

Section 1

Executive Summary

1.1 Introduction

Riverside Public Utilities (RPU) is seeking a Small Power Plant Exemption (SPPE) for a nominal 96-megawatt (MW) simple-cycle power plant within the City of Riverside, California. This proposed facility is referred to as the Riverside Energy Resource Center (RERC) Project (Project). RPU will develop, build, own and operate the facility. This SPPE has been prepared in accordance with the California Energy Commission's (CEC) Power Plant Site Certification Regulations. This Executive Summary provides an overview of the Project.

This SPPE provides:

- A detailed description of the proposed Project;
- An assessment of the Project's likely impact on the existing environment;
- Proposed mitigation measures to ensure that environmental issues are properly and responsibly addressed; and
- A discussion of applicable laws, ordinances, regulations and standards (LORS).

1.2 Project Overview

1.2.1 Facility Location

The proposed site is located at the northern terminus of Acorn Street in the City of Riverside, Riverside County, California. The Project site is within portions of sections 29, 30, 31, and 32, Township 2 South, Range 5 West, San Bernardino Base and Meridian, as depicted on the Riverside West USGS 7.5 Minute topographic quadrangle map. See Figure 1.2-1 Vicinity Map.

1.2.2 Facility Description

The Project will consist of two aero-derivative combustion turbine engines with selective catalytic reduction (SCR), an on-site switchyard, approximately 1.75 miles of 69kV transmission line, on-site natural gas and water supply interconnection, and on-site administration building and warehouse. The plant will provide summer peaking needs between May and October. All power produced by RERC will stay entirely within RPU's system.

Preliminary engineering indicates that the following on-site RERC Project facilities will include:

- Two simple-cycle combustion turbine generators with ducting for selective catalytic reduction (SCR) systems and 80-foot-tall stacks

- SCR systems for oxides of NO_x control
- SCR system tempering air fans and dilution air blowers
- Continuous emission monitoring and data acquisition systems (CEMS)
- An oxidation catalyst for CO control
- Chillers, cooling tower, pumps and auxiliary equipment
- Generator step-up transformers
- Station service transformers
- Aqueous ammonia storage tank
- Demineralized water and zero liquid discharge (ZLD) system
- Water treatment system
- Natural gas compressors
- Fire protection system
- Equipment enclosures
- Storage tanks for demineralized water and raw water
- Administrative office and warehouse
- Parking
- Combustion Turbine Generator (CTG) Control Houses
- Plant wastewater pumps
- Outdoor lighting systems

