the General Plan, respectively, generally relate to provision of utility service in the City (City of Santa Clara, 2014a; City of Santa Clara, 2014b):

- **Policy 5.3.1-P5.** Implement a range of development densities and intensities within General Plan land use classification requirements to provide diversity, use land efficiently and meet population and employment growth.
- **Policy D-4:** Encourage early participation from residents and other stakeholders in development of long range plans and review of new development proposals.

3.14.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure).
- Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

The analysis for population and housing focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for population and housing, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects to population and housing. Existing workforce populations could be employed to ensure the continued operation and use of existing generating facilities without any foreseeable need to grow the workforce population. As a result, no further discussion of the effects to population and housing of serving electricity to the customers affected by the Project is necessary.

PH-1. *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

LESS THAN SIGNIFICANT. The Project would not result in the approval of any specific construction activities that could induce population growth. The Project area is urban and substantially developed. While the Project would affect the types of parallel generation that could tie into SVP's distribution system, customer-specific decisions on generation technologies would have no effect on population.

Construction and operation of new renewable parallel generation facilities at customer sites could result in deployment of construction crews to install the renewable technology. Renewable parallel generation facilities are normally unmanned or remotely operated. Likewise, there would be no direct or indirect population growth induced by development of renewable parallel generation that is developed to serve existing or planned sites of electricity use.

Parallel generation is customer-owned and customer-controlled to serve the on-site customer load and would not facilitate growth of housing. Similarly, new renewable parallel generation would not require any expansion of SVP's workforce to service or maintain the interconnections to affected distribution system. During site-specific construction, a new parallel generation project could provide short-term jobs for a small workforce. Construction needs are not anticipated to result in workers relocating to the area. The Project would not generate any change in population levels, and this would be a less than significant impact.

PH-2. *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

NO IMPACT. The Project would not change population in the area. Construction of renewable parallel generation facilities at customer sites would not involve the temporary relocation of skilled workers to the area, as there is a sufficiently large existing regional workforce to undertake the work. New renewable parallel generation would be on or adjacent to the customer's sites of electricity use and would not displace any housing or people, and therefore would not necessitate the construction of replacement housing. Therefore, no impacts would occur.

3.15. Public Services

3.15.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's electric distribution system. Fire and police services, as well as school districts, parks, recreational areas, and other public services, are provided by the City of Santa Clara, special districts, and private entities.

Fire Protection

The Santa Clara Fire Department (SCFD) serves the City of Santa Clara and the Project area (City of Santa Clara, 2014). There are 10 fire stations throughout the City and each fire station has at least one 3-person engine or ladder-truck company (City of Santa Clara, 2014). The average response time is 3 minutes for all areas of the City (City of Santa Clara, 2014).

Police Protection

The Santa Clara Police Department (SCPD) serves the City of Santa Clara and provides police protection throughout the City (City of Santa Clara, 2014). SCPD headquarters is located at 601 El Camino Real. SCPD has 239 full-time employees, including 159 sworn officers and 80 civilians (City of Santa Clara, 2021b), divided into 3 divisions (City of Santa Clara, 2014). The average response time after dispatch is 2 minutes and 8 seconds (City of Santa Clara, 2021c).

Schools

Six school districts serve the City of Santa Clara: Santa Clara Unified School District, San José Unified School District, Cupertino Union School District, Fremont Union High School District, Campbell Union School District, and Campbell Union High School District. The Santa Clara Unified School District is the only school district that operates schools within the City of Santa Clara (City of Santa Clara, 2014).

Parks

There are 40 parks and pools in the City of Santa Clara (City of Santa Clara, 2021a) and residents have access to these and other recreational resources in the region.

Hospitals

Hospitals in and near the City include:

- Kaiser Permanente Santa Clara Medical Center, at 700 Lawrence Expressway in the City.
- Santa Clara Valley Medical Center, at 751 S. Bascom Avenue in San Jose near the southeast corner of the City.
- O'Connor Hospital, located at 2105 Forest Avenue in San Jose near the southeast corner of the City.
- El Camino Hospital at 19600 Vallco Parkway in Cupertino, near the southwest corner of the City.
- El Camino Hospital - Mountain View Campus at 2500 Grant Road in Mountain View, approximately 4 miles west of the City.

Regulatory Background

There are no federal regulations associated with public services that are relevant to the Project.

State

2010 Strategic Fire Plan for California. The 2010 Strategic Fire Plan for California was developed in coordination with the State Board of Forestry and Fire Protection and CAL FIRE to reduce and prevent the impacts of fire in California. Goal 6 of the Plan sets objectives to determine the level of suppression resources (staffing and equipment) needed to protect private and public state resources. Specific objectives include, but are not limited to, maintaining an initial attack policy which prioritizes life, property, and natural resources; determining suppression resources allocation criteria; analyzing appropriate staffing levels and equipment needs in relation to the current and future conditions; increasing the number of CAL FIRE crews for fighting wildfires and other emergency response activities; maintaining cooperative agreements with local, state, and federal partners; and implementing new technologies to improve firefighter safety, where available (State Board of Forestry and Fire Protection). The standards outlined are applicable to the fire protection agency serving the City.

Local

City of Santa Clara General Plan. The purpose of the City's public services policies is to maintain the safety and security that is essential and integral to the quality of life in the City's community. The following policy in the General Plan would generally relate to any new or modified parallel generation facilities proposed for interconnection (City of Santa Clara, 2014):

- **Policy 5.9.3-P1.** Encourage design techniques that promote public and property safety in new development and public spaces.

3.15.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- Fire protection
- Police protection
- Schools
- Parks
- Other public facilities

The analysis for public services focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for public services, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects to public services. Existing public services would be available to support the continued operation and use of existing generating facilities without any foreseeable need to change or expand how existing public services are provided. As a result, no further

discussion of the effects to public services of serving electricity to the customers affected by the Project is necessary.

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

PS-1. Fire protection?

LESS THAN SIGNIFICANT. The Project would apply to electrical generating facilities seeking to interconnect to the SVP distribution system and would not result in any change in the baseline fire risk of the urban area. The Project would not alter an existing land use, and the Project would not directly or indirectly cause construction or development of any new or modified distribution system components that would impact fire protection services.

Customers could choose to undertake development of new renewable parallel generation at customer sites, and this would result in a fire risk that would be comparable to that of the existing conditions, where the distribution system and other existing electrical infrastructure are routinely used in delivering electricity to the customer's loads and for interconnecting parallel generation. As in the baseline of existing conditions, SVP would comply with all current federal and State laws related to vegetation clearance and fire prevention, as not to increase baseline fire risks. Therefore, the Project area would continue to be adequately supported by the existing fire protection services, and the Project would not create the need for new or physically altered fire protection facilities. Impacts on local or regional fire protection would be less than significant.

PS-2. Police Protection?

LESS THAN SIGNIFICANT. The Project would not require police services, as it is administrative in nature. Development of a new renewable parallel generation facility would not require police protection beyond routine patrols and response. As with fire services discussed under Impact PS-1 above, the construction and operation of parallel generation facilities would not induce growth in the Project area and would not result in a need for additional police facilities or affect response times or other service performance. Construction-related activities would normally be located within or near the customer's site of electricity use and away from major emergency access routes. Individual proposals would not be likely to significantly interfere with emergency response. The result would be a less than significant impact.

PS-3. Schools?

NO IMPACT. The Project is administrative in nature and would not lead to an increase in population within the area. Construction of new or modified parallel generation facilities would not require the relocation of workers' families to the City of Santa Clara. There would not be an increase in families or in school-age children as a result of the short-term construction activities related to installing the renewable technology. Individual proposals would not require workers to temporarily migrate to the area, as the region is served by a sufficiently large existing workforce to undertake the work. Renewable parallel generation facilities are normally unmanned or remotely operated. Therefore, the Project would result in no impact related to requiring expanded schools.

PS-4. Parks?

NO IMPACT. As noted, the Project would not increase the region's population. Construction of a parallel generation facility would require only a small workforce of construction personnel working on any given day, and workers would be drawn from the large regional labor force. While it is possible that workers

traveling to the area may use existing public services or amenities such as parks, the potential increase in use and demand would be minimal and temporary and would not contribute substantially to the physical deterioration of existing facilities. Consequently, the Project would not increase any long-term demands on existing parks in the City, and no new or expanded park facilities would be required because of the Project.

PS-5. Other Public Facilities?

NO IMPACT. Neither the Project nor the construction and operation of parallel generation facilities at customer sites would increase population or affect other governmental services or public facilities that would lead to the requirement of new or expanded facilities to be developed. Therefore, no impact on other public facilities is expected.

3.16. Recreation

3.16.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. There are 40 parks and pools in the City of Santa Clara (City of Santa Clara, 2021). In general, each 1-square mile of residential area in the City contains a neighborhood or community park located close to the center to ensure that almost all residents live within a 10-minute walk of a park (City of Santa Clara, 2014a). Recreational facilities in the City of Santa Clara include: sports fields, a skate park, swimming pools/centers, senior center and youth center (City of Santa Clara, 2014b).

Regulatory Background

There are no federal or State regulations associated with recreation that are relevant to the Project.

Local

City of Santa Clara General Plan. The objective of the City's public facilities and services policies is to maintain a high quality of life and livability in the City. The following policies in the General Plan generally relate to the provision of utility service in the City (City of Santa Clara, 2014a):

- **Policy 5.3.5-P3.** Encourage industrial development to participate in the identification and funding of 25 acres for park and recreational facilities to serve employment centers north of the Caltrain railroad tracks.
- **Policy 5.9.1-P16.** Encourage non-residential development to contribute toward new park facilities to serve the needs of their employees.

3.16.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

The analysis for recreational resources focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for recreation, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects to recreational resources. Changing levels of operation and use of existing grid-connected generating facilities would not be likely to increase the use of existing recreational resources or lead to any physical deterioration of existing recreational resources. As a result, no further discussion of the effects to recreational resources of serving electricity to the customers affected by the Project is necessary.

REC-1. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

NO IMPACT. The Project would not result in the approval of any specific activities that could increase population in the City or result in additional use of parks and recreational facilities. Renewable parallel generation facilities that may be proposed at a customer's site would not have any potential to change the patterns of residential or commercial land uses in a way that could increase population or increase the demand for parks in the City. Construction of renewable parallel generation facilities could require a small workforce of construction personnel. While some workers may use nearby park facilities during construction of new parallel generation facilities, increased use would be minimal and temporary and would not contribute substantially to the physical deterioration of existing facilities. Therefore, there would be no impact.

REC-2. *Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?*

NO IMPACT. Neither the Project nor the actions of customers that choose to undertake development of new renewable parallel generation would include recreational facilities, nor do they require the construction of new or expanded parks or recreational facilities that could create an adverse physical effect on the environment. There would be no impact.

3.17. Transportation

3.17.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. Development of new or modified parallel generation facilities would need to be near SVP's distribution system and within or near the customer's site of electricity use.

Highways

The following highways provide regional access in and around the City (City of Santa Clara, 2014):

- **U.S. Highway (U.S.) 101**, specifically the section of U.S. 101 known as Bayshore Freeway, is a 8-lane divided (4 lanes per direction) south-north highway that travels the length of the West Coast of the U.S.
- **State Route (SR) 237**, or Southbay Freeway, is an 8-lane divided west-east highway that connects Interstate 880 (I-880) and I-680 with U.S. 101 and SR 85 and extends northeast through the city.
- **Interstate 280**, or Junipero Serra Freeway, is a 10-lane south-north regional highway that connects I-880 and SR-1 and passes near the south end of the City.

Local Roads

The City has a robust road network of primary and secondary streets. Streets with the highest average daily traffic (ADT) are those that provide north/south and east/west connections across the freeways and railroad or serve as parallel routes to the freeways (City of Santa Clara, 2011).

Mass Transit

Bus

Existing public transit service within the City is primarily provided by Santa Clara Valley Transportation Authority (VTA) and consists of bus, light rail transit, and paratransit services. .

Passenger Rail

Existing commuter rail lines include Caltrain, operated by the Peninsula Joint Powers Board (JPB), and Altamont Commuter Express (ACE), operated by the San Joaquin Regional Rail Commission. Both stop at the Santa Clara Transit Station. The Capitol Corridor commuter rail line, operated by the Capitol Corridor Joint Powers Authority (CCJPA), stops at the Great America Station and provides transit services from Sacramento to San Jose through the City of Santa Clara. Planned transit developments in the City include Bay Area Rapid Transit (BART), and High Speed Rail along the Caltrain corridor. (City of Santa Clara, 2011 and 2014)

Rail (Freight)

A limited number of freight trains and regularly scheduled passenger service use the railroad track daily within the City. Outside peak commuter rail periods, the Union Pacific Railroad (UPRR) provides freight operations within the Caltrain right-of-way (ROW). The Caltrain ROW traverses through the middle and downtown areas of the City of Santa Clara. The rail network includes grade-separated and at-grade railroad crossings. The network includes the potential for additional crossings to accommodate a future high-speed rail. (City of Santa Clara, 2014)

Bicycle

Existing bicycle facilities are part of City of Santa Clara Bicycle and Trail Network. Bicycle and Trail Network provides connections between residential neighborhoods, employment, recreation, education, and transit centers within the City (City of Santa Clara, 2014). Bikeways are typically classified as Class I, II, or III facilities. Bike paths or trails (also known as Class I bikeways) operate within a right-of-way that is separated from vehicular traffic. Bike lanes (also known as Class II bikeways) are located within roadways, but are delineated by warning symbols and striping. Bike routes (also known as Class III bikeways) operate in the shoulder lane of roadways, but are not delineated by striping (City of Santa Clara, 2019).

Air Transportation

The Norman Y. Mineta San Jose International Airport (Airport) is located to the east of, and adjacent to, the City of Santa Clara. A private heliport, McCandless heliport, is located on a business center roof near the intersection of the Bayshore Freeway (highway 101) and Bowers Avenue in the City.

Regulatory Background

Federal

14 CFR Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace. Construction of a project could potentially impact aviation activities if a structure or equipment were positioned such that it would be a hazard to navigable airspace. The Federal Aviation Administration (FAA) has established reporting requirements if any construction includes equipment or structures more than 200 feet above ground level or results in an object penetrating an imaginary surface extending outward and upward at a ratio of 100 to 1 from a public or military airport runway out to a horizontal distance of 20,000 feet (approximately 3.78 miles) (FAA, 2020). For areas around heliports, this same requirement applies to any construction that is more than 200 feet above ground level or would penetrate an imaginary surface extending outward and upward at a ratio 25 to 1 from a public or military heliport out to a horizontal distance of 5,000 feet.

State

California Vehicle Code (CVC). The CVC includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways; safe operation of vehicles; and the transportation of hazardous materials.

State CEQA Guidelines, Section 15064.3, Determining the Significance of Transportation Impacts. In response to Senate Bill 743 (Steinberg, 2013), this provision states that “vehicle miles traveled” (VMT) is the most appropriate measure of transportation impacts in the CEQA process. For transportation impacts under CEQA, VMT refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except for roadway capacity projects, a project’s effect on automobile delay would not constitute a significant environmental impact under CEQA. For instances where existing models or methods are not available to estimate the VMT for the particular project being considered, a lead agency may analyze the project’s VMT qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate [14 CCR 15064.3(b)(3)].

Local

City of Santa Clara General Plan. The objectives of the City’s mobility and transportation policies are to a safe, efficient, convenient, and integrated system to move people and goods and promote a reduction in the use of personal vehicles and vehicle miles traveled. The following policies in the General Plan generally

relate to the provision of safe roadway networks, efficient transportation demand management, and providing emergency response in the City (City of Santa Clara, 2014):

- **Policy 5.8.2-P3.** Encourage undergrounding of utilities and utility equipment within the public right-of-way and site these facilities to provide opportunities for street trees and adequate sidewalks.
- **Policy 5.8.2-P12.** Coordinate transportation planning with emergency service providers to ensure continued emergency service operations and services.
- **Policy 5.8.5-P1.** Require new development and City employees to implement transportation demand management programs that can include site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.
- **Policy 5.8.5-P4.** Encourage new development to participate in shuttle programs to access local transit services within the City, including buses, light rail, Bay Area Rapid Transit, Caltrain, Altamont Commuter Express Yellow Shuttle, and Lawrence Caltrain Bowers/Walsh Shuttle services.
- **Policy 5.9.3-P1.** Encourage design techniques that promote public and property safety in new development and public spaces.
- **Policy 5.9.3-P3.** Maintain a City-wide average three-minute response time for 90 percent of police emergency service calls.
- **Policy 5.9.3-P4.** Maintain a City-wide average three-minute response time for fire emergency service calls.

3.17.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b).
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

The analysis for transportation focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for transportation, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects to transportation. Operating existing grid-connected generating facilities may cause traffic of vehicles or equipment that affect the transportation networks surrounding the facilities. However, any Project-related change in the continued operation and use of grid-connected facilities would be unlikely to substantially change travel demand for workers commute vehicles, haul trucks, or other types of transport. As a result, no further discussion of the transportation-related effects of serving electricity to the customers affected by the Project is necessary.

TRA-1. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

LESS THAN SIGNIFICANT. The Project would not result in the approval of any specific construction activities that could result in a conflict with a transportation program, plan, ordinance or policy.

Any renewable parallel generation facilities proposed by customers would occur in a highly urbanized setting and could therefore create impacts to public, private, and pedestrian circulation, depending on the setting. Depending on the location of the parallel generation facility and the size of equipment, some temporary road closures and/or one-way traffic controls could be needed for certain construction activities and to maintain public safety. These closures and controls could temporarily decrease traffic flow and parking availability or access to transit or bicycle and pedestrian facilities, but only for the localized site of construction work or deliveries. While construction activity could create impacts, these impacts would be localized at customer's sites, temporary in nature, and would not change long-term traffic loads or patterns. Any road or lane closures would be required to be coordinated with the City to insure they are properly signed and controlled. With this coordination, construction of a parallel generation facility would not conflict with programs, policies, plans, or ordinances regarding public roadway, transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Renewable parallel generation facilities are normally unmanned or remotely operated. Maintenance of renewable parallel generation could involve routine inspections and preventive maintenance to ensure service reliability, as well as emergency work to restore a facility to an operational condition after an outage. No permanent staff would normally be required, and no substantial increase in traffic or traffic-related impacts would occur due to operation and maintenance of renewable parallel generation.

TRA-2. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

LESS THAN SIGNIFICANT. CEQA Guidelines Section 15064.3(b) concerns vehicle miles travelled (VMT) as the measure of transportation impacts. For customers that choose to undertake development of new renewable parallel generation at customer sites, construction of parallel generation facilities could occur over several months, and construction traffic would be limited to worker commutes and the transport of supplies and equipment to and from the site and material supply sources. Once the facilities are installed, the vehicle trips associated with construction would end. Construction personnel would commute to the staging yards and work sites at the beginning of the day and leave at the end of the day, and few people would travel to and from work areas throughout the middle of the day.

Vehicle miles traveled by personal vehicle trips and truck trips during construction would vary in their origins and destinations, but they are assumed to come primarily from the region and would be periodic and temporary. As discussed in CEQA Guidelines Section 15064.3(b)(3), a qualitative analysis of construction traffic vehicle miles travelled (VMT) may be appropriate. Proposals for new renewable parallel generation facilities would include temporary construction trips with some that may include higher VMT to deliver specialized materials and equipment. Construction trips would be temporary, and would not permanently affect existing transit uses or corridors.

Renewable parallel generation facilities are normally unmanned or remotely operated. Maintenance of the any renewable parallel generation facility would require routine inspection and periodic maintenance visits that would generate a negligible number of new vehicle trips for customer sites with no notable growth in VMT. Using the existing common carrier natural gas pipeline system for renewable fuel delivery is likely to be more viable than installing new on-site renewable fuel storage and delivering the fuel in

transport containers. As a result, the Project is not likely to result in a substantial increase in regular deliveries of renewable fuel by truck. With no notable change in VMT attributable to the Project, the Project would cause a less than significant transportation impact under State CEQA Guidelines Section 15064.3(b).

TRA-3. *Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

LESS THAN SIGNIFICANT. The Project would not directly or indirectly result in the approval of any specific activity that may increase transportation hazards due to changes in transportation facility design features. Individual proposals for new renewable parallel generation facilities would be located within or near the customer's site of electricity use, on previously developed properties. Given the developed character of the City, there is little potential for new renewable parallel generation to be proposed at a location where it could require creation of a new road, intersection, or point of access.

Construction activities at customer's sites could require use of heavy equipment adjacent to or within a road right-of-way, and trucks on the affected city streets could potentially create hazards. Potential conflicts also could occur between construction traffic and bicyclists and pedestrians, and potential short-term hazards could be associated with any temporary lane closures that might be needed during construction. Required coordination with the City of lane closures on public roads would ensure temporary lane closures and construction activities do not result in increased hazards to the traffic circulation system.