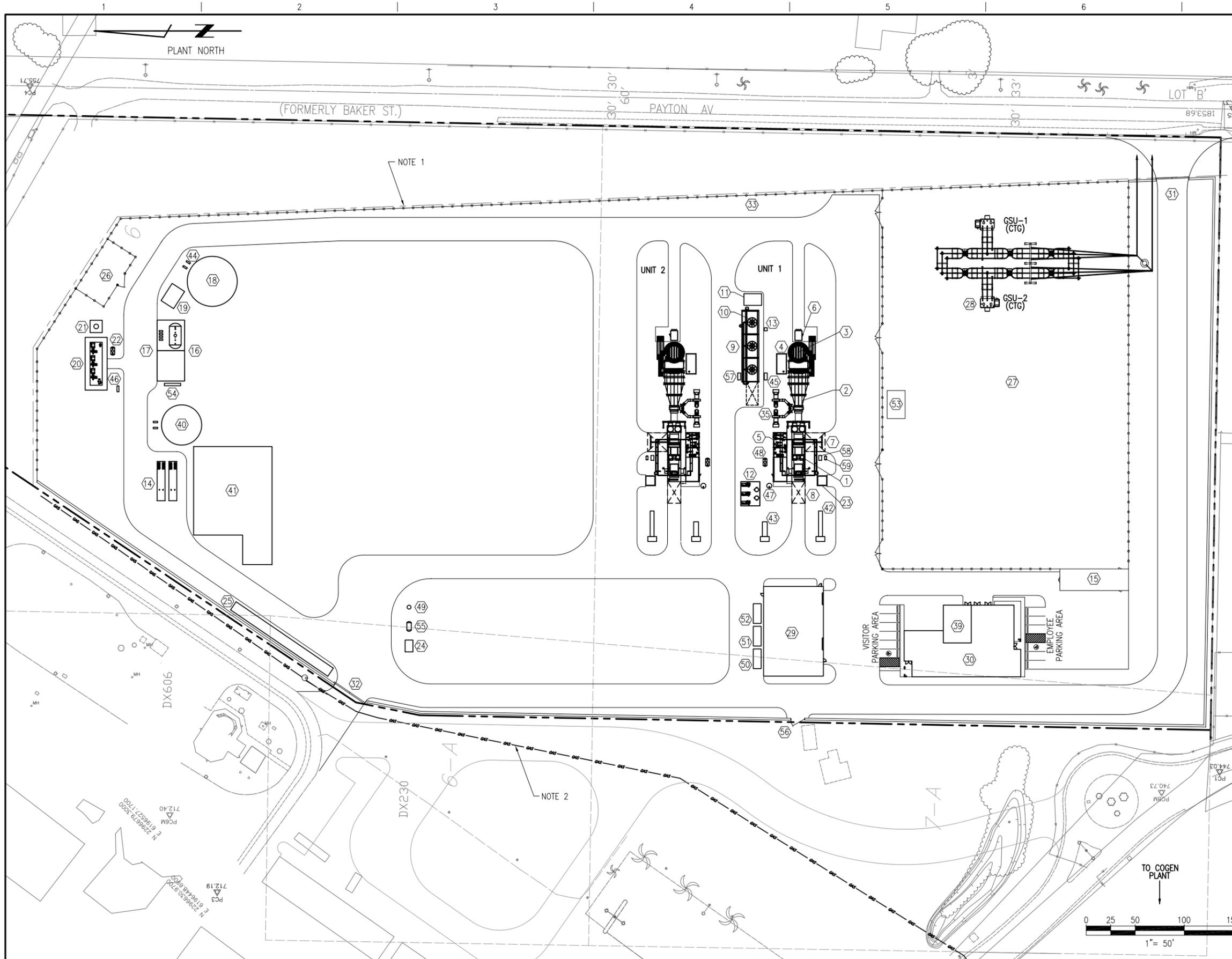
Off-site improvements include:

- Approximately 1.75 miles of 69kV subtransmission line in an easterly direction to RPU's existing Mt. View Substation

1.2.3 Site Layout

The proposed 12-acre site is owned by the City of Riverside and is located adjacent to the City of Riverside's Wastewater Treatment Plant (WWTP) and cogeneration plant in a light industrial/manufacturing area. The WWTP is located on the south side of the site boundary and has a 3.3 MW cogeneration facility. The cogeneration plant will be the source of power to black start the RERC plant. The two facilities will be cross-tied for both electrical power and compressed air.

The power plant and associated administration building and warehouse will occupy approximately 8 of the 12 acres with the additional 4 acres reserved for equipment storage and construction parking. A general arrangement plan drawing is shown in Figure 1.2-2. This drawing illustrates the location and size of the proposed power plant site area.