Maintenance of new renewable parallel generation facilities at customer's sites could require routine inspection and periodic maintenance visits. Temporary lane closures are not anticipated, as renewable parallel generation facilities are most likely to be within an existing private property and unlikely to cause hazards or incompatible use of public roadways. Implementation of the building permit process and zoning standards would require individual proposals to comply with applicable regulations and implement design features to avoid introducing new transportation hazards (City of Santa Clara, 2011).

TRA-4. *Would the project result in inadequate emergency access?*

LESS THAN SIGNIFICANT. The Project would not directly or indirectly result in the approval of any specific activity that could cause a change in emergency access. Individual proposals for new renewable parallel generation facilities would be located within or near the customer's site of electricity use, and therefore could cause a minor short-term increase in the local traffic in the immediate vicinity of the site. For customer sites that involve a temporary lane closure, at least one lane of travel would remain open throughout construction to accommodate roadway users (including emergency vehicles). Any lane closures would be coordinated with the City and would ensure that emergency access is maintained. Once operational, new renewable parallel generation facilities are unlikely to introduce any notable changes in site access that could obstruct emergency vehicle movement at or near customer sites. Because City policies would require provision of adequate emergency access during short-term construction and with development of renewable parallel generation facilities, this impact would be less than significant (City of Santa Clara, 2011).

3.18. Tribal Cultural Resources

3.18.1. Setting

Tribal Cultural Resources (TCRs), as defined under Assembly Bill 52 (AB 52) are resources that include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a California Native American tribe. Tribal representatives are considered experts appropriate for providing substantial evidence regarding the locations, types, and significance of TCRs within their traditional and cultural affiliated geographic areas, and therefore the identification and analysis of TCRs should involve government-to-government tribal consultation between the CEQA lead agency and interested tribal groups and/or tribal persons (Public Resources Code [PRC] §21080.3.1(a)).

Additionally, best practices show that a lead agency should make a good faith effort to identify TCRs that may be impacted by a project even if a Native American tribe does not identify any during consultation. This includes requesting a search of the Native American Heritage Commission's (NAHC) Sacred Lands file, conducting ethnographic research, and using information that has been previously provided during tribal consultation for other projects in the area.

Records Search

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. The Project is administrative in nature and would not itself cause any construction, ground disturbance, or other physical alteration of the environment. Therefore, no record search is required at this time.

Previously developed and disturbed areas are the locations most likely to see proposals for new or modified parallel generation facilities. As in the baseline of existing conditions, individual proposals for parallel generation would undergo project-specific review by the City at the time they are proposed. The location and exact nature of any such proposals are unknown at this time. Depending on the proposal, a site-specific records search would occur when a customer decides to undertake a discretionary parallel generation facility project.

Ethnographic Research

The Project area (the City) is located within the tribal territory of the "Costanoan," a term derived from the Spanish word *Costanos*, meaning "coast people" or "coastal dwellers." At the time of European ethnic groups' arrival, the Costanoan occupied the central California coast from the northern tip of the San Francisco Peninsula to Big Sur in the south and as far east as the Diablo Range. An estimated 1,400 or more persons of partial Costanoan descent currently reside in the greater San Francisco Bay Area. These individuals now generally prefer the term Ohlone to identify themselves (Margolin, 1978).

The Costanoan language is part of the Penutian language family spoken by other California Indian groups known as the Wintun, Maidu, Miwok, and Yokuts. The Costanoan (Ohlone) language family consists of six dialect clusters, of which three were recorded during the ethnohistoric period, including the San Francisco Bay Costanoan, Mutsun along the Pajaro River, and Rumsen near Monterey and Carmel (Golla, 2011:162-163). Linguistic analysis suggests that the Costanoans moved into the Bay Area from the San Joaquin and Sacramento River regions around 1,500 years BP and replaced the original Hokan peaking population of the Bay Area. This suggested replacement appears to coincide with the appearance of Late Horizon artifact assemblages. Further details of Costanoan linguistic relationships can be found in Levy (1976). Researchers, using Spanish mission records and archaeological data, have estimated a Costanoan population of 1,000 to 1,200 individuals for the Santa Clara Valley in 1770 (Levy, 1978:485; King, 1977:54).

The Costanoan practiced a hunting and collecting economy focusing on the collection of seasonal plant and animal resources including tidal and marine resources from San Francisco Bay. They traded with neighboring groups including the Yokuts to the east and exported shells, salt and cinnabar among other items. At the time of contact with Europeans, the Costanoan people were living in approximately 50 separate and politically autonomous tribelets, with each group having one or more permanent villages surrounded by a number of temporary camps used to exploit seasonally available floral and faunal resources (Levy, 1978:485, 487).

Mission Santa Clara and Mission San José were established in the South Bay in the late 1770s. The aboriginal lifeway disappeared by 1810 due to its disruption by introduced diseases, a declining birth rate, and the impact of the mission system. Missionization not only decimated local populations but also relocated native peoples from throughout north-central California into the San José area. The Costanoan/Ohlone were transformed from hunters and gatherers into agricultural laborers (and in some cases, craft artisans) who lived at the missions and worked with former neighboring Native American groups such as the Esselen, Yokuts, and Miwok (Levy, 1978:486).

With secularization of the missions by Mexico in 1834, most of the aboriginal population gradually moved to ranchos to work as manual laborers (Levy, 1978:486). During the Mexican Period several ranchos were granted to Native Americans, such as Rancho Ulistac and the Rancho Posolmi. Rancho Ulistac, located on the west bank of the Guadalupe River in the City of Santa Clara, was granted to “emancipated” Mission Indians Marcello, Pio, and Cristobal in 1845 (Hendry and Bowman, 1940:872-873). Rancho Posolmi, located along the Guadalupe River at the northeastern boundary of the City of Mountain View, was granted to Lopez Indigo (or Yndigo) in 1881 (San Jose, 2011).

Contemporary descendants of the Costanoan (Ohlone) Native Americans are not members of federally recognized tribes. Ohlone recognition and assertion began to move to the forefront during the early twentieth century, enforced by legal suits brought against the United States government by Indians of California (1928–1964) for reparation due them for the loss of traditional lands. The Ohlone/Costanoan Muwekma Tribe, consisting surviving Native American lineages who trace their ancestry through Missions Dolores, Santa Clara and San José, and who have descendants from the historic federally recognized Verona Band of Alameda County, are currently completing legal actions to regain federal status. Other Bay Area groups of Ohlone/Costanoan have or are contemplating status recognition. The State of California has recognized the validity of unrecognized tribal groups of local Native Americans and has afforded both the groups and Native American individuals status in regard to consultation for planning and CEQA compliance (San Jose, 2011).

Regulatory Setting

State

AB 52 and Tribal Cultural Resources. AB 52 creates and defines a specific type of cultural resource under CEQA, called “tribal cultural resources.” The bill also establishes a formal role for California Native American tribes in the CEQA process and the identification of such resources through consultation with the lead agency (PRC § 21080.3.1(a)). A California Native American tribe is defined as a “Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission” (NAHC). This definition does not distinguish between federally recognized and non-federally recognized tribal groups, and is therefore more inclusive than the federal definition of “Indian tribe” (PRC § 21073). Provided that a California Native American tribe has requested it, CEQA lead agencies are required to consult with tribes about potential tribal cultural resources in the project area, the potential significance of project impacts, the development of project alternatives and the type of environmental document that should be prepared.

Tribal cultural resources, as defined by CEQA Section 21074(a)(1)-(2), includes either of the following:

1. *Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:*
 - a. *Included or determined to be eligible for inclusion in the California Register of Historical Resources.*
 - b. *Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).*
2. *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c). In applying the criteria set forth in 5024.1(c) for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.*

Tribal representatives are considered experts appropriate for providing lead agencies with substantial evidence regarding the locations, types, and significance of tribal cultural resources within their traditionally and cultural affiliated geographic area (PRC § 21080.3.1(a)). Consultation in the context of AB 52 is defined as the meaningful and timely process of seeking, discussing, and carefully considering the views of others. Consultation should recognize the tribe's potential need for confidentiality regarding places that hold traditional tribal significance. Any information shared between the tribes and the lead agency representatives is protected under confidentiality laws and subject to public disclosure (GC §6254(r); GC §6254.10) and can be disclosed only with the written approval of the Tribes who shared the information (PCR §21082.3(c)(1-2)).

A project that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (PRC § 21084.2). Consultation with tribes is considered the best way for lead agencies to determine if a project could result in significant environmental impacts to tribal cultural resources (PRC §21080.3.1(a); GC §65352.4).

California Environmental Quality Act. CEQA requires that impacts to TCRs be identified and, if impacts will be significant, that mitigation measures be implemented to reduce those impacts to the extent feasible (PRC §21081). In the protection and management of the cultural environment, both the statute and the CEQA Guidelines (14 California Code of Regulations §15000 et seq.) provide definitions and standards for management of TCRs.

PRC Section 21074 defines a TCR as “a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe.” TCRs also include “non-unique archaeological resources” that may not be scientifically significant, but still hold sacred or cultural value to a consulting tribe.

A resource shall be considered significant if it is: (1) listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in PRC Section 5020.1(k) (discussed in detail above); or (2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying these criteria, the lead agency must consider the significance of the resource to a California Native American tribe.

Therefore, a project may have substantial adverse change in the significance of a TCR if:

- The adverse change is identified through consultation with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project (PRC §21084.2).

- The resource is listed, or eligible for listing, in the CRHR or in a local register of historical resources, and it is demolished as described in detail above (State CEQA Guidelines §15064.5(b)).

The fact that a TCR is not listed in the CRHR, determined to be ineligible for listing in the CRHR, not included in a local register of historical resources, or is not identified in a historical resources survey does not preclude a lead agency from determining that the resource may be a historical resource. Refer to CEQA Guidelines Section 15064.5(a) for a detailed discussion of the term “historical resource.”

CEQA Guidelines Section 15064.5(b)(1) explains that effects on historical resources (or TCRs, if so determined by the lead agency) would be considered adverse if it involves physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the resource would be materially impaired. Adverse effects on historical resources may result in a project having a significant effect on the environment. CEQA Guidelines Section 15064.5(c)(3) requires that TCRs receive treatment under PRC Section 21083.2, which requires that these resources be preserved in place or left in an undisturbed state. If these treatments are not possible, then mitigation for significant effects is required, as outlined in PRC Section 21082.2(c).

The statutes and guidelines cited above specify how TCRs are to be analyzed for projects subject to the CEQA.

Tribal Outreach

Representatives of the Tamien Nation previously requested notification of projects in the City of Santa Clara under AB 52. The City notified the representatives of the Tamien Nation and invited the tribe to engage in consultation regarding the Renewable Parallel Generation Facilities Resolution. The invitation was extended by email with a letter attached (December 9, 2022) and via U.S. mail. No responses to the invitation were received during the 30-day response period. This concluded AB 52 compliance under CEQA.

The City of Santa Clara General Plan (2014) and its supporting EIR (City of Santa Clara, 2011) considered tribal cultural resources in the wider context of cultural resources. That prior environmental analysis identified a less than significant impact to tribal cultural resources because implementation of General Plan policies and compliance with existing policies and programs would reduce impacts to unrecorded resources.

The Project is administrative in nature and would not directly alter the physical environment. The effects of any proposed renewable parallel generation facility on known and potentially buried or previously unidentified TCRs can only be evaluated at the time a specific site for a facility is proposed. During the CEQA review of any site-specific proposal for a discretionary parallel generation facility project, the requirements of AB 52 would apply, and the Governor’s Office of Planning and Research’s, “Revised Technical Advisory: AB 52 and Tribal Cultural Resources in CEQA” would be considered (OPR, 2017).

Sacred Lands File Search

If a renewable parallel generation facility is proposed at a specific customer site, a request for a search of NAHC’s Sacred Lands file will need to be made to determine the presence or likelihood of encountering TCRs within the area.

3.18.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size

and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The analysis of tribal cultural resources focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for tribal cultural resources, the continued operation and use of existing grid resources to serve electricity would not change the significance of a tribal cultural resource in the surroundings of existing grid-connected generating facilities. Any Project-related change in the continued operation and use of existing grid-connected generating facilities would be unlikely to lead to any new ground disturbance, earthwork, or other physical change that could cause substantial adverse effects to tribal cultural resources. As a result, no further discussion of the tribal cultural resources effects of serving electricity to the customers affected by the Project is necessary.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

TCR-1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

LESS THAN SIGNIFICANT. The Project is administrative in nature and would amend SVP's Rules and Regulations without directly or indirectly resulting in the approval of any specific construction activities that could substantially affect a tribal cultural resource. The Project could result in customers changing development plans to use renewable resources instead of developing non-renewable parallel generation. The effects of any proposed renewable parallel generation facility on a TCR that is listed or eligible for listing would not differ from the impacts of using fossil fuels for parallel generation and would not be changed by the Project. Implementation of City policies for protection of unrecorded cultural resources would minimize the potential effects and avoid significant impacts to tribal cultural resources (City of Santa Clara, 2011).

TCR-2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

LESS THAN SIGNIFICANT. The Project is administrative in nature and would not directly or indirectly result in the approval of any specific construction activities that could substantially affect a tribal cultural resource. The Project could result in customers changing development plans to use renewable resources instead of developing non-renewable parallel generation. The effects of any proposed renewable parallel generation facility on known and potentially buried and therefore presently unidentified TCRs that could be significant would not differ from the impacts of using fossil fuels for parallel generation and would not be

changed by the Project. Implementation of City policies for protection of unrecorded cultural resources would minimize the potential effects and avoid significant impacts to tribal cultural resources (City of Santa Clara, 2011).

3.19. Utilities and Service Systems

3.19.1. Setting

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's electric distribution system. Utility and services system facilities associated with electricity, domestic (potable) water, stormwater, solid waste, communications, and natural gas are provided and maintained by a variety of local purveyors, including cities, counties, special districts, water agencies, and private companies. The following lists the established utility providers in the City (City of Santa Clara, 2014):

- **Natural gas:** Pacific Gas & Electric Company
- **Electricity:** Silicon Valley Power, City of Santa Clara
- **Water:** City of San Francisco's Hetch Hetchy aqueduct, Santa Clara Valley Water District, Santa Clara City-owned wells
- **Wastewater:** San José-Santa Clara Water Pollution Control Plant
- **Telephone:** AT&T, Comcast
- **Solid Waste:** Mission Trail Waste Systems, Allied Waste, Green Waste Recovery, and Los Gatos Garbage Company

Utilities

Water Supply

Potable water for the City of Santa Clara comes from a combination of sources: the City of San Francisco's Hetch Hetchy aqueduct system, the Santa Clara Valley Water District, and groundwater from City-owned wells. Groundwater comprises almost 70 percent of the City's water supply. Recycled wastewater is also used in the City for certain landscape irrigation, industrial, and construction purposes (City of Santa Clara, 2014).

Electricity and Natural Gas

Silicon Valley Power (SVP) is owned and operated by the City of Santa Clara as a municipal electric utility and as a department of the City. SVP maintains almost 350 miles of underground distribution lines, nearly 200 miles of overhead distribution lines and over 50 miles of transmission lines. Electricity for the City is provided from various sources, including solar, wind, and other eligible renewable resources, along with hydroelectric and natural gas generation (SVP, 2019).

The City's 20-year resource procurement plan reflected in the 2018 Integrated Resource Plan (IRP) includes reducing SVP's use of fossil-fueled resources to serve load and increasing the procurement of renewable resources. Reducing the need for fossil-fueled resources ensures that the portfolio will continue to meet the City's and California's climate and renewable energy goals. The 2018 IRP projects a continuation of the trend towards a portfolio of eligible renewable energy resources and zero-carbon resources to supply 100 percent of retail sales of electricity to end-use customers by December 31, 2045 (SVP, 2019), in compliance with State requirements.

The City's natural gas service and distribution network is provided and maintained by Pacific Gas & Electric Company. Natural gas transmission pipeline mains deliver gas from petroleum production basins in California, Canada, and the Western United States (City of Santa Clara, 2014).

Service System

Sewerage/Wastewater

Sewer systems collect wastewater in the City Santa Clara and that wastewater is transported via pipelines to the San Jose–Santa Clara Regional Wastewater Facility (RWF) in San Jose, CA. The RWF also receives wastewater from other cities in Santa Clara County and is able to treat up to 167 million gallons per day (mgd). The plant currently operates at an average dry weather flow of 109.6 mgd (City of San Jose, 2019).

About 10 percent of the total treated wastewater from the RWF is directed into the South Bay Water Recycling system. The treated wastewater is used for landscaping irrigation, dual plumbing, industrial uses, and other approved uses around the southern Bay Area. Recycled water distribution pipelines are located throughout the City of Santa Clara. Treated wastewater that is not directed into the recycled water pipelines is discharged into the southern portion of San Francisco Bay (City of Santa Clara, 2014).

Solid Waste Disposal

Solid waste and recycling collection service in the City of Santa Clara is primarily provided by 4 companies: Mission Trail Waste Systems, Allied Waste, Green Waste Recovery, and Los Gatos Garbage Company. Newby Island Sanitary Landfill is the main landfill that services the City, though solid wastes are also sent to landfills outside of Santa Clara County (City of Santa Clara, 2014). Newby Island Sanitary Landfill is located at 1601 Dixon Landing Road, Milpitas, CA 95035. Table 3.19-1 lists the capacities of the landfills used.

Table 3.19-1. Landfill Capacities

Landfill Name	Total Capacity (cu.yd.)	Remaining Capacity (cu.yd.)	Remaining Capacity (percent)	Maximum Throughput (tons/day)
Newby Island Sanitary Landfill (Cease operation estimated 2041)	57,500,000	21,200,000	36.9	4,000
Guadalupe Sanitary Landfill (Cease operation estimated 2048)	28,600,000	11,055,000	38.7	1,300
Corinda Los Trancos Landfill (Cease operation estimated 2034)	60,500,000	22,180,000	36.7	3,598

Sources: CalRecycle, 2019a; CalRecycle, 2019b; CalRecycle, 2019c.

Regulatory Background

This section includes a description of the utilities and public service systems regulatory framework.

Federal

Clean Water Act Section 402: National Pollutant Discharge Elimination System. Section 202 of the Clean Water Act (CWA) establishes the National Pollutant Discharge Elimination System (NPDES) permit program to regulate point source discharges of pollutants of Waters of the United States. Discharges or construction activities that disturb one or more acres are regulated under the NPDES stormwater program and are required to obtain coverage permit under a NPDES Construction General Permit. The Construction General Permit establishes limits and other requirements such as the implementation of the Stormwater Pollution Prevention Plan, which would further specify best management practices to avoid or eliminate pollution discharge into the nation’s waters. The State Water Resources Control Board (SWRCB) issues

both general and individual permits under this program. The SWRCB delegates much of its NPDES authority to nine regional water quality control boards. As in the baseline of existing conditions, individual proposals for parallel generation would undergo project-specific review by the City at the time they are proposed. Depending on the proposal, site-specific NPDES permits would be under jurisdiction of Region 2, the San Francisco Regional Water Quality Control Board.

State

California Government Code – Protection of Underground Infrastructure. The responsibilities of California utility operators working in the vicinity of utilities are detailed in Section 1, Chapter 3.1, “Protection of Underground Infrastructure” (Article 2 of California Government Code §§4216-4216.9). This law requires that an excavator must contact a regional notification center at least two days prior to excavation of any subsurface installation. Any utility provider seeking to begin a project that may damage underground infrastructure can call Underground Service Alert, the regional notification center. Underground Service Alert will notify the utilities that may have buried lines within 1,000 feet of the project. Representatives of the utilities are required to mark the specific location of their facilities within the work area prior to the start of project activities in the area. The code also requires excavators to probe and expose underground facilities by hand prior to using power equipment.

California Integrated Waste Management Act of 1989. Assembly Bill 939 codified the California Integrated Waste Management Act of 1989 in the Public Resources Code and established a hierarchy to help the California Integrated Waste Management Board (CIWMB) and local agencies implement three major priorities under the Integrated Waste Management Act: source reductions; recycling and composting; and environmentally safe transformation and land disposal. Waste diversion mandates are included under these priorities. The duties and responsibilities of the CIWMB have since been transferred to the California Department of Resources Recycling and Recovery (CalRecycle) after the abolishment of the CIWMB in 2010, but all other aspects of the Act remain unchanged.

The Act requires all local and county governments to adopt a waste reduction measure designed to manage and reduce the amount of solid waste sent to landfills. This Act established reduction goals of 25 percent by the year 1995 and 50 percent by the year 2000. Senate Bill 1016 (2007) streamlines the process of goal measurement related to Assembly Bill 939 by using a disposal-based indicator: the per capita disposal rate. The per capita disposal rate uses only two factors: the jurisdiction’s population (employment can be considered in place of population in certain circumstances) and the jurisdiction’s disposal as reported by disposal facilities. CalRecycle encourages reduction measures through the continued implementation of reduction measures, legislation, infrastructure, and support of local requirements for new developments to include areas for waste disposal and recycling on-site.

California Code of Regulations (Title 27). Title 27 (Environmental Protection) of the California Code of Regulations defines regulations and minimum standards for the treatment, storage, processing, and disposal of solid waste at disposal sites. The State Water Resources Control Board maintains and regulates compliance with Title 27 (Environmental Protection) of the California Code of Regulations by establishing waste and site classifications and waste management requirements for solid waste treatment, storage, or disposal in landfills, surface impoundments, waste piles, and land treatment units. Compliance of site-specific activities would be enforced by the San Francisco RWQCB Region 2 and the California Department of Resources Recycling and Recovery (CalRecycle) (formerly the California Integrated Waste Management Board). Compost facilities are regulated under CCR Title 14, Division 7, Chapter 3.1 Section 17850 through 17895, by CalRecycle. Permit requests, Reports of Waste Discharge, and Reports and Disposal Site Information are submitted to the RWQCB and CalRecycle, and are used by the two agencies to review, permit, and monitor these facilities.

Local

Energy Policies. The purpose of the City's energy policies is to encourage reduced energy use and encourage renewables. The following policies in the General Plan generally relate to the City's provision of utility services (City of Santa Clara, 2014):

- **Policy 5.10.3-P10.** Maintain the City's level of service for high quality utilities and telecommunications infrastructure.
- **Policy 5.10.3-P12.** Work with Silicon Valley Power to implement adequate energy distribution facilities to meet the demand generated by new development.

Water Policies. The purpose of the City's water policies is off-set increased demand associated with the implementation of the City General Plan. The following policies in the General Plan generally relate to water use by the City, SVP, or SVP's customers (City of Santa Clara, 2014):

- **Policy 5.10.4-P1.** Promote water conservation through development standards, building requirements, landscape design guidelines, education, compliance with the State Water Conservation Landscaping Ordinance, incentives, and other applicable City-wide policies and programs.
- **Policy 5.10.4-P4.** Require an adequate water supply and water quality for all new development.
- **Policy 5.10.4-P5.** Prohibit new development that would reduce water quality below acceptable State and local standards.
- **Policy 5.10.4-P10.** Work with Santa Clara Valley Water District to minimize undesirable compaction of aquifers and subsidence of soils.

Conservation. The City's conservation policies consider the regulation of wastewater to protect biological resources in the City. The following policy in the General Plan generally relates to the City's provision of wastewater systems (City of Santa Clara, 2014):

- **Policy 5.10.1-P6.** Require adequate wastewater treatment and sewer conveyance capacity for all new development.

Land Use. The City's land use policies consider the effects of development to public facilities and infrastructure. The following policy in the General Plan generally relates to the City's provision of utility services (City of Santa Clara, 2014):

- **Policy 5.3.1-P17** Promote economic vitality by maintaining the City's level of service for public facilities and infrastructure, including affordable utilities and high quality telecommunications.

3.19.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.
- Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

- Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals.
- Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

The analysis of utilities and service systems focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for utilities and service systems, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects to utilities and service systems. Existing utilities and service systems would be available to ensure the continued operation and use of existing grid-connected generating facilities without any foreseeable need to relocate or construct new or expanded utilities or service systems. As a result, no further discussion of the effects to utilities and service systems of serving electricity to the customers affected by the Project is necessary.

UT-1. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

LESS THAN SIGNIFICANT. The Project would amend SVP's Rules and Regulations, and the amendments would not directly or indirectly result in the approval of any specific construction activities that could require relocation or construction of new or expanded utility service facilities that could cause significant environmental effects.

Construction of new renewable parallel generation facilities at customer sites could generate a minimal demand for water, for example for dust control, or wastewater treatment. This effect would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. For customers forced by the Project to switch to an available renewable fuel, operation of renewable parallel generation could require a pipeline supply of biomethane or renewable natural gas. However, this would substitute the customer's demand for conventional natural gas service. The most-likely alternative fuel supply would be for customers to switch to using the existing common carrier natural gas pipeline system for delivery of biomethane or renewable natural gas. For new renewable parallel generation facilities at existing customer sites, any potential relocation, expansion, or development of new utility systems would need to adhere to the design standards of the City or utility provider through the applicable permit approval processes that avoid significant environmental effects.

Water, Wastewater Treatment or Storm Water Facilities. The Project would not generate a demand for water or wastewater treatment. For customers that choose to undertake development of new renewable parallel generation at customer sites, any renewable parallel generation facility that might be proposed, a water truck or municipal water may be used to support dust suppression during ground disturbing work. Any water used for dust control would be dispersed onsite and would either evaporate or be absorbed into the ground; therefore, no wastewater generation is anticipated. Dewatering may be necessary if groundwater is encountered and watering for dust suppression may be needed. If portable toilets would be provided for construction work crews, these would likely be maintained by a licensed sanitation contractor. The need for municipal water service during the construction of new renewable parallel

generation would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project.

New renewable parallel generation facilities could change how stormwater flows enter the stormwater drainage systems from impervious surfaces, but this effect would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project. The need for water, wastewater treatment, or storm water facilities to allow operation of renewable parallel generation would not differ from that of using fossil fuels for parallel generation and would not be changed by the Project. Implementation of the applicable permit approval processes through the City or utility provider would avoid the need for the construction or expansion of water or wastewater treatment facilities or storm water drainage that could cause significant environmental effects.

Electric Power, Natural Gas, or Telecommunications Facilities. Where customers undertake construction of new renewable parallel generation facilities, construction activities could have the potential to accidentally encounter or disrupt existing utility systems or cause a collocation accident. Coordination with other utility system owners and compliance with California Government Code sections 4216–4216.9 would reduce the likelihood of accidental disruptions from a collocation accident. Prior to initiating underground construction, including drilling or trenching the contractor would contact Underground Service Alert to identify any existing underground utilities in the construction zone. The effects of installing electric power, gaseous pipeline, and telecommunications facilities to allow operation of renewable parallel generation would not differ from that of using fossil fuels for parallel generation and would not be changed by the Project. State regulations and implementation of the applicable permit approval processes through the City or utility provider would avoid the potential for a utility disruption or collocation accident that could cause significant environmental effects.

UT-2. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

LESS THAN SIGNIFICANT. The Project would not result in the approval of any specific construction activities or any use of water or a change in water supplies. For development of new renewable parallel generation at customer sites, the primary need for water would likely be for the dust suppression and for mixing concrete. The volume of water required for dust control and concrete mixing would depend on site-specific conditions. However, the amount of water needed during construction of renewable parallel generation would not differ from that of using fossil fuels for parallel generation and would not be changed by the Project. Water use for construction would be temporary and limited to the construction period. Upon completion, parallel generation facilities using combustion-free technologies are not likely to generate any substantial demand for water. Therefore, the potential impact to water supplies would be less than significant.

UT-3. *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

LESS THAN SIGNIFICANT. The Project would not result in the approval of any specific construction activities that could create wastewater. For customers undertaking construction of renewable parallel generation facilities, construction activities could require portable toilets for construction workers and the wastewater would be disposed of at appropriately licensed official facilities with adequate capacity. As discussed under Impact UT-2 above, existing wastewater facilities would adequately accommodate the minor demand caused by development of new renewable parallel generation at customer sites while serving existing commitments. Therefore, this impact would be less than significant.

UT-4. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

LESS THAN SIGNIFICANT. The Project would not result in the approval of any specific construction activities that could generate solid waste. Construction and operation of new renewable parallel generation facilities at customer sites could generate small quantities of construction debris and waste that would be transported to staging area(s) or a licensed facility as needed for recycling or disposal. Total solid waste generated by construction of renewable parallel generation is anticipated to be minor compared to the capacity of local infrastructure and existing landfills, as identified in Table 3.19-1, Landfill Capacities. The region's landfills are not expected to close for about another 20 years. During operation, renewable parallel generation facilities are normally unmanned or remotely operated. The potential to generate notable quantities of solid waste would not differ from that of using fossil fuels for parallel generation and would not be changed by the Project. Therefore, the impact of solid waste disposal on local infrastructure and landfill capacity would be less than significant.

UT-5. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

NO IMPACT. The California Integrated Waste Management Act of 1989, which emphasizes resource conservation through the reduction, recycling, and reuse of solid waste guide solid waste management requires that localities conduct a Solid Waste Generation Study (SWGS) and develop a Source Reduction Recycling Element (SRRE). The Project would not result in the approval of any specific construction activities that could generate solid waste.

Any new renewable parallel generation facility would operate in accordance with applicable Solid Waste Management Policy Plans by including recycling where feasible. As identified under Impact UT-4 above, the region's landfills would have sufficient capacity to accommodate construction solid waste disposal needs, and solid waste disposal would not require the need for new or expanded landfill facilities. Therefore, any new renewable parallel generation facility would be likely to comply with federal, State, and local management and reduction statutes and regulations related to solid waste disposal limits and landfill capacities. No impact would occur.

3.20. Wildfire

3.20.1. Setting

Wildland fire protection in California is the responsibility of the State, local, or federal government, depending on the location. The California Department of Forestry and Fire Protection (CAL FIRE) is required by law to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, which are referred to as Fire Hazard Severity Zones (FHSZ), influence how people construct buildings and protect property to reduce risk associated with wildland fires. FHSZ maps identify the likelihood that an area will burn over a 30 to 50-year period without considering that modifications may occur, such as fuel reduction efforts. Risk is not indicated by the maps. Risk is the potential damage that can be done by a fire, based on existing conditions. Risk can be reduced by various strategies, such as creation of defensible space, fuel load reduction, and, in the case of structures, the use of sprinklers and ignition-resistant building materials and construction.

The entire City of Santa Clara is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones, as defined in the CAL FIRE wildland fire hazard maps, namely due to its urban conditions, flat terrain and low fuel load (CAL FIRE, 2007). Fire protection within the City is discussed in Section 3.15 (Public Services). There are no wildfire hazards in the City of Santa Clara (City of Santa Clara, 2011).

Regulatory Background

Federal

A variety of line and tower clearance standards are used throughout the electric transmission industry. Nationally, most transmission line owners follow the National Electric Safety Code (NESC) rules or American National Standards Institute (ANSI) guidelines, or both, when managing vegetation around transmission system equipment. The NESC deals with electric safety rules, including transmission wire clearance standards, whereas the applicable ANSI code deals with the practice of pruning and removal of vegetation.

State and Local

California Public Utilities Commission (CPUC) General Order (GO) 95. CPUC's GO 95 is the key standard governing the design, construction, operation, and maintenance of overhead electric lines in the State. The CPUC has promulgated various Rules to implement the fire safety requirements of General Order 95, including:

- *GO 95 Rule 31.2* requires that lines be inspected frequently and thoroughly to ensure that they are in good condition, and that lines temporarily out of service be inspected and maintained in such condition so as not to create a hazard.
- *GO 95 Rule 35* governs requirements that vegetation management activities be performed in order to establish necessary and reasonable clearances.
- *GO 95 Rule 38* establishes minimum vertical, horizontal, and radial clearances of wires from other wires.

California Public Resources Code Sections 4294 and 4293. The California Public Resources Code (CPRC) Sections 4292 and 4293 specify requirements related to fire protection and prevention in transmission line corridors. CPRC Section 4292 states that any person that owns, controls, operates, or maintains any electrical transmission or distribution line has primary responsibility for fire protection of such areas, and shall maintain around and adjacent to any pole or tower which supports a switch, fuse, transformer,

lightning arrester, line junction, or dead end or corner pole, a firebreak which consists of a clearing of not less than 10 feet in each direction from the outer circumference of such a pole or tower (CPRC 4292).

Power Line Fire Prevention Field Guide 2008 Edition. CAL FIRE, the state's three investor-owned utilities (Pacific Gas and Electric [PG&E] Company, Southern California Edison Company, and San Diego Gas and Electric), and other California electric utilities have mutually developed a comprehensive field guide for their personnel. Its purpose is "to provide information and guidance to the personnel of the fire service agencies and electrical operators for minimum uniform application within the areas of their respective jurisdiction and franchise responsibilities." In addition to safety of the public, the guide details fire hazard reduction maintenance procedures for the safety of conductors and certain hardware.

PG&E's Public Safety Power Shutoff Program. The Public Safety Power Shutoff program was developed in cooperation with state utility regulators at the CPUC. A utility shuts off electricity on transmission and distribution lines in fire-prone areas during high fire-risk periods, including:

- Red flag warning declared by the National Weather Service;
- Low humidity levels – generally 20% and below; and/or
- Forecasted sustained winds generally above 25 mph and wind gusts in excess of approximately 45 mph.

SVP operates and maintains the distribution and transmission grid inside the City of Santa Clara, yet the larger transmission grid that brings most of SVP's energy into the City is integrated throughout the State. Therefore, if large transmission lines are de-energized or constrained, then SVP may need to reduce load quickly to help the greater transmission grid. Depending on the severity of the event, it may mean power shutoffs or rolling outages in the City.

3.20.2. Environmental Impacts and Mitigation Measures

The following thresholds of significance are based on Appendix G of the State CEQA Guidelines. For the purposes of this EIR, the Project may result in a potentially significant impact if it would:

- Substantially impair an adopted emergency response plan or emergency evacuation plan.
- Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment.
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

The analysis of wildfire focuses on the potential changes in the environment that could be caused by customers that might otherwise have proposed development of fossil fueled parallel generation facilities and could be expected to instead undertake development of substitute renewable parallel generation as a result of the Project.

Customers that elect to use grid resources to serve the customers' loads would be served from the available existing grid resources. Compared with the environmental baseline for wildfire, the continued operation and use of existing grid resources to serve electricity would not result in any physical change that could cause substantial adverse effects related to wildfire. Operating existing grid-connected generating facilities may create wildfire hazards due to the risk of spark or ignition from high-voltage equipment depending on the setting of the facilities. However, any Project-related change in the continued operation and use of grid-connected facilities would be unlikely to lead to a new physical change in how existing

facilities relate to wildfire hazards. As a result, no further discussion of the wildfire-related effects of serving electricity to the customers affected by the Project is necessary.

WIL-1. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

LESS THAN SIGNIFICANT. The Project would change SVP's Rules and Regulations to limit the interconnection of parallel generation using non-renewable resources, and the Project would not directly or indirectly result in the approval of any specific construction activities or change in existing land use that may substantially impair an emergency plan. By definition, parallel generation involves the production and delivery of electric power electrically connected to SVP's distribution system. New or modified parallel generation facilities proposed for interconnection would need to be near SVP's distribution system and within or near the customer's site of electricity use. Because the Project would not alter an existing land use, and individual proposals for new renewable parallel generation are likely to be located at the customer's site, the Project would not substantially impair an adopted emergency response plan or emergency evacuation plan.

WIL-2. Would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

LESS THAN SIGNIFICANT. The Project would apply to electrical generating facilities seeking to interconnect to the SVP distribution system and would not result in any occupied facilities. The delivery of electric power through SVP's distribution system has the potential to become an ignition source for a fire. Electrical lines can start a fire if an object such as a tree limb, kite, or mylar balloon simultaneously contacts the power line conductors and a second object, such as the ground or a portion of the supporting pole. System component failures and accidents during maintenance activities can also cause line faults that result in arcing on power lines. Power lines are also subject to conductor-to-conductor contact, which can occur when extremely high winds force two conductors on a single pole to oscillate so excessively that they contact one another. This contact can result in arcing (sparks) that could ignite nearby vegetation. Aging, failing equipment increases the risk of system failures and faults.

The Project would not directly or indirectly cause construction or development of any new or modified distribution system components that would exacerbate wildfire risks or expose people to pollutant concentrations from a wildfire. Customers could choose to undertake development of new renewable parallel generation at customer sites, and this could require installation of additional overhead distribution lines; however, the increase in risk of ignition would be minimal relative to baseline conditions. There are no wildfire hazards in the City of Santa Clara (City of Santa Clara, 2011). The potential for a renewable parallel generation facility to introduce fire risks would not differ from that which could occur during the development of a facility using fossil fuels and would not be changed by the Project.

Installation, operation and maintenance of electrical facilities related to new renewable parallel generation would need to meet SVP's standards for safe and reliable operation of the existing distribution system, transmission lines, substations, and associated facilities. As in the baseline of existing conditions, SVP would comply with all current federal and State laws related to vegetation clearance and fire prevention, as not to exacerbate wildfire risks. Impacts from wildfire risk would be less than significant, and no mitigation is required.

WIL-3. *Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

NO IMPACT. The Project would not alter an existing land use, and the Project would not directly or indirectly cause construction or development of any new or modified distribution system components that may exacerbate fire risk or result in temporary or ongoing impacts to the environment. As in the baseline of existing conditions, SVP would comply with all current federal and State laws related to vegetation clearance and fire prevention, as not to exacerbate fire risk, and no additional fire risk would occur because of the Project.

WIL-4. *Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

LESS THAN SIGNIFICANT. The Project would apply to electrical generating facilities seeking to interconnect to the SVP distribution system, and parallel generation facilities do not involve occupied structures. The fire risk introduced by renewable parallel generation within the City would not change as a result of the Project from that which could occur with non-renewable parallel generation. Given the baseline fire risk of the urban area with no known post-fire historic landslides or slope instability, the exposure of people or structures to risks as a result of runoff, post-fire instability or drainage changes would be less than significant.

4. CUMULATIVE IMPACTS

Cumulative impacts are defined in Section 15355 of the State CEQA Guidelines as:

... two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

(a) The individual effects may be changes resulting from a single project or a number of separate projects.

(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

The CEQA Guidelines require a lead agency to discuss a cumulative impact if the project's incremental effect combined with the effects of other projects is "cumulatively considerable" [CEQA Guidelines Section 15130(a)]. 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 must briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

The cumulative impact analysis is an evaluation of the effects of contemporaneous projects whose impacts might compound or interrelate with those of the potential action considered by this EIR. According to the CEQA Guidelines, the discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project alone [CEQA Guidelines Section 15130(b)].

In considering cumulative impacts, an agency may choose from among two approaches: it can prepare a list of past, present, and probable future projects that will produce related or cumulative impacts, or it can rely on a summary of projections contained in an adopted planning document or an adopted or certified environmental document for the planning document [CEQA Guidelines Section 15130(b)].

In this case, previously approved land use documents, including the City's general plan, and plans for the reduction of GHG emissions were reviewed as part of the cumulative impacts analysis. CEQA allows that no further cumulative impacts analysis is required when a project is consistent with a general, specific, master or comparable programmatic plan where the lead agency determines that the regional or area wide cumulative impacts of the proposed project have already been adequately addressed, as defined in Section 15152(f), in a certified EIR for that plan [CEQA Guidelines Section 15130(d)].

4.1. Summary of Projections in Adopted Planning Documents

This section uses three previously-approved environmental documents to provide the context of past, present, and reasonably foreseeable future projects and facilitate the description of where cumulative impacts are expected to be significant, as follows:

- ARB 2017 Scoping Plan and Environmental Assessment
- BAAQMD 2017 Clean Air Plan and EIR
- City of Santa Clara General Plan and Final EIR

Additionally, to further describe the cumulative conditions, this section briefly reviews the City's forward-looking plans for the reduction of GHG emissions and for meeting the City's future electric energy needs, as follows:

- City of Santa Clara Climate Action Plan
- SVP 2018 Integrated Resource Plan

ARB 2017 Scoping Plan and Environmental Analysis

The California Air Resources Board (ARB) adopted the 2017 Scoping Plan Update establish the State strategy for meeting California's 2030 GHG target (ARB, 2017a). The overall strategy includes a mix of direct regulations, market-based approaches, and voluntary measures and policies. The 2017 Scoping Plan relies on projected growth in renewable energy and continuing the exponential growth in wind and solar generation in recent years to achieve an electricity supply that is at least 50 percent from renewable resources. Self-generation growth has also been exponential, and self-generation incentives have spurred both utility-scale and small-scale customer-developed renewable energy projects (pp. ES10-ES11 of ARB, 2017a). The 2017 Scoping Plan also relies on reducing demand for natural gas and moving toward renewable natural gas in a manner consistent with the ARB Short-Lived Climate Pollutant strategy (p. 66 of ARB, 2017a).

The 2017 Scoping Plan also identifies actions that can be undertaken at a local level to support California's climate goals, shown in Appendix B of the 2017 Scoping Plan (ARB, 2017a). Requiring use of on-site renewable energy generation is one example of an action that could be undertaken at a local level to support the State's climate goals.

The final Environmental Analysis (EA) supporting the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target is included as Appendix F to the 2017 Scoping Plan. The Final EA (ARB, 2017b) provides a programmatic level of analysis of the adverse environmental impacts that are reasonably foreseeable as resulting from implementation of the 2017 Scoping Plan measures; feasible mitigation measures; a cumulative impacts analysis and an alternatives analysis.