ITEM	DESCRIPTION	NOTES
1	COMBUSTION TURBINE GENERATOR	
2	SELECTIVE CATALYST REDUCTION UNIT	
3	EXHAUST STACK	80' HIGH
4	AMMONIA EVAPORATION SKID	
5	CTG AUXILIARY SKID	
6	CEMS SHELTER	
7	TURBINE REMOVAL AREA	
8	GENERATOR REMOVAL AREA	
9	CHILLER PACKAGE	
10	AUXILIARY COOLING TOWER	
11	AUX COOLING TOWER CHEM FEED SKID	
12	AIR COMPRESSOR/DRYER SKID & RECEIVER	3 COMPRESSORS PER 2 CTG'S
13	CTG LUBE OIL COOLING WATER PUMP SKID	
14	DEMINEALIZED WATER TRAILERS	
15	SWITCHYARD CONTROL SHELTER	22' x 75'
16	AQUEOUS AMMONIA STORAGE TANK AND PUMPS (4)	10' DIA x 19'-0" (12000 gal)
17	AQUEOUS AMMONIA UNLOADING PAD	
18	RAW/FIRE WATER STORAGE TANK	(500,000 gal)
19	FIRE WATER PUMP HOUSE	
20	FUEL GAS COMPRESSOR SKID	INCLUDES SOUND ENCLOSURE
21	FUEL GAS COMPRESSOR BYPASS COOLER	
22	FUEL GAS LIQUID DRAINS TANK	
23	CTG SWITCHGEAR	
24	PROCESS WATER SUMP AND PUMPS	
25	STORM WATER RETENTION/INFILTRATION BASIN	10' x 30'
26	GAS METERING STATION	
27	SUBSTATION	
28	GSU TRANSFORMER (2)	
29	WAREHOUSE	60' x 90'
30	ADMINISTRATION/CONTROL BUILDING	72' x 118'
31	MAIN PLANT ENTRANCE	SLIDING GATE
32	EMERGENCY PLANT ENTRANCE	SLIDING GATE
33	PLANT PERIMETER FENCE (10'-0" HIGH)	
34	NOT USED	
35	TEMPERING AIR FANS	
36	NOT USED	
37	NOT USED	
38	NOT USED	
39	CONTROL ROOM	
40	DEMINEALIZED WATER TANK & PUMPS (2)	(300,000 gal)
41	ZERO LIQUID DISCHARGE PLANT	
42	4160V MCC W/AUXILIARY TRANSFORMER	
43	480V SAS W/AUXILIARY TRANSFORMER	
44	RAW WATER PUMPS (2)	
45	480V SCR AREA MCC	
46	480V FUEL GAS COMPRESSOR AREA MCC	
47	COIL CONDENSATE TANK AND PUMP	
48	WATER WASH DRAIN TANK	
49	OILY WASTE COLLECTION SUMP & PUMPS	
50	FLAMMABLE STORAGE	8' x 20'
51	WASTE OIL STORAGE	8' x 20'
52	CHEMICAL STORAGE	8' x 20'
53	TRANSFORMER OIL SUMP	
54	480V BOP COMMON MCC	
55	OIL/WATER SEPARATOR	
56	EQUIPMENT/PERSONNEL ACCESS GATE	SLIDING GATE WITH MAN GATE
57	CHILLER REFRIGERANT DRAIN SUMP	
58	CTG FINAL FUEL FILTER SKID	
59	CTG FINAL FUEL FILTER DRAINS TANK	

LEGEND

---	PROPERTY LINE
---	SECURITY FENCE
---	EXISTING DIGESTER GAS LINE
---	SECURITY WALL

- NOTES**
- APPROXIMATE TOE OF SLOPE
 - ESTIMATED LOCATION OF GAS LINE. (NOT PART OF THE SURVEY).
 - COMBINED CYCLE CONFIGURATION HAS NOT BEEN SELECTED. PROVISIONS HAVE BEEN MADE FOR A 4 x 1, 4 x 2, OR TWO 2 x 1'S.
 - TRANSITION PIECE WAS ADDED BETWEEN CTG AND SCR TO AVOID AN INTERFERENCE BETWEEN THE TEMPERING AIR BLOWERS AND THE CTG AUXILIARY SKID. THIS TRANSITION PIECE MAY NOT BE USED. CTG MANUFACTURER WILL PROVIDE A SOLUTION.
 - EQUIPMENT SHOWN ON THIS DRAWING IS BASED ON THE BEST AVAILABLE INFORMATION. THIS DRAWING WILL NEED TO BE REVISED BASED ON ACTUAL VENDOR DRAWINGS AND DETAILED DESIGN.

M1-3.dwg

THIS DRAWING WAS PREPARED BY POWER ENGINEERS, INC. FOR A SPECIFIC PROJECT. MAKING INTO CONSIDERATION THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. RELIEF OF THIS DRAWING OR ANY INFORMATION CONTAINED IN THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH POWER AND POWER'S CLIENT IS GRANTED.