Because the Scoping Plan is a State-level planning document that recommends measures to reduce GHG emissions to achieve the 2030 GHG target, the Final EA examined whether implementation of the recommended measures in the 2017 Scoping Plan may indirectly lead to adverse environmental impacts as a result of reasonably foreseeable compliance responses. The reasonably foreseeable compliance responses associated with implementation of Statewide measures for renewable energy and energy efficiency would range from minor modifications to existing buildings and large-scale construction projects that would allow for increased use of renewable energy and storage of produced renewable energy. Additional renewable energy supplies would be produced from new wind, solar thermal, solar photovoltaic, geothermal, solid-fuel biomass, biogas, and small hydroelectric facilities Statewide (ARB, 2017b).

Collectively, the Final EA for the 2017 Scoping Plan concluded that implementation of measures to achieve the 2030 GHG target could result in the following short-term and long-term beneficial and adverse environmental impacts (ARB, 2017b):

- Beneficial long-term impacts to air quality, energy demand and GHG emissions.
- Less than significant impacts to energy demand, resources related to land use planning, mineral resources, population and housing, public services, and recreational services.
- Potentially significant and unavoidable adverse impacts to aesthetics, agriculture and forest resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, resources related to land use planning, noise, recreational services, transportation/traffic, and utilities and service systems.

The potentially significant and unavoidable adverse impacts from implementation of foreseeable compliance responses to the 2017 Scoping Plan measures were disclosed for both short-term construction-related activities and long-term operational activities, which explains why some resource areas are identified above as having both less-than-significant impacts and potentially significant impacts (ARB, 2017a).

The Project evaluated in this EIR would limit the interconnection of parallel generation in the City of Santa Clara to facilities that meet the criteria for renewable electrical generation facilities as defined in the California Public Resources Code. Requiring local users of electricity to use on-site renewable energy generation is one example of a Scoping Plan action that can be undertaken at the City level to support California's climate goals. Because the Project would require the use of renewable resources for on-site parallel generation, the environmental effects of the Project disclosed in Chapter 3 of this EIR are encompassed within those that are reasonably foreseeable due to implementation of the ARB's 2017 Scoping Plan.

BAAQMD 2017 Clean Air Plan and EIR

The Bay Area Air Quality Management District (BAAQMD) prepared the 2017 Clean Air Plan for the purpose of demonstrating attainment with ambient air quality standards. The 2017 Clean Air Plan also identifies the BAAQMD's strategies for reducing health risk disparities from exposure to air pollution among Bay Area communities and reducing GHG emissions. The 2017 Clean Air Plan includes a Regional Climate Protection Strategy that identifies potential rules, control measures, and strategies that the BAAQMD can pursue to reduce GHG emissions in the Bay Area (BAAQMD, 2017a).

The 2017 Clean Air Plan includes a "Vision for 2050" to promote a switch from natural gas to clean electricity, or other renewable energy, for energy use in buildings, and to switch from fossil fuels to electricity as a way of reducing the carbon intensity of transportation and industries (BAAQMD, 2017a). The potential increase in electricity demand across the Bay Area associated with the 2017 Clean Air Plan was projected to be 255,731 MWh by 2030 (p. 3.3-23 of BAAQMD, 2017b).

The strategy for GHG reductions includes Energy Control Measures to promote and expedite a transition away from fossil fuels used in electricity generation (e.g., natural gas) to a greater reliance on renewable energy sources (e.g., wind, solar) and to expand energy efficiency policies and programs (p. 5-16 of BAAQMD, 2017a). These measures involve the BAAQMD working with local governments to maximize the production of renewable energy overall, promote on-site renewable energy production, and transition away from using natural gas in buildings.

The EIR released by BAAQMD staff for the 2017 Clean Air Plan is a programmatic EIR (BAAQMD, 2017b) to disclose the potential adverse environmental impacts of implementing the 2017 Clean Air Plan. Because the EIR for the 2017 Clean Air Plan examines the environmental effects of a continuing and ongoing regulatory program, the EIR anticipated that local public agencies, including cities and counties, could be expected to tier off the EIR when considering land use and planning decisions related to projects that implement a control measure in the 2017 Clean Air Plan, pursuant to CEQA Guidelines Section 15152.

Overall, the EIR for the 2017 Clean Air Plan concluded that implementation of the control measures in the 2017 Clean Air Plan could result in the following environmental effects (BAAQMD, 2017b):

- **Air Quality.** The 2017 Clean Air Plan is expected to result in substantial overall reductions in VOC, NO_x, SO_x, and PM emissions, providing an air quality benefit. However, increases in criteria pollutant emissions could also occur as a consequence of: (1) construction activities (e.g., to install air pollution control equipment); (2) air pollution control technologies that generates air emissions (e.g., new thermal oxidizers); (3) transportation of disposable materials to operate equipment; and (4) increased electricity demand. By achieving substantial reductions in emissions, the 2017 Clean Air Plan would not

result in a cumulatively considerable contribution to the existing significant cumulative air quality impacts occurring within the Bay Area and is expected to provide a beneficial impact on air quality and public health.

- **Greenhouse Gas Emissions.** The GHG emissions reductions from the 2017 Clean Air Plan are expected to far outweigh any potential secondary emission increases, providing a beneficial impact on climate change.
- **Hazards and Hazardous Materials.** The 2017 Clean Air Plan is not expected to introduce any new hazards into the Bay Area and is expected to result in a reduction in the use of fossil fuels which will also reduce the potential for hazards and hazardous material spills. Therefore, hazards and hazardous materials impacts associated with the 2017 Clean Air Plan are not cumulatively significant and would not make a considerable contribution to an existing cumulatively significant hazards and hazardous materials impact.
- **Hydrology.** The 2017 Clean Air Plan is expected to result in cumulatively considerable contributions to water demand as it will result in potentially significant impacts on water demand. With respect to impacts on wastewater treatment and water quality, the 2017 Clean Air Plan impacts are less than significant and are also not expected to make a cumulatively considerable contribution to wastewater treatment and water quality impacts.
- **Noise.** The 2017 Clean Air Plan does not include any specifically identified actions that would contribute to any existing or reasonably foreseeable significant noise impacts. Implementation of the 2017 Clean Air Plan will therefore not be contributing to any significant cumulative noise impacts.
- **Traffic and Transportation.** The 2017 Clean Air Plan does not include any specifically identified actions that would result in any cumulatively considerable contributions to any existing or reasonably foreseeable future traffic impacts. The 2017 Clean Air Plan is not expected to result in any cumulatively considerable contribution to an existing or reasonably foreseeable future significant cumulative traffic or transportation impacts.
- **Utilities.** The 2017 Clean Air Plan is not expected to exceed the current capacity of the electric utilities in the Bay Area or create significant impacts on regional electricity supplies or on requirements for additional electricity. Further, the 2017 Clean Air Plan is expected to result in minimal waste generation and is not expected to exceed the capacity of designated landfills. Therefore, utility and service system impacts are not cumulatively significant and would not make a considerable contribution to an existing or reasonably foreseeable future significant cumulative impact to utilities or service systems.

The Project evaluated in this EIR would limit the interconnection of parallel generation in the City of Santa Clara to facilities that meet the criteria for renewable electrical generation facilities as defined in the California Public Resources Code. Because requiring use of on-site renewable energy generation is one example how a local government can decarbonize electricity production, the environmental effects of the Project disclosed in Chapter 3 of this EIR are encompassed within those that are reasonably foreseeable due to implementation of the BAAQMD's 2017 Clean Air Plan.

City of Santa Clara General Plan and Final EIR

On November 16, 2010, the City Council adopted the 2010-2035 General Plan and certified the Final EIR for the General Plan. The most recent version of the General Plan updates the City's Housing Element and related Land Use Policies and was approved by City Council on December 9, 2014. Although the City is largely built-out and future growth will be accommodated almost entirely through infill and redevelopment, the General Plan anticipated the energy implications of the projected development. The General Plan was supported by an Electrical Grid Capacity Assessment to evaluate how future growth could impact

the City's electrical network and identify areas in the City that might need network infrastructure improvements.

The Electrical Grid Capacity Assessment was attached as Appendix K of the Integrated Final Environmental Impact Report (Final EIR) for the General Plan (City of Santa Clara, 2011). Future electrical load was projected to grow to 635 million-volt amps (MVA) by 2035, based on average loads throughout the day (as in Table 3 of Appendix K in City of Santa Clara, 2011). The previously-analyzed future electrical loads within the 2010-2035 General Plan would be approximately equivalent to an annual energy demand of 5,563 GWh by 2035, which aligns well with the energy demand forecast of 5,550 GWh for 2035 in the 2018 IRP (SVP, 2019).

The Final EIR for the City's 2010-2035 General Plan (City of Santa Clara, 2011) identified significant effects on the environment in the topics of: Public Utilities; Biological Resources; Air Quality; Transportation and Traffic; Noise; Climate Change; and Cumulative Land Use, Population and Housing; Cumulative Transportation and Traffic. Mitigation measures and General Plan policies were identified to reduce the impacts to acceptable and less than significant levels in the areas of biological resources and air quality.

Upon consideration of the adverse impacts related to the General Plan, the City adopted a Statement of Overriding Considerations rendering the impacts acceptable, with unavoidable significant impacts in the following areas: traffic and circulation; future roadway noise; public utilities relating to landfill capacity; and climate change.

The General Plan Final EIR (p. ES-9 of City of Santa Clara, 2011) describes the unavoidable significant impact of climate change as follows:

Climate Change: 2035 GHG Emissions. Citywide 2035 GHG emissions are projected to exceed efficiency standards necessary to maintain a trajectory to meet long-term 2050 state climate change reduction goals. Achieving the substantial emissions reductions will require policy decisions at the federal and state level and new and substantially advanced technologies that cannot today be anticipated, and are outside the City's control, and therefore cannot be relied upon as feasible mitigation strategies. Given the uncertainties about the feasibility of achieving the substantial 2035 emissions reductions, the City's contribution to climate change for the 2035 timeframe is conservatively determined to be cumulatively considerable.

The Project evaluated in this EIR would approve the Renewable Parallel Generation Facilities Resolution and change SVP's Rules and Regulations to limit the interconnection of parallel generation to facilities that meet the criteria for renewable electrical generation facilities as defined in the California Public Resources Code. Requiring use of renewable energy for parallel generation would be consistent with the General Plan Goal 5.1.3-G1, to maximize the use of renewable resources, and the Project is an example of one action within the City's control that could avoid additional GHG emissions.

City of Santa Clara Climate Action Plan

The City Council adopted the 2022 Climate Action Plan (CAP) on June 7, 2022, to continue the City's commitment to creating a Sustainable Santa Clara and to update the City's prior Climate Action Plan adopted in 2013. The City Council adopted the prior Climate Action Plan on December 3, 2013, and included it as part of Appendix 8.13 of the General Plan. The 2013 CAP proposed to reduce GHG emissions to 15 percent below 2008 levels by the year 2020 under AB 32. The 2013 CAP included reduction measures to address energy use, transportation, land use, water, solid waste, and off-road equipment (City of Santa Clara, 2013). An Initial Study and Negative Declaration was prepared in December 2013, which updated

the climate change discussion from the General Plan Final EIR and determined that no new impacts would occur related to implementation of the 2013 CAP.

The 2022 CAP establishes a pathway toward reducing GHG emissions to 40 percent below 1990 levels by 2030, 80 percent below 1990 levels by 2035, and to achieve net carbon neutrality no later than 2045 (City of Santa Clara, 2022). The City Council also reviewed and considered the potential environmental impacts of adopting the 2022 CAP, and approved an Addendum to the General Plan EIR, prepared in March 2022, which found that the 2022 CAP would not result in any new or substantially more severe impacts than previously identified in the General Plan EIR.

The City Council found that the updated 2022 CAP is consistent with CEQA Guidelines Section 15183.5(b)(1) for a Qualified CAP and determined that the prior 2013 CAP meets the criteria for a Qualified GHG Reduction Strategy, established by the CEQA Guidelines, which are supported by the Bay Area Air Quality Management District (BAAQMD). This status allows the City to use the CAP to streamline the environmental review process for new development if a proposed project demonstrates consistency with the CAP (City of Santa Clara, 2018).

The community-wide GHG inventory in the 2013 CAP uses a 2008 baseline year and forecasting growth indicators to establish projections for future community “business-as-usual” emissions out to 2035. Overall energy use in the non-residential sector is forecasted to grow 39 percent between 2008 and 2035 (as in Table 5 of the 2013 CAP). Non-residential electricity customers in the commercial and industrial sector are those most-likely to be affected by the Project.

The 2013 CAP promotes energy efficiency overall and establishes policies to reduce electricity consumption in the City; additionally, policies target reducing the GHG emission factor of the electricity that is used in the City.⁴⁰ The 2022 CAP update establishes strategies to continue the transition to renewable energy sources, by shifting new and existing buildings to use electricity as a substitute to on-site fossil fuel use and supporting the electrification of residential and commercial buildings.

The Project evaluated in this EIR would limit the interconnection of new or modified parallel generation to those facilities meeting the criteria for renewable electrical generation facilities. The Project would ensure that no additional GHG emissions would be created by future use of non-renewable parallel generation. Typical vendor specifications show that parallel generation using a natural gas fuel cell system creates GHG emissions at a greater rate per megawatt-hour (MWh) than the GHG emissions intensity of serving the electrical demand from grid resources (see Table 3.8-4, GHG Emissions Factors for Resource Options). This demonstrates that serving the electrical demand of customers from SVP grid resources would on average generate less GHG emission per MWh than using a customer-sited natural gas fuel cell system (for details, see Section 3.8, Greenhouse Gas Emissions). Additionally, the Project would take a step towards phasing out natural gas infrastructure for customers that choose to obtain electricity from grid resources as an alternative to using non-renewable parallel generation. Accordingly, the Project aligns with the strategic framework of the City’s 2022 Climate Action Plan and the City’s goal of achieving a carbon-neutral energy supply by 2045.

SVP 2018 Integrated Resource Plan

In November 2018, the City Council approved SVP’s current Integrated Resource Plan (IRP). California Code requires the IRP to be updated at least once every 5 years. IRPs that are prepared by local publicly

⁴⁰ As an example, the 2013 CAP includes an analysis of the GHG reductions made possible by energy efficiency gains under Measure 2.3, Data Centers, which is projected to achieve a GHG reduction of 400 MTCO₂e based on reducing the use of electricity supplied at 0.187 MTCO₂e/MWh, per 2013 CAP Measure 1.1.

owned electric utilities must be submitted to the California Energy Commission (CEC) for review, and the CEC determines whether the IRP is consistent with California's clean energy, clean air, and GHG reduction goals for 2030, and the requirements of PUC Section 9621. The CEC's review of the 2018 IRP notes that SVP depends on natural gas resources to integrate renewable generation, although natural gas generation would decline from over 33 percent of the portfolio in 2019 to less than 21 percent in 2030 (CEC, 2019). Beyond 2030 to 2038, the 2018 IRP projects a continuation of the decline in natural gas use towards the zero-carbon target in 2045 (SVP, 2019).

The 2018 IRP includes increasing the procurement of renewable resources and reducing SVP's use of fossil-fueled resources to serve load. Growing peak demand will be met by adding renewable capacity to SVP's existing generating capacity. The 2018 IRP also reflects the ongoing use of customer-owned generation in the City. As required by PUC Section 9621, SVP considered the role of distributed energy resources, energy storage, and energy efficiency and demand response resources, as a means of reducing the need for new or additional electricity generation or transmission (CEC, 2019). To serve electricity to the customers affected by the Project, SVP would continue to rely on its existing mix of available grid resources, and the Project would not change SVP's implementation of the 2018 IRP or SVP's procurement strategy.

4.2. Cumulative Impact Analysis

This section summarizes the Project's incremental effects in the context of the projections previously adopted by the City. Cumulative impacts are those that consist of an impact which 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 [CEQA Guidelines Section 15130(a)].

The Project would apply throughout the City of Santa Clara to customers seeking to interconnect new or modified parallel generation facilities to SVP's distribution system. For this reason, the geographic scope of the area for potential cumulative effect includes locations in the City that are likely to be near SVP's distribution system and within or near the customer's site of electricity use. Previously developed and disturbed areas in the City are the locations most likely to see proposals for new or modified parallel generation facilities. The statewide and regional context for the Project promotes continued growth in electrification of building and transportation energy demands and growth of renewable resources in California's energy supply.

The Project would amend SVP's Rules and Regulations. The only direct effect of the Project would be the elimination of future non-renewable parallel generation in the City, and the amendments would not directly or indirectly result in the approval of any specific construction activities that may cause a potentially significant physical change in the environment. Accordingly, the analysis focuses on the indirect or secondary effects that can be expected to follow from the adoption of the proposed amendments to the SVP Rules and Regulations. The analysis in this EIR concludes that the Project would have no impact or less-than-significant impacts for all of the environmental topics discussed in EIR Chapter 3, Environmental Analysis. For topics that have no impact, there would be no incremental effect that could be cumulatively considerable, and further discussion is not required.

For customers that choose to undertake development of new renewable parallel generation facilities in the City, individual parallel generation facilities that meet the City's definition of an electric power plant would continue to be subject to project-specific CEQA review if not exempt (Zoning Code, Section 18.60.050).

4.2.1. Cumulative Impacts

The Project would occur in a context of past, present, and reasonably foreseeable future projects, including planned development growth in the City, growth in the City's electrical load, and actions that can be undertaken at a local level to support California's climate goals. Although the environmental effects of the Project and future projections for parallel generation in the City are not specifically evaluated in any previous analysis, this cumulative impact analysis refers to the prior studies of similar actions to facilitate the description of where cumulative impacts are expected to be significant.

Aesthetics

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause visual impacts depending on several variables, such as on the type and size of facilities, distance and angle of view, visual character of the site and placement in the landscape, although aesthetic impacts are less likely in areas zoned or used for manufacturing or industrial purposes. Operation could cause daytime or nighttime glare or plumes. However, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Air Quality

The ARB's Final EA for the 2017 Scoping Plan evaluates the effect of measures to reduce GHG emissions in California, including measures to increase the use of renewable energy. Overall, while there would be some criteria air pollutant emissions and toxic air contaminants associated with operations resulting from implementation of the 2017 Scoping Plan, in the long-term the measures in the plan would result in beneficial air quality impacts.

Similarly, the BAAQMD EIR for the 2017 Clean Air Plan found that electrification of motor vehicles and other commercial and industrial equipment will reduce petroleum fuel usage in the Bay Area. At that time, there may be an increase in emissions due to increased electric power generation due to increased demand. The Air Quality analysis in the EIR for the BAAQMD's 2017 Clean Air Plan notes that if electricity demand exceeds available power, additional sources of electricity would be required. Electricity generation facilities within the BAAQMD's jurisdiction are subject to limitations on NO_x emissions (the primary pollutant of concern from combustion to generate electricity). As a result, the BAAQMD's EIR found that NO_x emissions from existing electric generating facilities would not increase significantly, regardless of increased power generation for add-on control equipment or electrification to displace petroleum fuel usage. New power generation equipment to support increasing electricity demand would also be subject to air permitting requirements that apply to new and modified stationary sources. Under the Federal Clean Air Act, the New Source Review program requires, among other things, a demonstration that emissions increases would not cause, or contribute to, air pollution in excess of any National Ambient Air Quality Standard or certain increments to protect attainment, and new sources must satisfy Best Available Control Technology (BACT) requirements and requirements to provide offsets (through emission reduction credits) before air permits could be issued. These requirements ensure that increased electric power generation for electrification of motor vehicles and other commercial and industrial equipment would not cause unmitigated increases in emissions of criteria air pollutants. If the activity being electrified was previously powered by direct combustion of fossil fuels, then electrification is expected to result in an overall decrease in toxic emissions. The potential increases in emissions associated with increased electricity use are expected to be worst-case estimates and actual emissions associated with electricity use are expected to be less (p. 3.2-32 of BAAQMD, 2017). The BAAQMD's EIR found that

emission reductions from implementing the 2017 Clean Air Plan's control measures are expected to far outweigh any potential secondary emission increases (p. 3.2-43 of BAAQMD, 2017).

Proposals for new renewable parallel generation facilities in the City would be unlikely to cause emissions at levels that could substantially change the existing air quality setting of the City. New parallel generation would need to be near SVP's distribution system and within or near the customer's site of electricity use. While the construction of parallel generation facilities may create temporary air quality impacts, the operation of renewable parallel generation would not substantially impact air quality or air pollutant emissions. The Final EIR for the City's General Plan identified mitigation measures and General Plan policies to reduce the potential impacts to air quality to acceptable and less than significant levels, and the incremental effects of the Project would have less than significant impacts on air quality. Overall, the incremental air quality-related effects of the Project would be less than cumulatively considerable.

Biological Resources

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction of renewable energy facilities could cause biological-related impacts due to ground-disturbing activities such as clearing of vegetation and earth movement and grading. Biological resources could also be adversely affected by construction and operations within disturbed areas at existing facilities. However, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

The construction and operational activities associated with new renewable parallel generation facilities could contribute to cumulative biological-related impacts. Proposals for new renewable parallel generation facilities in the City are unlikely to be located at sites that could substantially change the existing setting for biological resources, because parallel generation facilities are generally located on previously disturbed land and not in an area of habitat for species identified as a candidate, sensitive or special-status species. New parallel generation would need to be near SVP's distribution system and within or near the customer's site of electricity use. The Final EIR for the City's General Plan identified mitigation measures and General Plan policies to reduce the potential impacts to biological resources to acceptable and less than significant levels, and the incremental effects of the Project would have less than significant impacts on biological resources.

Cultural Resources

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause cultural impacts depending on several variables, such as ground disturbing activities that could impact prehistoric and historical archaeological sites, paleontological resources, historic buildings, structures, or archaeological sites associated with agriculture and mining, and heritage landscapes. Impacts are less likely in areas that are previously disturbed. However, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Energy

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause temporary increases in energy demand associated with new facilities would include fuels used during construction, and gas and electric operational demands. While energy would be required to complete construction for any new or modified facilities or infrastructure projects, it would be temporary and limited in magnitude and would not result in sustained

increases in demand that would adversely affect energy supplies. Overall, while there would be some use of non-renewable resources for construction projects, the 2017 Scoping Plan includes actions to reduce energy demands, decrease reliance on fossil fuels and increase reliance on renewable energy sources.

The construction and operational activities associated with new renewable energy facilities could contribute to cumulative energy impacts. The City's 2022 Climate Action Plan anticipates actions that would be consistent with state and local plans to facilitate the shift to carbon-free and renewable energy, and implementation of the measures identified in the Climate Action Plan would reduce energy demand when compared with that previously identified in the City's General Plan and Final EIR. Overall, the Project would decrease the use of fossil fuels for customer-owned parallel generation, and the incremental energy-related effects of the Project would be less than cumulatively considerable.

Geology and Soils

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause geology and soils impacts depending on several variables, such as erosion, desertification, salinization, compaction, pollution, fault rupture and ground shaking potential associated with earthquake activity. These geologic, seismic, and soil-related conditions could result in damage to structures, related utility lines, and access roads, blocking access and posing safety hazards to people during construction and operation. However, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Greenhouse Gas Emissions

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction activities could result in increased generation of short-term GHG emission in limited amounts, associated with the use of heavy-duty equipment, materials transport, and worker commutes. Short-term construction related GHG emission impacts associated with the recommended actions of the 2017 Scoping Plan are considered less-than-significant when considered in comparison to the overall GHG reduction associated with implementation of the 2017 Scoping Plan. The long-term operational impacts to GHG emissions from the recommended actions are primarily beneficial.

The incremental effects of the Project would occur in the context of the City's contribution to climate change, which is determined to be cumulatively considerable and an unavoidable significant impact identified in the City's General Plan Final EIR. The incremental effects of the Project include avoiding additional use of natural gas or other fossil fuels for parallel generation consistent with the City's goal of achieving a carbon-neutral energy supply, adopted with the 2022 Climate Action Plan. The effects of operating renewable parallel generation would generally be beneficial for GHG emissions by using renewable resources. Additionally, the Project would make no potential changes in SVP's implementation of the 2018 IRP or SVP's procurement strategy to add renewable capacity to the existing portfolio. Therefore, the incremental effects of the Project would not result in a considerable contribution to a cumulative GHG emissions impact.

Hazards and Hazardous Materials

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction of renewable energy facilities could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. Operational impacts on hazards and hazardous materials would be less-than-significant due to the location of the projects being placed near existing manufacturing facilities, at a distance from

schools, public (or public use) airports, private airstrips, or wildlands; or on sites included on a list of hazardous materials sites or impair implementation of or physically interfere with an adopted emergency response or evacuation plan. However, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Hydrology and Water Quality

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause hydrology and water quality impacts depending on several variables, such as altering drainage patterns, flooding, and inundation by seiche, tsunami, or mudflow, depending on location. However, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Land Use and Planning

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause land use and planning impacts depending on several variables. Although land use impacts are less likely in areas zoned or used for manufacturing or industrial purposes, because zoning may allow electric generating facilities. However, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Noise

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause noise impacts depending on several variables. Increases in ambient noise levels could occur with construction activities, operation activities, and location of renewable energy projects near sensitive receptors, although noise impacts are less likely in areas zoned or used for manufacturing or industrial purposes where greater distances separate noise sources from sensitive receptors. However, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Population and Housing

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause population and housing impacts depending on several variables, such as size of the workforce or location of projects, although population and housing impacts are not likely due to the availability of construction workers. Operation impacts could occur if renewable energy facilities could require new housing or generate changes in land use, but this is similarly unlikely to occur. Nonetheless, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Public Services

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause public services impacts depending on several variables, such as the size of the workforce and location of specific projects, although impacts are not likely to occur because population growth is not expected. The potential for such impacts would not differ from the

potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Transportation

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause transportation impacts depending on several variables, such as short-term construction traffic, or emergency access issues from road closures although transportation impacts are less likely in areas zoned or used for manufacturing or industrial purposes. Nonetheless, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Tribal Cultural Resources

The construction and operational activities associated with new renewable energy facilities could contribute to cumulative tribal cultural resources-related impacts. The incremental effects of the Project could occur as a result of development of new renewable parallel generation at customer sites where development could affect tribal cultural resources. The addendum to the General Plan EIR for the 2022 Climate Action Plan indicates that there would be a less than significant impact on tribal cultural resources because the implementation of the General Plan policies and compliance with existing policies and programs would reduce impacts to unrecorded resources. The potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. Overall, the incremental effects of the Project would not contribute considerably to a cumulatively significant impact to tribal cultural resources.

Utilities and Service Systems

Previous analysis by ARB in the Final EA for the 2017 Scoping Plan indicates that construction and operation of renewable energy facilities could cause utilities and service system impacts. For example, certain renewable energy technologies could generate substantial increases in the demand for water supply, wastewater treatment, storm water drainage, and solid waste services in their local areas. However, the potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact.

Wildfire

The City of Santa Clara General Plan EIR states that there are no wildfire hazards as defined by the California Department of Forestry and Fire Hazard Protection in the City of Santa Clara. In terms of fire protection, as discussed in Public Services, the General Plan would not substantially impact fire protection in the City of Santa Clara.

Proposals for new or modified renewable parallel generation facilities in the City are unlikely to be located at sites that could exacerbate wildfire risks. The incremental effects of the Project would have less than significant impacts on wildfire. The potential for such impacts would not differ from the potential impacts of non-renewable facilities that might be constructed without the Project. As such, the Project would not have any cumulatively considerable impact. Overall, the incremental wildfire related effects of the Project would be less than cumulatively considerable.

5. ALTERNATIVES

5.1. Introduction to Alternatives Analysis

5.1.1. State CEQA Guidelines Requirements

The State CEQA Guidelines require that an EIR include a comparative evaluation of the proposed project with a range of reasonable alternatives. Section 15126.6(a) of the CEQA Guidelines states:

An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.

This section therefore describes potentially feasible alternatives that both (1) attain most of the Project's basic objectives and (2) substantially lessen the Project's environmental impacts.

Attain Most of the Project Objectives. With the Project described in EIR Chapter 2, the City seeks to achieve the following objectives:

- Require new or modified parallel generation facilities in the City to meet the state criteria for renewable electrical generation facilities for the purposes of limiting greenhouse gas emissions in the City and increasing the use of renewable electrical generation facilities in the City.
- Limit the installation of and investment in new fossil-fueled electrical generation technologies in the City.
- Ensure that new or modified parallel generation in the City occurs in a manner consistent with the statewide policy to transition to a zero-carbon electric system by December 31, 2045, as in California Public Utilities Code, Section 454.53(a).
- Ensure that new or modified parallel generation in the City is consistent with the goals of reducing the community's GHG emissions as set forth in the City's 2022 Climate Action Plan (CAP) Update, adopted in June 2022.

Substantially Lessen the Project's Significant Environmental Impacts. The environmental impacts of the Project are presented in EIR Chapter 3. The range of alternatives identified by the City strives to avoid or substantially lessen the effects of the Project, and the impacts of each alternative are described in this section.

As described in the analyses in EIR Chapter 3, Environmental Analysis, the Project would result in certain impacts, none of which would be potentially significant. For the Project's impacts that occur at a less than significant level, alternatives evaluated in this EIR have been identified to attempt to further reduce or avoid those impacts.

This alternatives analysis uses the approach described in EIR Chapter 1, Introduction, by considering whether approving an alternative to the Project would directly or indirectly change the physical environment. The alternatives analysis focuses on whether the alternatives could generally avoid any potential impacts identified for the Project.

5.1.2. Selecting a Range of Alternatives

The Project subject to CEQA review would be consistent with California's statutes and orders to promote renewable resources and reduce GHG emissions. In California's overall framework for promoting renewable resources and reducing GHG emissions, the City must occasionally carry out projects and take actions within its jurisdiction to advance California's goals.

The range of reasonable alternatives considered by the City is limited to those that would feasibly attain most of the basic objectives of the Project. In this case, the Project objectives include supporting California's overall climate action efforts. Accordingly, the scope of this analysis excludes alternatives that could conflict with California's overall efforts to promote use of renewable resources and reduce GHG emissions. Within this constraint, the range of alternatives includes actions that could lessen the Project's environmental impacts while supporting California's long-term efforts to reduce GHG emissions and adapt for the consequences of climate change.

The State CEQA Guidelines require consideration of the No Project Alternative (Section 15126.6(e)) and selection of a range of reasonable alternatives (Section 15126.6(d)). The environmental impact analyses for these alternatives in comparison to the Project, including a description of the alternatives, are provided in Sections 5.2 to 5.4. The No Project Alternative considers the continuation of customer-owned parallel generation in the City using fossil fuels.

5.1.3. Alternatives Evaluated in this EIR

The following alternatives are evaluated as part of this EIR:

- No Project Alternative
- Renewable Phase-in Alternative
- Net Carbon Neutral Alternative

5.2. No Project Alternative

5.2.1. Description of this Alternative

The No Project Alternative considers the option of taking no action on the Renewable Parallel Generation Facilities Resolution and making no changes to SVP's Rules and Regulations. Without the Project, customers could continue to negotiate interconnection agreements with SVP for parallel generation using non-renewable resources, including natural gas fuel cell systems, as in the existing conditions.

This alternative would not attain the Project objectives, because the No Project Alternative would allow continued use of natural gas and any other fossil fuel for new or modified parallel generation in the City.

5.2.2. Basis for the No Project Alternative

Consideration of the No Project Alternative is required by the State CEQA Guidelines Section 15126.6(e). The analysis of the No Project Alternative must discuss the existing conditions at the time the Notice of Preparation (NOP) was published (EIR Appendix A, released July 31, 2020), as well as what would be

reasonably expected to occur in the foreseeable future if the Project were not approved, based on current plans and consistent with available infrastructure and community services.

The CEQA Guidelines describe two types of no-project alternatives, both of which apply here. For projects that involve the revision of an existing land use, ongoing operation, or regulatory plan or policy, the no-project alternative will be the continuation of that existing regulatory plan or policy, or operation into the future [CEQA Guidelines Section 15126.6(e)(3)(A)]. This guidance would apply to this project. If the City takes no action on the Renewable Parallel Generation Facilities Resolution and makes no changes to SVP's Rules and Regulations, the No Project Alternative includes ongoing provision of all existing services by SVP and no requirement for new or modified parallel generation facilities to meet the criteria for renewable electrical generation facilities.

For projects other than described above, such as development proposals on identifiable property, the no project alternative represents the effects of the property remaining in its existing state [CEQA Guidelines Section 15126.6(e)(3)(B)]. This type of no-project alternative typically applies to projects proposing construction. In this case, the Project would amend SVP's Rules and Regulations, and the amendments would not directly or indirectly result in the approval of any specific construction activities. Under the No Project Alternative, SVP would take no action and would not amend SVP's Rules and Regulations. SVP would continue to accept interconnection requests from new or modified parallel generation facilities that use non-renewable resources.

Under the No Project Alternative, as in existing conditions, customers proposing development of non-renewable parallel generation facilities that have obtained all applicable development permits would be allowed to negotiate interconnection agreements with SVP. To disclose the potential impacts caused by customers that could develop new parallel generation facilities using either renewable resources or fossil fuels, the analysis of the No Project Alternative describes in general terms the types of environmental effects that could be induced or expected to follow as a result of construction or operation of new or modified parallel generation facilities. Both renewable and non-renewable parallel generation would continue to be permitted and developed as they currently are.

5.2.3. Impacts of the No Project Alternative

Compared with the existing conditions, the No Project Alternative would represent no change in the types of facilities allowed to interconnect to SVP's distribution system. Physical changes to the environment could occur as a result of customers undertaking construction and operation of renewable and non-renewable parallel generation.

Aesthetics. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in development at sites that are unlikely to substantially change the existing urbanized visual character of the City. The impacts to aesthetics would be similar in nature to those of the Project.

Air Quality. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in emissions of air pollutants including toxic air contaminants caused by customer-sited generation facilities depending on the technology and fuel choices.

Existing parallel generation facilities in the City are primarily natural gas fuel cell systems and solar PV facilities. Emissions factors for new or modified natural gas fuel cell systems can be estimated

from the technical specifications for these facilities, as typical in the City.⁴¹ Technical specifications for a typical installation of a 0.25 MW to 0.3 MW natural gas fuel cell unit show that each unit consumes natural gas at the customer site and creates on-site air pollutant emissions of up to: NOx: 0.0017 lb/MWh, VOC: 0.01 lb/MWh, and CO: 0.012 lb/MWh (Bloom, 2022). New or modified parallel generation facilities using fossil fuels or an alternative gaseous renewable fuel may also be sources of toxic air contaminants, which are likely to be exempt from the BAAQMD requirement to prepare a health risk assessment if each toxic air contaminant would be emitted below threshold quantities of daily and annual TAC emission rates tabulated in BAAQMD Rule 2-5.⁴²

New parallel generation units proposed by customers would likely qualify for the ARB's Distributed Generation Certification Program. For fossil fuel generating units that are eligible for Distributed Generation Certification, the emissions standards are not to be exceeded at the following rates: NOx: 0.07 lb/MWh; VOC: 0.02 lb/MWh; and CO: 0.10 lb/MWh (see also Section 3.3, Air Quality, Table 3.3-4). These emission factors are approximately equal to those of receiving power from grid resources in the existing conditions (see Table 3.3-5).

The use of parallel generation under the No Project Alternative would have similar air quality impacts compared to the Project.

Biological Resources. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in impacts to biological resources similar in nature to those of the Project.

Cultural Resources. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in historical or archaeological resources, or human remains being disturbed by construction. The impacts to cultural resources similar in nature to those of the Project.

Energy. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in use of natural gas or an alternative gaseous renewable fuel for customer-sited generation. Existing energy procurement policies approved in November 2018 by the City Council and established in SVP's current Integrated Resource Plan (2018 IRP) anticipate that only renewable resources will be added to SVP's existing portfolio of grid resources. The 2018 IRP demonstrates that growing peak demand will be met by adding renewable capacity.

The City has established building standards to increase electrification of building energy use and policies to phase-out the use of natural gas, through City Ordinance No. 2034, which could reduce the availability natural gas infrastructure at some sites in the future. The commitment to transition the City's electricity supply to renewable and carbon-neutral resources is further established in the City's 2022 Climate Action Plan. The No Project Alternative would have no effect on the electricity supply, because it would not change customers' demand for electric service.

⁴¹ Bloom Energy Server 5 technical specifications indicate that the fuel heat input rate per kilowatt-hour of electricity produced ranges from 5,811 to 7,127 Btu/kWh (Bloom, 2019).

⁴² According to Bloom Energy Corporation, Form 10-K, *Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2021* (Feb. 25, 2022), p. 30: the Bloom Energy Server emits benzene and chromium (hexavalent, 6+) at levels that may be exempt from the requirement to prepare a health risk assessment, *i.e.*, below the BAAQMD's trigger levels (Table 2-5-1 of Rule 2-5).

The No Project Alternative would allow continued use of natural gas or other fossil fuels for new or modified parallel generation, and this feature of the No Project Alternative would be inconsistent with the City's plans for promoting increased use of renewable resources in the City. The No Project Alternative would increase impacts to energy resources compared to the Project because customer-owned generation could include additional fossil fueled resources.

Geology and Soils. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in disturbance with a very low possibility of encountering previously unknown paleontological resources or unique geologic features, or causing an adverse effect due to geologic hazards. The impacts to geology and soils would be similar in nature to those of the Project.

Greenhouse Gas Emissions. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in additional GHG emissions caused by customer-sited generation facilities using natural gas or fossil fuels.

Existing parallel generation facilities in the City are primarily natural gas fuel cell systems or solar PV facilities. Emission factors for new or modified natural gas fuel cell systems can be estimated from the technical specifications for these facilities, as typical in the City.⁴³ Technical specifications for a typical installation of a 0.25 MW to 0.3 MW natural gas fuel cell unit show that each unit consumes natural gas at the customer site and creates on-site GHG emissions at a rate of 679 to 833 lb/MWh or 0.308 to 0.378 MTCO₂e/MWh (Bloom, 2022). Natural gas fuel cell systems may also deteriorate in efficiency during the useful life of the system, which would gradually increase GHG emissions from the parallel generation.⁴⁴ In contrast, the carbon emissions intensity for serving the City's electrical demand from grid resources was 0.302 MTCO₂e/MWh in 2016 and 0.172 MTCO₂e/MWh in 2018 (see Section 3.8, Greenhouse Gas Emissions, Table 3.8-2), and the City has adopted plans and policies to ensure that this factor continues to decrease going forward. This demonstrates that serving the electrical demand of customers from SVP grid resources would on average generate fewer GHG emissions per MWh than using a typical customer-sited natural gas-fired parallel generation.

The City's established plans and policies for increasing the procurement of energy from renewable electricity sources appear in SVP's current Integrated Resource Plan (2018 IRP) approved in November 2018 by the City Council, and this commitment is expanded to include carbon-neutral resources in the City's 2022 Climate Action Plan. The No Project Alternative would allow continued use of natural gas or other fossil fuels for new or modified parallel generation, and this effect of the No Project Alternative would be inconsistent with the City's plans for the reduction of GHG emissions.

The additional use of fossil-fueled parallel generation under the No Project Alternative would increase GHG emissions compared to the Project.

⁴³ Bloom Energy Server 5 technical specifications indicate that the fuel heat input rate per kilowatt-hour of electricity produced ranges from 5,811 to 7,127 Btu/kWh (Bloom, 2022).

⁴⁴ According to Bloom Energy Corporation, Form 10-K, *Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 for the fiscal year ended December 31, 2021* (Feb. 25, 2022), p. 23: if delays occur scheduled or unscheduled maintenance, the Energy Server systems will likely experience adverse performance impacts including reduced output and/or efficiency, which could result in warranty and/or guaranty claims by customers.

Hazards and Hazardous Materials. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in impacts due to hazardous materials routinely used to operate generation technologies that are dependent on fossil fuels or an alternative gaseous renewable fuel. The use of parallel generation under the No Project Alternative would have similar hazards and hazardous materials impacts compared to the Project.

Hydrology and Water Quality. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in additional use of groundwater, or alteration of drainage patterns although it is expected to be minimal for construction of this type. Impacts could include impeding flood flows or pollutants being released if the system is inundated due to flood. The use of parallel generation under the No Project Alternative would have similar impacts on hydrology and water quality compared to the Project.

Land Use and Planning. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could have similar impacts to the Project. Individual proposals would not be likely to physically change a community or environment, or cause a conflict with plans, policies or regulations.

Noise. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in noise and vibration levels during construction, or during operation of mechanical equipment necessary to support parallel generation technologies. The use of parallel generation under the No Project Alternative would have similar noise and vibration impacts compared to the Project.

Population and Housing. Construction and operation of renewable or non-renewable parallel generation facilities at customer sites could result in deployment of construction crews to install the technology, although parallel generation facilities are normally unmanned. It is unlikely that the use of renewable or non-renewable parallel generation would cause population growth. The use of parallel generation would not generate any change in population levels. The impact to population and housing under the No Project Alternative would be similar to the Project.

Public Services. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in a fire risk due to the delivery and use of fossil fuels or an alternative gaseous renewable fuel at customer's sites, although this risk would be adequately supported by the existing fire protection services. The use of parallel generation under the No Project Alternative would have similar impacts to public services compared to the Project.

Transportation. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in impacts to transportation due to construction. Individual proposals for parallel generation under the No Project Alternative would have similar impacts compared to the Project.

Tribal Cultural Resources. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative would have similar impacts compared to the Project.

Utilities and Service Systems. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in a disruption of existing utility systems or cause a collocation accident as a result of bringing fossil fuels

or an alternative gaseous renewable fuel to customer's sites. The use of parallel generation under the No Project Alternative would have similar impacts to utilities and service systems compared to the Project.

Wildfire. For customers undertaking development of renewable or non-renewable parallel generation at customer sites, the No Project Alternative could result in risk of fire due to installation of technology that could ignite fires, such as distribution lines or system component failures and accidents during maintenance activities. However, there are no wildfire hazards in the City. The impacts related to wildfire would be similar to those of the Project.

5.3. Renewable Phase-in Alternative

5.3.1. Description of this Alternative

The Renewable Phase-in Alternative would amend SVP's Rules and Regulations to allow the interconnection of new or modified parallel generation only if the owner of the generation can demonstrate a renewable energy content equivalent to the prevailing Renewables Portfolio Standard (RPS). California's electric utilities are currently subject to the RPS of 33 percent by 2020, as codified by Senate Bill X1-2 (Simitian, Chapter 1, Statutes of 2011).

This alternative would allow a mix of new non-renewable parallel generation in the City under the condition that the technology can phase-in use of renewable resources to achieve 100 percent of its energy output from renewable or zero-carbon resources by December 31, 2045. For new or modified parallel generation interconnected after December 31, 2020, the owner would need to demonstrate that 33 percent of the total energy produced is derived from a renewable energy resource. The City would also require the owners to phase-in an increasingly greater renewable energy content equivalent to the prevailing RPS.

Going forward under this alternative, the owner of the generation facility would need to demonstrate achieving the following milestones consistent with those established by SB 100 (De León, Chapter 312, Statutes of 2018): so that the total energy produced by the customer-owned parallel generation achieves 44 percent from renewable energy resources by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030, and 100 percent of the electricity produced by the parallel generation would need to be from renewable and zero-carbon resources by 2045.

Under this alternative, customers could continue to develop fossil fueled parallel generation capacity additions, including natural gas fuel cells, as long as the customer-sited generation uses renewable energy resources for a growing fraction of its energy output. The renewable resources likely to be used in this alternative include biogas and biomethane or "green hydrogen," which is hydrogen gas derived from a non-fossil-based fuel or feedstock through a process powered using an eligible renewable energy resource. These resources would be subject to the eligibility requirements set forth by the CEC's RPS Eligibility Guidebook (CEC, 2017).

This alternative would attain most Project objectives because, similar to the Project, this alternative would promote a transition to renewable resources for customers installing parallel generation, although the transition would be gradually phased-in. By following California's overall trajectory for use of renewable resources in the electricity supply, this alternative would promote a more-gradual transition to renewable resources for parallel generation when compared to the Project.

5.3.2. Impacts of the Renewable Phase-in Alternative

Compared with existing conditions, the Renewable Phase-in Alternative would require use of renewable resources for a portion of new or modified parallel generation facilities proposed by customers. Physical changes to the environment could occur as a result of customers undertaking construction and operation of phased-in renewable parallel generation facilities.

Aesthetics. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in development at sites that are unlikely to substantially change the existing urbanized visual character of the City. This alternative would result in impacts to aesthetics similar in nature to those of the Project.

Air Quality. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in additional emissions of air pollutants including toxic air contaminants caused by customer-sited generation facilities using natural gas or fossil fuels blended with a renewable fuel. The use of parallel generation on a mix of fossil fuels and renewable fuels under this alternative would have similar air quality impacts compared to the Project.

Biological Resources. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in impacts to biological resources similar in nature to those of the Project.

Cultural Resources. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in historical or archaeological resources, or human remains being disturbed by construction. This alternative would result in impacts to cultural resources similar in nature to those of the Project.

Energy. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in use of natural gas or other fossil fuels blended with a renewable fuel for customer-sited generation. This alternative would allow continued use of natural gas or other fossil fuels for new or modified parallel generation, and this feature of the alternative would be inconsistent with the City's plans for promoting increased use of renewable resources in the City. As such, the Renewable Phase-in Alternative would increase impacts to energy resources compared to the Project.

Geology and Soils. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in disturbance with a very low possibility of encountering previously unknown paleontological resources or unique geologic features, or causing an adverse effect due to geologic hazards. This alternative would result in impacts to geology and soils similar in nature to those of the Project.

Greenhouse Gas Emissions. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in additional GHG emissions caused by customer-sited generation facilities using natural gas or fossil fuels blended with a renewable fuel. This alternative would allow continued use of natural gas or other fossil fuels for new or modified parallel generation, and this effect of the alternative would be inconsistent with the City's plans for the reduction of GHG emissions. Until customers are able to phase-in use of renewable and zero-carbon resources to 100 percent of the energy supply, the additional use of fossil-fueled parallel generation that could occur under this alternative relative to the renewable parallel generation that would occur with the Project would cause additional GHG emissions when compared to the Project.

Hazards and Hazardous Materials. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in impacts due to hazardous materials routinely used to operate generation technologies that are dependent on blending fossil fuels with a renewable fuel. The use of parallel generation under this alternative would have similar hazards and hazardous materials impacts compared to the Project.

Hydrology and Water Quality. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in additional use of groundwater, or alteration of drainage patterns although it is expected to be minimal for construction of this type. Impacts could include impeding flood flows or pollutants being released if the system is inundated due to flood. The use of parallel generation under this alternative would have similar impacts on hydrology and water quality compared to the Project.

Land Use and Planning. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could have similar impacts to the Project. Individual proposals would not be likely to physically change a community or environment, or cause a conflict with plans, policies or regulations.

Noise. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in noise and vibration levels during construction or operation for parallel generation technologies. The use of parallel generation under this alternative would have similar noise and vibration impacts compared to the Project.

Population and Housing. Construction and operation of phased-in renewable parallel generation facilities at customer sites could result in deployment of construction crews to install the technology, although parallel generation facilities are normally unmanned. It is unlikely that parallel generation would cause population growth. The use of parallel generation would not generate any change in population levels. The impact to population and housing for this alternative would be similar to the Project.

Public Services. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in a fire risk due to the delivery and use of fossil fuels blended with a renewable fuel at customer's sites, although this risk would be adequately supported by the existing fire protection services. The use of parallel generation under this alternative would have similar impacts to public services compared to the Project.

Transportation. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in impacts to transportation due to construction. Individual proposals for parallel generation under this alternative would have similar impacts compared to the Project.

Tribal Cultural Resources. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative would have similar impacts compared to the Project.

Utilities and Service Systems. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in a disruption of existing utility systems or cause a collocation accident as a result of bringing fossil fuels blended with a renewable fuel to customer's sites. The use of parallel generation under this alternative would have similar impacts to utilities and service systems compared to the Project.

Wildfire. For customers undertaking construction and operation of phased-in renewable parallel generation, this alternative could result in risk of fire due to installation of technology that could ignite fires, such as distribution lines or system component failures and accidents during maintenance activities. However, there are no wildfire hazards in the City. This alternative would result in impacts similar to those of the Project.

5.4. Net Carbon Neutral Alternative

5.4.1. Description of this Alternative

The Net Carbon Neutral Alternative would amend SVP's Rules and Regulations similar to the Project except with an additional provision to allow interconnection of non-renewable parallel generation that is verified by the City's Community Development Department to cause no net carbon increase. The City's 2022 Climate Action Plan establishes a pathway toward achieving net carbon neutrality. Carbon neutrality refers to net zero GHG emissions caused by fossil fuel use within the City; one City policy in the 2022 CAP (Action B-1-7) allows use of carbon offsets as needed for new data centers to achieve 100 percent carbon neutral energy (City of Santa Clara, 2022).

This alternative would allow use of non-renewable resources for new or modified parallel generation facilities as long as the GHG emissions increase is fully offset. To achieve carbon neutrality for new or modified parallel generation, the City would require the parallel generation project owner to offset every ton of CO₂e emitted with an equivalent amount of CO₂e removed through a combination of nature-based solutions, carbon capture technology, and other carbon offset options (City of Santa Clara, 2022). Examples of nature-based solutions include forest management activities, such as thinning or prescribed burning, to promote natural carbon storage in forest vegetation and soils and to reduce the severity of catastrophic wildfires. Other means of achieving offsets may involve methane control at livestock operations or at mines or the recovery and destruction of refrigerants that have high global warming potential.

This alternative would attain most of the Project objectives because, similar to the Project, this alternative would promote a transition to renewable resources while ensuring no net increase in GHG emissions for customers installing non-renewable parallel generation.

5.4.2. Impacts of the Net Carbon Neutral Alternative

Compared with existing conditions, the Net Carbon Neutral Alternative would require new or modified parallel generation facilities in the City to use renewable resources, except non-renewable parallel generation could be used as long as the GHG emissions increase is fully offset. Physical changes to the environment could occur as a result of customers implementing nature-based solutions, carbon capture technology, and other carbon offset options.

Aesthetics. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in off-site activities to offset GHG emissions. For example, nature-based solutions could require increased forest management, such as thinning or prescribed burning to improve carbon uptake by vegetation. Depending on the sites of offsetting actions, this alternative could substantially change the visual character of the area. This alternative would result in greater impacts to aesthetics than those of the Project.

Air Quality. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in additional emissions of air pollutants including toxic air contaminants caused by off-site activities to offset GHG emissions, such as increased forest

management such as thinning or prescribed burning. The additional actions to offset GHG emissions would increase air quality impacts compared to the Project.

Biological Resources. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in additional impacts to biological resources caused by off-site activities to offset GHG emissions, such as increased forest management actions. This alternative would result in greater impacts to biological resources than those of the Project.

Cultural Resources. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in historical or archaeological resources, or human remains being disturbed by off-site activities to offset GHG emissions. This alternative would result in greater impacts to cultural resources than those of the Project.

Energy. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in additional use of fossil fuels for off-site activities to offset GHG emissions, such as increased forest management actions. This alternative would increase impacts to energy resources compared to the Project.

Geology and Soils. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in off-site activities to offset GHG emissions. Additional ground disturbance could occur with a possibility of encountering previously unknown paleontological resources or unique geologic features, or causing an adverse effect due to geologic hazards. This alternative would result in greater impacts to geology and soils than those of the Project.

Greenhouse Gas Emissions. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in off-site activities to offset GHG emissions. Any additional GHG emissions caused by customer-sited generation facilities using natural gas or fossil fuels would be offset. As a result, this alternative would have similar GHG emissions impacts when compared to the Project.

Hazards and Hazardous Materials. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in off-site activities to offset GHG emissions. Additional impacts could occur if off-site activities cause an increase in hazardous materials to be used. The additional actions to offset GHG emissions under this alternative would increase hazards and hazardous materials impacts compared to the Project.

Hydrology and Water Quality. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in additional activities to offset GHG emissions involving the use of groundwater or surface water. The additional off-site activities to offset GHG emissions would increase impacts on hydrology and water quality compared to the Project.

Land Use and Planning. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in off-site activities to offset GHG emissions. For example, nature-based solutions could require increased forest management. Depending on the sites of offsetting actions, this alternative could increase the potential for land use impacts when compared to the Project.

Noise. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in additional noise and vibration levels caused by off-site

activities to offset GHG emissions. The additional offsetting actions under this alternative would increase noise and vibration impacts compared to the Project.

Population and Housing. Construction and operation of non-renewable parallel generation facilities at customer sites could result in deployment of construction crews to install the technology, although parallel generation facilities are normally unmanned. Depending on the sites of activities to offset GHG emissions, this alternative could increase the potential for an impact to population and housing when compared to the Project.

Public Services. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in off-site activities to offset GHG emissions. For example, nature-based solutions could require increased forest management. The additional off-site activities to offset GHG emissions under this alternative would increase impacts to public services compared to the Project.

Transportation. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in off-site activities to offset GHG emissions that could increase the potential for impacts to transportation compared to the Project.

Tribal Cultural Resources. For customers undertaking construction and operation of non-renewable parallel generation, this alternative would result in off-site activities to offset GHG emissions that would result in greater impacts to tribal cultural resources than those of the Project.

Utilities and Service Systems. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in off-site activities to offset GHG emissions that could increase the potential for a disruption of existing utility systems or a collocation accident. The additional off-site activities under this alternative would increase impacts to utilities and service systems compared to the Project.

Wildfire. For customers undertaking construction and operation of non-renewable parallel generation, this alternative could result in additional risk of fire due to off-site activities to offset GHG emissions, such as increased forest management actions. This alternative would result in greater impacts related to wildfire risk than those of the Project.

5.5. Alternatives Considered but Rejected

In addition to the alternatives retained for full analysis, other alternatives were considered but rejected as either failing to attain most of the Project objectives or failing to substantially lessen the environmental impacts of the Project. Because the Project objectives are supportive of California's overall climate action efforts, the range of alternatives was limited to those likely to promote use of renewable resources and reduce GHG emissions. Similarly, any alternative found to be infeasible was also rejected.

The alternatives identified during scoping include transitioning all sources of power in the City over time to all renewable electrical generation. This suggested alternative would presumably change SVP's Rules and Regulations or City ordinances to mandate use of renewable resources by existing SVP-owned facilities as well as existing, new and modified customer-owned generation facilities. SVP is presently planning for and undertaking actions to ensure that all SVP resources achieve the RPS requirements including the SB 100 target for a zero-carbon energy supply by December 31, 2045 (SVP, 2019). The plan to transition SVP's electricity supply into using 100 percent eligible renewable energy resources and zero-carbon resources is a feature of the foreseeable future regardless of whether the Project is or is not approved. Customer-owned generation facilities that are in-use today can reasonably be expected to be retired at the end of their useful service life or gradually converted to low-carbon fuels consistent with statewide

trends. This alternative was not carried forward for detailed impact analysis because it would not be reasonable and it could potentially be infeasible for the City to mandate conversion of existing customer-owned parallel generation facilities into all renewable generation.

Another alternative identified during scoping, would establish a performance standard for GHG emissions applicable to interconnection of new or modified non-renewable parallel generation technologies provided that the technology makes efficient use of fossil fuel. This suggested alternative would require amending SVP's Rules and Regulations to implement either a fuel efficiency standard or a GHG emission performance standard for new interconnecting resources. Presumably, this alternative would mimic the GHG standard already established by Senate Bill 1368 (Perata, Chapter 598, Statutes of 2006), which limits long-term investments in baseload generation by the state's utilities (Public Utilities Code, Section 8340 et seq.). SVP has been subject to the existing procurement standard under SB 1368 since 2007 and is planning for 100 percent of total retail sales of electricity to come from eligible renewable energy resources and zero-carbon resources, consistent with SB 100 (see EIR Chapter 1). To establish new GHG performance standards for parallel generation, the City could use an approach similar to the Renewable Phase-in Alternative described in Section 5.3. This alternative was not carried forward for detailed analysis because the Renewable Phase-in Alternative could be expected to achieve a similar outcome by continuing to allow some future continued development of new, efficient, and lower-emitting non-renewable parallel generation.

5.6. Environmentally Superior Alternative

In conjunction with the analysis of the No Project Alternative, the CEQA Guidelines [Section 15126.6 (e)(2)] considers this situation: *"If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives."*

For this Project, the analysis of the environmental topics in this EIR Chapter 3, Environmental Analysis, demonstrates that the Project would have no impact or no significant adverse impact. The analyses of the alternatives indicate that each alternative, including the No Project Alternative, would increase impacts to energy resources and greenhouse gas emissions, when compared to the Project.

Aside from the No Project Alternative, the Renewable Phase-in Alternative and Net Carbon Neutral Alternative were carried forward for analysis as they would be likely to attain most of the Project objectives or partially attain the Project objectives. The Renewable Phase-in Alternative would have overall impacts similar to those of the Project, and the Net Carbon Neutral Alternative would introduce greater impacts than the Project by adding potential for off-site activities that could be necessary to offset GHG emissions. Among all alternatives including the No Project Alternative, the Project best obtains the Project objectives without creating significant adverse impacts and would be environmentally superior.

6. OTHER CEQA CONSIDERATIONS

Chapter 6 includes discussions of other topics required by CEQA and topics of environmental and socioeconomic concern. These include: Section 6.1, Environmental Justice; Section 6.2, Significant and Unavoidable Impacts; Section 6.3, Significant Irreversible and Irretrievable Commitment of Resources; and Section 6.4, Growth-inducing Impacts.

6.1. Environmental Justice

The California Governor's Office of Planning and Research is the state's coordinating agency for environmental justice programs. Although environmental justice is not a topic in the consideration of environmental effects under CEQA, this discussion is provided for informational purposes.

The California Government Code requires consideration of environmental justice by local governments, and the Governor's Office of Planning and Research provides guidelines for integrating environmental justice into local planning decisions. State law defines "environmental justice" as "the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." [Gov. Code, § 65040.12(e)(1); see also Pub. Resources Code, §§ 71110-71118].

In this consideration of environmental justice, a disadvantaged community is an area that is:

- Disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation; and/or
- Characterized by concentrations of people that are of low income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, or low levels of educational attainment.

The California Environmental Protection Agency (CalEPA) was directed by Senate Bill 535 (2012, de Leon) to develop a comprehensive approach to identifying disadvantaged communities within the State by using public health and environmental hazard criteria in addition to socioeconomic data. Through this refined approach, the State definition of disadvantaged communities was expanded to include areas that are disproportionately impacted by environmental pollution and negative public health effects. To provide a tool to State agencies for identifying disadvantaged communities within California, CalEPA and the Office of Environmental Health Hazard Assessment developed a comprehensive screening methodology in 2013 known as CalEnviroScreen (California Communities Environmental Health Screening Tool).

The CalEnviroScreen model uses U.S. Census tract data as a geographic scale for identifying disadvantaged communities within California. For each Census tract, CalEnviroScreen calculates an overall score by combining a range of individual indicator scores categorized as Pollution Burden and Population Characteristics, then multiplying the Pollution Burden and Population Characteristics scores to produce a final score. After taking into consideration legislative direction, comparative markers of being disadvantaged and basic principles of fairness, CalEPA designates disadvantaged communities as those census tracts having a CalEnviroScreen score in the top 25 percent (75th percentile). A higher percentile indicates a higher potential relative burden.

The City includes areas with a disproportionately high level of pollution burden combined with relatively favorable population characteristics in terms of income and employment. Data from 2017 shows areas in the north and east of the City that are categorized as disadvantaged communities. However, according to scores from the current version of CalEnviroScreen, no part of the City would be designated as a disadvantaged community.

Within the City of Santa Clara are portions of approximately 22 separate census tracts. According to CalEnviroScreen 4.0 (CalEPA, 2022), no census tracts in the City indicate a Pollution Burden score in the 90th percentile or above, and the Population Characteristics scores are less than the 50th percentile. The favorable population characteristics result in no census tracts in the City having a CalEnviroScreen score above the 75th percentile. Environmental topics with no potentially significant impact would not result in disproportionate adverse impacts to disadvantaged communities. As described above, no significant impacts are anticipated to occur as a result of the Project.

6.2. Significant Environmental Effects Which Cannot Be Avoided if the Project Is Implemented

6.2.1. Significant Direct or Indirect Effects

Section 15126.2(c) of the State CEQA Guidelines requires an EIR to describe any significant impacts that cannot be avoided, including those impacts that can be mitigated but not reduced to a less-than-significant level. Where there are impacts that cannot be alleviated without imposing an alternative, their implications, and the reasons the project is being proposed, notwithstanding their effect, should be described.

Chapter 3, Environmental Analysis, of this EIR describes the Project's potential environmental impacts and determines that the Project would result in certain impacts, none of which would be potentially significant. With no potentially significant impacts, none of the impacts would require mitigation measures to reduce impacts to a level of insignificance. There would be no significant and unavoidable direct or indirect environmental impacts for the Project.

Note that these conclusions apply to the Project as proposed and described in EIR Chapter 2, Project Description. The analyses of the alternatives in EIR Chapter 5, Alternatives, indicate that each alternative, including the No Project Alternative, would increase impacts to air quality, energy resources, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, public services, and utilities and service systems, when compared to the Project.

6.2.2. Significant Cumulative Effects

As defined in Section 15355 of the State CEQA Guidelines, the term cumulative impacts "refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." Individual effects that may contribute to a cumulative impact may be from a single project or several separate projects. Individually, the impacts of a project may be relatively minor, but when considered along with impacts of other closely related or nearby projects, including newly proposed projects, the effects could be cumulatively considerable.

The cumulative impact analysis is included in EIR Chapter 4, Cumulative Impacts. This EIR has considered the potential cumulative effects of the Project for each issue area in Chapter 3. The Project would have no impact or less-than-significant impacts for all of the environmental topics discussed in this EIR Chapter 3, Environmental Analysis. For topics that have no impact, there would be no incremental effect that could be cumulatively considerable. The cumulative impacts analysis of the incremental effects of the Project in this EIR uses the previously approved ARB Scoping Plan, BAAQMD Clean Air Plan, and City of Santa Clara General Plan to demonstrate that, overall, the incremental effects of the Project would not be cumulatively considerable.

6.3. Irreversible/Irretrievable Commitment of Resources, Short and Long-Term Uses of the Environment

Section 15126.2(d) of the State CEQA Guidelines requires a discussion of any irreversible or irretrievable commitments of resources that would be caused by implementation of a project or its alternatives. According to Section 15126.2(d), “[u]ses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely.” Both primary and secondary impacts generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with a project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. Therefore, the purpose of this analysis is to identify any significant irreversible environmental effects of project implementation that cannot be avoided.

Resources irreversibly or irretrievably committed to a proposed project are those used on a long-term or permanent basis. This includes the use of non-renewable energy resources such as petroleum and fossil fuels, mineral resources and metals such as raw material for steel, agricultural resources, or other natural resources. These resources are considered irretrievable in that they could be committed to a proposed project by an agency’s action when they could have been conserved or used for other purposes. Another irreversible or irretrievable commitment of resources is the unavoidable destruction of natural resources that could limit the range of potential short- and long-term uses of that environment.

The Project would change SVP’s Rules and Regulations to require new or modified parallel generation facilities to meet the criteria for renewable electrical generation facilities as defined in Section 25741 of the California Public Resources Code. An objective of the Project is to limit the installation of and investment in new fossil-fueled technologies in the City by increasing the production of electricity from renewable energy resources for users of electricity in the City.

The Project would not directly or indirectly result in the approval of any specific construction activities that could cause a significant change in the environment. For customers that choose to develop parallel generation in the City, development activities could cause consumption of non-renewable resources as needed to construct new renewable parallel generation facilities at customer sites. These activities could generate small quantities of construction debris and waste, emissions from non-renewable fuels used during construction and for routine upkeep, and a minor demand for ongoing utility services and public services during operations. Customers that propose discretionary parallel generation facility projects that meet the City’s definition of an electric power plant would be subject to project-specific CEQA review if not exempt.

With the Project, only new or modified parallel generation using renewable resources would be allowed to negotiate interconnection agreements with SVP, and the Project would contribute to a reduction in demand for fossil fuel used to generate electricity, if customers decided to increase the use of new renewable parallel generation. This would result in an overall positive effect counteracting the potential use of non-renewable resources caused by development activities related to renewable parallel generation in the City. A full discussion on the Project’s impacts related to energy consumption is provided in EIR Section 3.6, Energy.

6.4. Growth Inducing Impacts

Section 15126.2(e) of the State CEQA Guidelines requires discussion of growth-inducing impacts in the EIR. In general terms, a project may induce spatial, economic, or population growth in a geographic area if it meets any one of the four criteria identified below:

- Removal of an impediment to growth, e.g., establishment of an essential public service or the provisions of new access to an area;
- Economic expansion or growth, e.g., changes in revenue base or employment expansion;
- Establishment of a precedent-setting action, e.g., an innovation, a change in zoning, or general plan amendment approval; or
- Development or encroachment in an isolated area or open space (being different from an “infill” type of project).

Should a project meet any one of the criteria listed above, it can be considered growth-inducing. The impacts of approving the Renewable Parallel Generation Facilities Resolution and amending SVP’s Rules and Regulations are evaluated below with regard to these four growth-inducing criteria.

Removal of an impediment to growth. The Project would limit the interconnection of new or modified parallel generation to the distribution system to those facilities meeting the criteria for renewable electrical generation facilities. By limiting the types of new or modified parallel generation in the City, the Project would prevent future construction and operation of new or modified parallel generation using non-renewable resources. The Project would not by itself create any new incentive toward developing additional renewable resources or cause any new renewable parallel generation facilities to be built. The Project would not remove any impediment to growth, as it would not change the ability of customers to obtain electric utility service from SVP or interconnect renewable electrical generation facilities. The Project would not result in the establishment of an essential public service, and it would not provide new access to an area or resource that was previously inaccessible. As a result, the Project is not considered to cause any growth inducement under this criterion.

Economic expansion or growth. Short-term and/or long-term economic growth and growth in the demand and use of electricity can be expected to continue to occur in the City due to the high density of data centers, and planned addition of new data centers, that drive a higher energy demand within the SVP territory (CEC, 2019). The growing demand could drive customers to propose new or modified parallel generation facilities or other on-site energy solutions such as energy storage systems. The potential for the Project to result in new use of parallel generation would be limited to those customers that might otherwise have proposed development of non-renewable parallel generation facilities deciding to undertake development of substitute renewable parallel generation instead. Development of new parallel generation facilities at customer sites could result in short-term deployment of construction crews to install the renewable technologies. If the demand for renewable energy resources derived from biomass or biomethane increases and the available supply of the renewable resource grows as a result of new parallel generation in the City, the Project could indirectly create employment growth for suppliers of these renewable fuels. To the extent that this could occur, it would be offset by indirectly reducing employment for suppliers of non-renewable fuels. Because renewable parallel generation facilities are normally unmanned or remotely operated, there would be little potential for direct employment growth. The Project would be unlikely to measurably contribute to an increase in the revenue base for the State of California or the City through tax revenues. Economic growth associated with the project is not considered to be significant.

Establishment of a precedent-setting action. The Project would amend SVP’s Rules and Regulations to require new or modified parallel generation facilities to meet the criteria for renewable electrical generation facilities. The Project would not by itself create any new incentive toward developing additional renewable resources or cause any new renewable parallel generation facilities to be built. Parallel generation normally occurs to serve existing customer demand and maximizes the use of existing infrastructure by providing an on-site energy solution for customers. The Project would prevent future

construction and operation of new or modified parallel generation using non-renewable resources. The Project would not establish a precedent-setting action such as a change in zoning or an innovation that could be growth inducing under this criterion.

Development or encroachment in an isolated area or one adjacent to open space. The Project would not directly or indirectly result in the approval of any specific construction activities. By definition, parallel generation involves the production and delivery of electric power electrically connected to SVP's distribution system. New or modified parallel generation facilities proposed for interconnection would need to be near SVP's distribution system and within or near the customer's site of electricity use. Previously developed and disturbed areas are the locations most likely to see proposals for new or modified parallel generation facilities. Sites for parallel generation are likely to be adjacent to or near the buildings of the customers' site of electricity use, which are generally not in isolated areas or adjacent to public open space. Therefore, the Project would not result in development or encroachment within an isolated area or one adjacent to open space and is not considered to be growth inducing under this criterion.

7. LIST OF PREPARERS

This EIR is an interdisciplinary team effort, and internal review of the document occurs throughout preparation. A consultant team headed by Aspen Environmental Group provided technical assistance in the preparation of this document under the direction of the City of Santa Clara.

The preparers and technical reviewers of this document are presented below, along with a list of organizations consulted.

Table 7-1. List of Preparers and Reviewers

Name	Position	Primary Responsibility
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Kevin Kolnowski	Electric Utility Chief Operating Officer	Project Manager, Lead Agency
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Brewster Birdsall, P.E.	Senior Associate	Project Manager, Air Quality, Energy, Greenhouse Gas Emissions and Environmental Analyses
Hedy Koczwara	Principal-in-Charge	Quality Assurance/Quality Control
Fritts Golden	Senior Associate	Quality Assurance/Quality Control and Environmental Analyses
Grace Weeks	Environmental Scientist	Environmental Analyses
Aurie Patterson	Environmental Scientist	Geology, Soils, Hazards, Hazardous Materials
Sharon Heesh	Associate	Document Production

Organizations consulted include public reports and databases made available by the California Energy Commission (CEC), California Air Resources Board (ARB), as well as those of the City of Santa Clara and SVP, as identified in EIR Section 8, References.

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Appendix A

NOTICE OF PREPARATION AND SCOPING COMMENTS

Appendix A - Notice of Preparation and Scoping Comments

Contents of Appendix A

- Notice of Preparation, dated July 31, 2020
- Copies of Scoping Comments

Index of Scoping Comments

Type of Comment	Commenter	Date of Comment Letter
Group A - Agencies		
A001	Native American Heritage Commission	8/4/2020
A002	City of San Jose Airport Department	8/13/2020
A003	California Department of Fish and Wildlife, Bay Delta Region	8/28/2020
Group B - Organizations		
B001	Bloom Energy, Shawn M Soderberg	9/2/2020



The Center of What's Possible

Date: July 31, 2020

To: Responsible Agencies, Trustee Agencies, Interested Parties and Organizations

Lead Agency: City of Santa Clara - Silicon Valley Power
Contact: Kevin Kolnowski, Electric Utility Chief Operating Officer
881 Martin Avenue
Santa Clara, CA 95050

Subject: Notice of Preparation of an Environmental Impact Report for the Requirement for New or Modified Parallel Generation Facilities to Utilize Renewable Generation and Fuel Sources

Project Title: City of Santa Clara Renewable Parallel Generation Facilities Resolution

Location: Silicon Valley Power Service Territory

Case Files: CEQ2020-01076

The City of Santa Clara is preparing an Environmental Impact Report (EIR), consistent with the California Environmental Quality Act (CEQA), to determine any potentially significant adverse environmental impacts of implementing Resolution No. 19-8701 and amending Silicon Valley Power's Rules and Regulations. The City Council passed and adopted Resolution No. 19-8701 on May 7, 2019 to limit the interconnection of Parallel Generation to the distribution system to facilities meeting the criteria for renewable electrical generation facilities as defined in the California Public Resources Code. For the purposes of the EIR, Resolution No. 19-8701 will also be referred to as the Renewable Parallel Generation Facilities Resolution.

In accordance with Section 15082 of the CEQA Guidelines, this Notice of Preparation (NOP) will be circulated to the public, responsible agencies, trustee agencies, interested parties and organizations for input regarding the analysis in the EIR. The City of Santa Clara requests your input regarding the scope and content of the environmental analysis, including the significant environmental issues, reasonable range of alternatives, and mitigation measures to include in the EIR. Details regarding the project description appear in the attached NOP.

Written comments must be received or postmarked by September 4, 2020.

Please send your comments to:

Kevin Kolnowski, Electric Utility Chief Operating Officer
City of Santa Clara - Silicon Valley Power
881 Martin Avenue
Santa Clara, CA 95050

Email comments to: parallelgeneration@aspenerg.com

To request documents by mail or to comment by phone: 408-213-8115

You may view a Public Scoping Presentation online at: www.santaclaraca.gov/ceqa

Notice of Preparation (NOP)
of an Environmental Impact Report (EIR)
City of Santa Clara Renewable Parallel Generation Facilities Resolution

1. Project Title

Renewable Parallel Generation Facilities Resolution

2. Lead Agency Name and Address

The City of Santa Clara operates its Electric Department as Silicon Valley Power or SVP. The City of Santa Clara is the lead agency for review of the project under CEQA because it must make a decision whether to implement the Renewable Parallel Generation Facilities Resolution and change Silicon Valley Power's Rules and Regulations.

City of Santa Clara - Silicon Valley Power
881 Martin Avenue
Santa Clara, CA 95050

3. Contact Person and Phone Number

Kevin Kolnowski, Electric Utility Chief Operating Officer
E-mail: KKolnowski@SantaClaraCA.gov
Phone: 408-615-5601

4. Project Location

Silicon Valley Power furnishes electric services in accordance with rules and regulations adopted by the City of Santa Clara to any Customer within the corporate limits of the City of Santa Clara, and to areas outside City limits as the City may designate.

The City of Santa Clara covers an area of 18.2 square miles. The City is situated between San Jose to the north, east, and south, and Sunnyvale and Cupertino to the west (Figure 1).

5. Project Sponsor's Name and Address

City of Santa Clara - Silicon Valley Power
881 Martin Avenue
Santa Clara, CA 95050

6. Description of Project

Consistent with the CEQA, the City is preparing an environmental document to determine any potentially significant adverse environmental impacts of implementing the Renewable Parallel Generation Facilities Resolution and amending Silicon Valley Power's Rules and Regulations.

On May 7, 2019, the City Council passed and adopted Resolution No. 19-8701 (referred to here as the

Notice of Preparation

Renewable Parallel Generation Facilities Resolution). Parallel Generation, as defined in SVP's Rules and Regulations, is the production and delivery of electric power electrically connected to SVP's distribution system by generators not owned or controlled by SVP. Implementing Resolution No. 19-8701 would amend SVP's Rules and Regulations to require new or modified parallel generation facilities to meet the criteria for renewable electrical generation facilities as defined in Section 25741 of the California Public Resources Code.

The proposed amendments to SVP's Rules and Regulations would:

- Define "renewable electrical generation facility" to align with Section 25741 of the California Public Resources Code;
- Clarify that SVP will only accept requests to interconnect generating facilities that are intended to operate in parallel with SVP's distribution system if the facility qualifies as a "renewable electrical generation facility" as defined in California Public Resource Code Section 25741;
- Require all customers interconnecting with SVP's distribution system with a qualifying renewable electrical generation facility (except solar photovoltaic systems, which are considered inherently eligible), to provide the following:
 - Preliminary renewable eligibility certification from the California Energy Commission (CEC) prior to interconnection with the SVP system;
 - Final CEC certification within 180 days of the interconnection; and
 - Annual attestation signed by the customer or documentation from a CEC approved reporting entity, such as the Western Renewable Energy Generation Information System (WREGIS), that verifies that the generation facility is in current status and proof of the renewable energy credit retirement applicable to the calendar year generation.
 - In addition, SVP may request documentation providing evidence of CEC renewable certification of the renewable electrical generation facility at any time.

These proposed amendments to the SVP Rules and Regulations do not apply to emergency or standby backup generation that runs on a limited, emergency basis, and typically does not operate in parallel with the electric utility system. SVP will also continue to encourage microgrids that are comprised of renewable generation facilities and energy storage options.

7. Environmental Impact Report

This NOP is a required publication at the outset of the EIR process. The EIR will provide a programmatic environmental assessment of the potential consequences of the proposed amendments to the SVP Rules and Regulations. It will discuss how the proposed amendments to the SVP Rules and Regulations could potentially affect the environment, identify any significant impacts, and recommend measures to mitigate those impacts. The EIR will also consider the potential environmental impacts of alternatives and identify an environmentally superior alternative.

The "No Project" Alternative will evaluate the impacts resulting from continued use of existing SVP Rules and Regulations without amendments to implement Resolution No. 19-8701. Under this Alternative, the resolution would not go into effect, and SVP's Rules and Regulations would not require new or modified parallel generation facilities to utilize renewable generation and fuel sources.

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Other alternatives that would avoid or lessen significant environmental effects related to the proposed amendments to the SVP Rules and Regulations will be analyzed. Although specific alternatives for the proposed amendments to the SVP Rules and Regulations have not yet been determined, we are soliciting your comments to help identify alternatives.

8. Surrounding Land Uses and Setting

The boundaries of the City of Santa Clara coincide with the municipal boundaries of San Jose to the north, east and south, and Sunnyvale and Cupertino to the west. The southern end of the San Francisco Bay is also just north of the City.

Silicon Valley Power furnishes electric services in accordance with the SVP Rules and Regulations and all other applicable City of Santa Clara resolutions and ordinances to any customer within the corporate limits of the City of Santa Clara, and to areas outside City limits as the City may designate.

9. Other Public Agencies Whose Approval Is Required

No other public agency action is required to implement the Santa Clara Renewable Parallel Generation Facilities Resolution. However, future development of electric generation facilities within the City may require approval of State, federal, and responsible trustee agencies that may rely on this EIR for information relative to their area of expertise and jurisdiction.

10. Potential Environmental Impacts to Be Considered

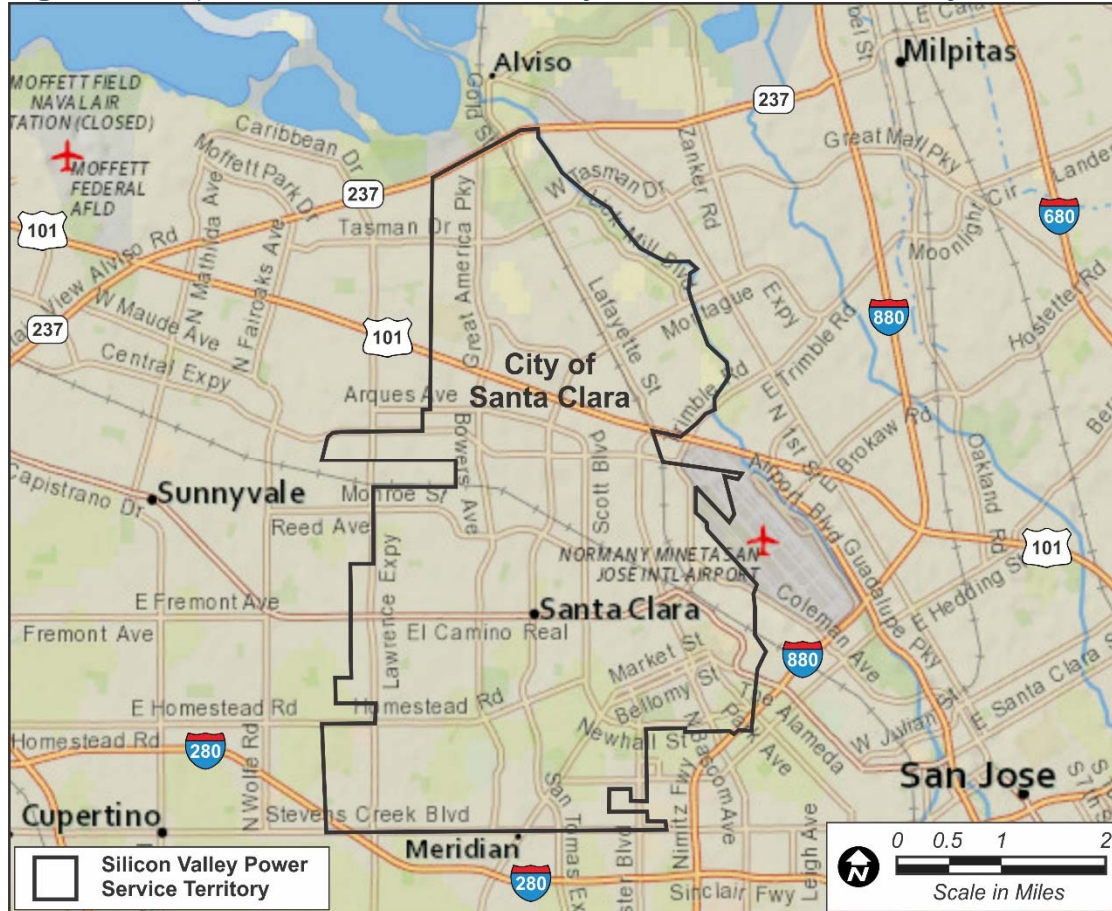
While the Draft EIR will address all impact areas included in Appendix G of the CEQA Guidelines, the primary topics of concern to be considered in the Draft EIR include:

- Air Quality and Public Health;
- Greenhouse Gas Emissions;
- Energy;
- Noise and Vibration; and
- Water Quality and Water Supply.

Pursuant to Section 15123(b)(2) of the CEQA Guidelines, an EIR shall identify areas of controversy known to the lead agency including issues raised by agencies and the public. This NOP will be distributed for a 30-day public review and comment period. Public comments may reflect concern and/or controversy over other environmental issues in addition to the potential environmental effects listed above.

Notice of Preparation

Figure 1. Project Location: Silicon Valley Power Service Territory





NATIVE AMERICAN HERITAGE COMMISSION

9/4/2020

August 4, 2020

Governor's Office of Planning & Research

Aug 07 2020

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EXECUTIVE SECRETARY
Christina Snider
Pomo

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

Re: 2020070579, Renewable Parallel Generation Facilities Resolution Project, Santa Clara County

Dear Mr. Kolnowski:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project:

Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- a. A brief description of the project.
- b. The lead agency contact information.
- c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1 (b)).

- a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- a. Alternatives to the project.
- b. Recommended mitigation measures.
- c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- a. Type of environmental review necessary.
- b. Significance of the tribal cultural resources.
- c. Significance of the project's impacts on tribal cultural resources.
- d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
- b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

- 7. Conclusion of Consultation:** Consultation with a tribe shall be considered concluded when either of the following occurs:
- a.** The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
 - b.** A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).
- 8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document:** Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).
- 9. Required Consideration of Feasible Mitigation:** If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).
- 10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:**
- a.** Avoidance and preservation of the resources in place, including, but not limited to:
 - i.** Planning and construction to avoid the resources and protect the cultural and natural context.
 - ii.** Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
 - b.** Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
 - i.** Protecting the cultural character and integrity of the resource.
 - ii.** Protecting the traditional use of the resource.
 - iii.** Protecting the confidentiality of the resource.
 - c.** Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
 - d.** Protecting the resource. (Pub. Resource Code §21084.3 (b)).
 - e.** Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
 - f.** Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).
- 11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource:** An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
- a.** The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
 - b.** The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
 - c.** The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
 - a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
 - b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: <http://nahc.ca.gov/resources/forms/>.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
 - a. If part or all of the APE has been previously surveyed for cultural resources.
 - b. If any known cultural resources have already been recorded on or adjacent to the APE.
 - c. If the probability is low, moderate, or high that cultural resources are located in the APE.
 - d. If a survey is required to determine whether previously unrecorded cultural resources are present.
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
 - a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
 - b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

- a.** A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
- b.** A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

- a.** Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, § 15064.5(f) (CEQA Guidelines § 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
- b.** Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
- c.** Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code § 7050.5, Public Resources Code § 5097.98, and Cal. Code Regs., tit. 14, § 15064.5, subdivisions (d) and (e) (CEQA Guidelines § 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,



Nancy Gonzalez-Lopez
Cultural Resources Analyst

cc: State Clearinghouse

Email: Renewable Parallel Generation EIR Team

From: Greene, Cary <CGreene@sjc.org>
Sent: Thursday, August 13, 2020 11:39 AM
To: Santa Clara Parallel Generation Project CEQA
Cc: Sheelen, Ryan
Subject: RE: Notice of Preparation, Renewable Parallel Generation EIR

The City of San Jose Airport Department appreciates receiving the subject NOP. We have no specific comments to offer on the scope of the forthcoming EIR beyond the following:

- The CEQA consultant and project staff are welcome to contact either myself at cgreene@sjc.org (408-392-3623) or Ryan Sheelen at rsheelen@sjc.org (408-392-1193) for any questions or information regarding San Jose International Airport.
- Please notify us when the Draft EIR is available for public review.

Thanks,
Cary Greene
Airport Planner, City of San Jose Airport Department



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



August 28, 2020

Mr. Kevin Kolnowski, Electric Utility Chief Operating Officer
City of Santa Clara - Silicon Valley Power
881 Martin Avenue
Santa Clara, CA 95050
KKolnowski@santaclaraca.gov
parallelgeneration@aspeneq.com

Subject: Renewable Parallel Generation Facilities Resolution, Notice of Preparation of
a Programmatic Draft Environmental Impact Report, SCH No. 2020070579,
City and County of Santa Clara

Dear Mr. Kolnowski:

The California Department of Fish and Wildlife (CDFW) received the Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) from the City of Santa Clara (City) for the Renewable Parallel Generation Facilities Resolution (Project) pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife resources. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is a Trustee Agency with responsibility under CEQA §15386 for commenting on projects that could impact fish, plant and wildlife resources. CDFW is also considered a Responsible Agency if a project would require discretionary approval, such as permits issued under the California Endangered Species Act (CESA), the Native Plant Protection Act, the Lake and Streambed Alteration (LSA) Program and other provisions of the Fish and Game Code that afford protection to the State's fish and wildlife trust resources. Pursuant to our jurisdiction, CDFW has the following concerns, comments, and recommendations regarding the Project.

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

Mr. Kevin Kolnowski, Electric Utility Chief Operating Officer
City of Santa Clara - Silicon Valley Power
August 28, 2020
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PROJECT DESCRIPTION SUMMARY

Proponent: City of Santa Clara - Silicon Valley Power (SVP)

Objective: The City of Santa Clara operates its Electric Department as Silicon Valley Power within the 18.2-square-mile area of the City of Santa Clara and to areas outside City limits as the City may designate. The City proposes to adopt a resolution that will amend SVP's Rules and Regulations to require new or modified parallel generation facilities to meet the criteria for renewable electrical generation facilities.

Location: City of Santa Clara, Santa Clara County.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

The NOP, in Section 10 on page 4, states that the draft EIR will address all impact areas included in Appendix G of the CEQA Guidelines. However, the primary topics of concern to be considered in the draft EIR include Air Quality and Public Health, Greenhouse Gas Emissions, Energy, Noise and Vibration, and Water Quality and Water Supply. Appendix G includes Biological Resources. CDFW agrees with the City's decision that the draft EIR will include analysis of all impact areas in Appendix G, including Biological Resources.

The NOP Section 6, page 2 and 3, discuss the Description of the Project. It is unclear as to what direct or indirect physical change the Project may have on biological resources. CDFW recommends that the draft EIR clearly analyze the Project direct or indirect impacts on biological resources.

Due to the limited information provided in the NOP, CDFW is providing the general comments below with regards to potential impacts of the Project to special-status species and mitigation measures to offset any unavoidable impacts.

Impacts to Special Status Species and Nesting Birds

CDFW is concerned regarding potential impacts to special-status species that may be present within the Project location, including, but not limited to, those listed below (CDFW 2020, habitat assessment).

- Salt-marsh harvest mouse (*Reithrodontomys raviventris*) - State Endangered and Fully Protected, Federal Endangered

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- Salt-marsh wandering shrew (*Sorex vagrans halicoetes*) - State Species of Special Concern (SSC)
- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*) - State SSC
- Pallid bat (*Antrozous pallidus*) - State SSC
- Townsend's big-eared bat (*Corynorhinus townsendii*) - State SSC
- Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) - State SSC
- White-tailed kite (*Elanus leucurus*) - State Fully Protected
- Tricolored blackbird (*Agelaius tricolor*) - State Threatened
- Alameda song sparrow (*Melospiza melodia pusillula*) - State SSC
- Western burrowing owl (*Athene cunicularia*) - State SSC
- Western pond turtle (*Emmys marmorata*) - State SSC
- California red-legged frog (*Rana draytonii*) - Federally Threatened, State SSC
- Steelhead (*Oncorhynchus mykiss irideus* pop. 8), Central California Coast Distinct Population Segment - Federally Threatened
- Longfin smelt (*Spirinchus thaleichthys*) - State Threatened, Federally Candidate for Endangered or Threatened

State Fully Protected Species and Nesting Birds:

State fully protected small mammals and nesting birds may occur within the Project area. Without appropriate mitigation measures, the Project could potentially have a significant impact on these species.

Recommended Potentially Feasible Mitigation Measures:

1. Habitat Assessment: A qualified biologist should conduct a habitat assessment in advance of Project implementation, to determine if the Project site or its vicinity contains suitable habitat for special-status small mammals and nesting bird species.
2. Small Mammal and Bird Nest Surveys: A focused survey using appropriate protocols should be conducted by qualified biologists at Project locations prior to Project implementation. If Project activities are to take place during the avian nesting season, an additional pre-Project activity survey for active nests should be conducted by a qualified biologist no more than seven days prior to the start of Project activity.
3. Avoidance: If special-status small mammals are found, work activities should stop and the individual should be allowed to leave the site through its own volition. If an active bird nest is found within or adjacent to the Project site, a no-disturbance buffer should be established and monitoring of the active nest should be conducted by a qualified biologist during all Project-related construction activities. The qualified biologist should increase the buffer if the birds are showing signs of

Mr. Kevin Kolnowski, Electric Utility Chief Operating Officer
City of Santa Clara - Silicon Valley Power
August 28, 2020
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unusual or distressed behavior such as defensive flights/vocalizations, standing up from a brooding position, or flying away from the nest. Buffers should be maintained until the eggs have hatched and young have fledged.

State Threatened or Endangered Wildlife Species:

State threatened wildlife species may occur within the Project area. Without appropriate mitigation measures, the Project could potentially have a significant impact on these species.

Recommended Potentially Feasible Mitigation Measures:

1. Habitat Assessment and Appropriate Project Design: A qualified biologist should conduct a habitat assessment in advance of Project implementation, to determine if the Project site or its vicinity contains suitable habitat for CESA-listed or candidate species.
2. State-listed Wildlife Species Focused Surveys: The Project location should be surveyed for State-listed wildlife species by a qualified biologist following protocol-level surveys. Protocol-level surveys are intended to maximize detectability. In the absence of protocol-level surveys being performed, additional surveys may be necessary.
3. State-listed Species Take Authorization: If State-listed wildlife species are identified during surveys and full avoidance of take is not feasible, the project proponents should apply to CDFW for take authorization through issuance of an Incidental Take Permit (ITP).

State Species of Special Concern

Wildlife SSC may occur within the Project area. Without appropriate mitigation measures, the Project could potentially have a significant impact on these species.

Recommended Potentially Feasible Mitigation Measures:

1. State Species of Special Concern Focused Surveys: The Project location should be surveyed for SSC by a qualified biologist following protocol-level surveys. Protocol-level surveys are intended to maximize detectability. In the absence of protocol-level surveys being performed, focused surveys for SSC presence, nests, or indicators of presence (e.g. bat guano and acoustic surveys) should be conducted.
2. State Species of Special Concern Avoidance: If SSC wildlife species are found within or adjacent to the Project site, the qualified biologist should establish a no-

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disturbance buffer appropriate for the species and conduct on-site monitoring during all Project-related activities. The draft EIR should include additional minimization and mitigation measures for each SCC wildlife species that could be potentially impacted by Project activities.

Impacts to Lake and Riparian Habitat

The Project area has the potential to contain water features subject to CDFW's lake and streambed alteration authority, pursuant Fish and Game Code § 1600 et seq. There may be a potential for Project implementation to have temporary and permanent impacts to these features.

Recommended Potentially Feasible Mitigation Measures:

1. **Habitat Assessment:** A qualified biologist should conduct a habitat assessment in advance of Project implementation, to determine if the Project area or its immediate vicinity supports freshwater marsh, wetland, and/or riparian communities. This survey should include, but not be limited to, ponds, Calabazas Creek, Saratoga Creek, Guadalupe River, other creeks or streams, and drainages.
2. **Wetland Delineation:** CDFW recommends a formal wetland delineation be conducted by a qualified biologist prior to Project construction to determine the location and extent of wetlands and riparian habitat present. Please note that, while there is overlap, State and Federal definitions of wetlands, as well as which activities require Notification pursuant to Fish and Game Code § 1602, differ. Therefore, CDFW further recommends that the delineation identify both State and Federal wetlands as well as which activities may require Notification to comply with Fish and Game Code.
3. **Notification of Lake or Streambed Alteration:** Fish and Game Code §1602 requires an entity to notify CDFW prior to commencing any activity that may (a) substantially divert or obstruct the natural flow of any river, stream, or lake; (b) substantially change or use any material from the bed, bank, or channel of any river, stream, or lake; (c) deposit debris, waste or other materials that could pass into any river, stream, or lake. CDFW is required to comply with CEQA in the issuance of an LSA Agreement. For additional information, please see <https://www.wildlife.ca.gov/Conservation/LSA>.

CDFW recommends consulting with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) on potential impacts to federally listed species. Consultation with the USFWS and NMFS in order to comply with the Federal Endangered Species Act is advised well in advance of Project implementation.

Mr. Kevin Kolnowski, Electric Utility Chief Operating Officer
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ENVIRONMENTAL DATA

CEQA requires that information developed in draft environmental impact reports be incorporated into a data base which may be used to make subsequent or supplemental environmental determinations. [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special-status species and natural communities detected during Project surveys to the California Natural Diversity Database (CNDDDB). The CNDDDB field survey form can be found at the following link:

<https://wildlife.ca.gov/Data/CNDDDB/Submitting-Data#44524420-pdf-field-survey-form>.

The completed form can be mailed electronically to CNDDDB at the following email address: CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

FILING FEES

CDFW anticipates that the Project will have an impact on fish and/or wildlife, and assessment of filing fees is necessary (Fish and Game Code, § 711.4; Pub. Resources Code, § 21089). Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW.

CONCLUSION

CDFW appreciates the opportunity to comment on the NOP to assist the City of Santa Clara in identifying and mitigating Project impacts on biological resources. Questions regarding this letter or further coordination should be directed to Ms. Kristin Garrison, Environmental Scientist at (707) 944-5534 or by email at

Kristin.Garrison@wildlife.ca.gov; or Ms. Brenda Blinn, Senior Environmental Scientist (Supervisory) at (707) 944-5541 or by email at Brenda.Blinn@wildlife.ca.gov.

Sincerely,

DocuSigned by:

BE74D4C93C604EA...
Gregg Erickson
Regional Manager
Bay Delta Region

cc: Office of Planning and Research, State Clearinghouse, Sacramento

LITERATURE CITED

California Department of Fish and Wildlife (CDFW). 2020. Biogeographic Information and Observation System (BIOS). <https://www.wildlife.ca.gov/Data/BIOS>. Accessed August 25, 2020.



September 2, 2020

Kevin Kolnowski, Electric Utility Chief Operating Officer
City of Santa Clara – Silicon Valley Power
881 Martin Avenue
Santa Clara, CA 95050

Re: Notice of Preparation of an Environmental Impact Report for the Requirement for New or Modified Parallel Generation Facilities to Utilize Renewable Generation and Fuel Sources

Dear Mr. Kolnowski

Bloom Energy is in receipt of the Notice of Preparation (NOP) for the Environmental Impact Report (EIR) for the Requirement for New or Modified Parallel Generation Facilities to Utilize Renewable Generation and Fuel Sources (the "Project" or "Resolution") and provides the following comments.

As set forth in prior correspondence and argued in prior California Environmental Quality Act (CEQA) litigation¹, Bloom has significant concerns about the Project inasmuch as it would represent a significant shift in the way Silicon Valley Power (SVP) customers can use and manage onsite energy usage. After reviewing the NOP, the City's objectives remain unclear. Absent additional information and explanation, it appears that the City is holding certain types of power to a higher standard than the California Energy Commission (CEC) and California Public Utilities Commission (CPUC) holds any source to, and the inconsistent approach of the Resolution may actually lead to impacts to the environment rather than reducing greenhouse gas emissions per the Renewable Portfolio Standard. Bloom expects the EIR will provide more information about the City's objectives and how the Project is the best means to achieving them in light of all relevant factors.

If approved, the Project will effectively ban the use of fuel cell technology in the SVP service area and, thereby, it has the potential to result in significant environmental impacts in several CEQA issue areas. The EIR's Project Description must acknowledge this basic fact and effectively analyze the environmental impacts, primary and secondary, associated with that ban.

At a minimum, it will be critical that the EIR fully and adequately analyze the issue areas set forth in the NOP, *i.e.*:

- Air Quality and Public Health;
- Greenhouse Gas Emissions;
- Energy;
- Noise and Vibration; and

¹ Bloom incorporates by reference its prior comments on Resolution No. 19-8701 as well as the pleadings and Order in Case No. 19CV348838 (*Bloom Energy Corporation v. City of Santa Clara*).

- Water Quality and Water Supply.

In addition, however, Bloom recommends that the City carefully consider the Project's potential impacts in the following additional areas where there is also a potential for significant environmental impacts:

- Utilities/Service Systems;
- Aesthetics;
- Land Use/Planning; and
- Wildfire.

In the context of the aforementioned analyses, it will be critical that the City considers how the Project will impact the prevalence of and use of diesel generators and the environmental implications of the same. No doubt, recent incidents involving diesel generators and carbon monoxide poisoning highlight the potentially significant environmental impacts which should be fully evaluated in the EIR. Moreover, potential impacts to disadvantaged communities in the vicinity of existing SVP installations warrant full and complete consideration. California is facing unprecedented power challenges. Distributed generation and microgrids are an increasingly important resiliency play, particularly in regions that are prone to wildfire. Foreclosing their future development in the City could have consequences that should also be considered and analyzed in the EIR.

Finally, to the extent the EIR determines the Project has the potential to result in significant environmental impacts, Bloom encourages the City to conduct a rigorous Alternatives Analysis, carefully considering whether there are alternatives to the Project that would achieve the City's objectives without effectively banning microgrid and fuel cell technology. For example, the Project could allow for natural gas and microgrid technology to support power needs that also minimize and/or eliminate the use of emergency diesel generators. The Project could also propose a performance standard (e.g., consistent with SB1368) that allows for technologies beyond those referenced in Section 25741 of the California Public Resources Code where said technologies make efficient use of fossil fuel and would avoid the potential environmental impacts of the current Project. Moreover, the Project could provide for a transition over time to all renewable electrical generation and apply the requirement to all sources of power, e.g., SVP facilities, as opposed to just those interconnecting to the SVP system. The EIR should evaluate any and all such alternatives that could have the effect of reducing the significant and unavoidable impacts that will likely result from the Project.

Bloom appreciates the opportunity to provide input on the NOP and looks forward to further dialog in connection with preparation of and review of the EIR.

Sincerely,



Shawn M Soderberg
Executive Vice President, General Counsel and Secretary

Appendix B

AIR POLLUTANT AND GHG EMISSION FACTORS

Renewable Parallel Generation Facilities Resolution

Air Pollutant and GHG Emission Factors Comparison

Emission Factors - Natural Gas Fuel Cell Systems, vendor technical specifications
Natural Gas Fuel Cell Systems - MWh production by non-renewable parallel generation

Technical Specifications	lb/MWh	lb/MWh	lb/MWh	lb/MWh	lb/MWh	CO ₂	MTCO ₂ e/ MWh
	NOx	VOC	CO	SO ₂	PM _{2.5}	GHG	GHG range
Bloom, 2022: NGFC (ES-5 300 kW specs)	0.0017	0.01	0.012	neg.	n/a	679	0.3080 (lower end factor)
* NOx and CO measured per CARB Method 100, VOCs measured as hexane by SCAQMD Method 25.3						833	0.3778 (higher end factor)
https://www.bloomenergy.com/wp-content/uploads/es5-300kw-datasheet-2022.pdf							
Bloom NGFC (ES-5 per ARB DG certification)	0.07	0.02	0.1				
Emission factors for NOx, CO, and VOC were obtained from CARB Executive Order DG-044, which certifies that Bloom Energy's ES-5 Fuel Cell Power Generation System complies with the emissions standards in CCR, Title 17, Section 94203.						ARB Ex Order DG-044	
Doosan, 2018: NGFC (PureCell 400, 440 kW specs)	0.02	0.01	0.01	neg.	neg.	998	0.4527
* electric power output only, no heat recovery							
https://www.doosanfuelcellpower.com/download/pdf/catalog/pafc-400kw_en.pdf							
FuelCell Energy, 2022: NGFC (1500 plant, 1400 kW specs)	0.01	n/a	n/a	0.0001	0.00002	980	0.4445
* electric power output only, no heat recovery							
https://go.fuelcellenergy.com/hubfs/1500-fuel-cell-power-plant.pdf							

Emission Factors - Example of Biogas Combustion, ARB DG Certification Standards
Renewable Parallel Generation - MWh production using renewable fuel (waste-gas) under ARB DG Certification Program

Distributed Generation Certification Program Emission Standards	lb/MWh	lb/MWh	lb/MWh	lb/MWh	lb/MWh	MTCO ₂ e/ MWh
	NOx	VOC	CO	SO ₂	PM _{2.5}	GHG
Waste Gas Emission Standards (after January 1, 2013)	0.07	0.02	0.1			n/a - renewable PRC 25741
* technologies using digester gas and landfill gas are subject to ARB DG Certification Standards for Waste Gas						

Emission Factors - Fossil Fueled Conventional Resources, examples of individual grid resources
Conventional Resources - MWh production using natural gas-fired power plants

	lb/MWh	lb/MWh	lb/MWh	lb/MWh	lb/MWh	CO ₂ lb/MWh	MTCO ₂ e/ MWh
Permitted Emissions Factors, gas-fired technologies	NOx	VOC	CO	SO₂	PM_{2.5}	GHG	GHG
Conventional CCGT (combined-cycle gas turbine power plant)	0.070	0.024	0.208	0.005	0.037	848	0.385 <i>mid-case</i>
Advanced CT (simple-cycle power plant)	0.099	0.031	0.190	0.008	0.062	1,156	0.524 <i>mid-case</i>
CEC Cost of Generation Model 2019 (Tables B-21 & B-22 in CEC-200-2019-500)							
https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/cost-generation-report							
* For EIR AQ assumptions: use Advanced CT factors for Non-RPS portion of mix of typical grid resources.							

Marginal Power Emission Factor, western power system

Unspecified Resources GHG Factor - Market Purchases

ARB Regulation for Mandatory Reporting of GHG Emissions (17 CCR 95111)

* For EIR GHG assumptions: use Unspecified Resources factor for Non-RPS portion of mix of typical grid resources.

**MTCO₂e/
MWh**
GHG
0.428

Emission Factors - Average Use of Grid Resources, mix of renewable and unspecified resources
Grid Resources - MWh production using power supply compliant with RPS targets

RPS by Year End	RPS Target	Non-RPS Fraction		lb/MWh	lb/MWh	lb/MWh	lb/MWh	lb/MWh	CO ₂ lb/MWh	MTCO ₂ e/ MWh
			RPS Compliant Retail Sales	NOx	VOC	CO	SO₂	PM_{2.5}	GHG	GHG
	30%	70%	Mix of Natural gas-fired or Unspecified Resources	0.069	0.022	0.133	0.006	0.043	660	0.2996
2020	33%	67%	Mix of Natural gas-fired or Unspecified Resources	0.066	0.021	0.127	0.005	0.042	632	0.2868
2024	44%	56%	Mix of Natural gas-fired or Unspecified Resources	0.055	0.017	0.106	0.004	0.035	528	0.2397
2027	52%	48%	Mix of Natural gas-fired or Unspecified Resources	0.048	0.015	0.091	0.004	0.030	453	0.2054
2030	60%	40%	Mix of Natural gas-fired or Unspecified Resources	0.040	0.012	0.076	0.003	0.025	377	0.1712
2045	100%	0%	Target 100% RPS-eligible and zero-carbon retail sales						n/a - zero carbon per SB 100	