INTER-DISCIPLINE REVIEW							
DISC	ARCH	CIVIL	ELECT	HVAC	I&C	MECH	STRUCT
DATE	1/21/04	1/21/04	1/21/04		1/21/04	1/21/04	
INIT	SD	KW	LT		MAC	PR	

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
1	ADDED ZLD SYSTEM	4/26/04	JAB	JAB	JPB	JPB
2	ISSUED FOR BID	2/12/04	CEA	CEA	JPB	JPB
3	ISSUED FOR REVIEW	1/26/04	CEA	CEA	JPB	JPB
4	ISSUED FOR REVIEW	9/3/03	DC	LED	JPB	JPB

DSGN	LED	6/20/03
DRN	LED	6/20/03
CKD	JPB	6/20/03

SCALE: 1"=50'

FOR 22x34 DWG ONLY



RIVERSIDE PUBLIC UTILITIES		JOB NUMBER	REV
RIVERSIDE ENERGY RESOURCE CENTER		101414	△
PLANT ARRANGEMENT 2 X 0 SIMPLE CYCLE		DRAWING NUMBER	M1-3

1.2.4 Water Supply

RERC will use reclaimed water from the City of Riverside WWTP for process water needs. Potable water for sanitary use will come directly from the City's general water supply. The RERC's various water uses will include cooling tower makeup, combustion turbine water injection for NO_x controls and Sprint Injection, potable water for domestic use, and fire protection water.

1.2.5 Fuel Supply

Natural gas fuel will be supplied to RERC from a Sempra transmission line that passes next to the northeast corner of the site boundary. A short (~140 foot) natural gas service line will be constructed to connect from the existing Sempra transmission pipeline to the on-site meter station. The pipeline has a Maximum Allowable Operating Pressure (MAOP) of 584 psig and an operating pressure that varies between 350 and 537 psig.

1.2.6 Transmission Interconnection

An existing 69kV transmission line will be intercepted immediately outside of the City's Mountain View Substation and divided into two segments: the Mt. View to RERC Generation Substation and Riverside Substation to RERC Generation Substation segments. The new double-circuit 69kV line will extend approximately 9,000 feet from the intercept point to the RERC facility. No outside utilities would be involved. The new double-circuit line will be comprised of self-supporting galvanized steel and/or wood poles with top of pole heights approximately 80 feet. The existing distribution underbuild will be placed on cross arms and customer services will be transferred to the new poles. Existing communications circuits (cable and phone) will also be transferred and the City will extend their fiber optic loop from Mt. View to the RERC facility.

1.3 Project Ownership

RPU will develop, build, own and operate the proposed RERC facility in its entirety. RPU is a municipal utility offering water, electric and related services to over 100,000 customers within the City of Riverside. RPU's mission statement reads: "Riverside Public Utilities is committed to the highest quality water and electric services at the lowest possible rates to benefit the community." RPU's Board of Public Utilities is made up of seven City Council-appointed citizens and is charged with governing utility policies and representing the community. Board citizens serve four-year terms on a voluntary basis without compensation.

RPU owns the proposed 12-acre plant site. It is comprised of two parcels. The parcels are currently zoned Manufacturing Park (MP).

1.4 Site Selection and Alternatives Considered

RPU evaluated alternative sites during the planning stage of the Project. The main criteria considered in selecting a suitable site included appropriate land area, environmental compatibility, proximity to existing utilities including transmission lines, natural gas pipelines

and water supply, and compatibility with local land uses and zoning. This screening process narrowed down the number of potential sites to two, with the proposed site offering the best potential to meet RPU's goal while minimizing potential environmental impact.

1.5 Project Schedule

Construction of the RERC is anticipated to last approximately nine months following approval by the CEC and once all permits and authorizations are in place. Commencement of construction is anticipated in October 2004, with commercial operation of the first unit anticipated in May 2005 with the second unit available in July 2005 for the summer peaking season.

1.6 Environmental Considerations

Fourteen topics were investigated regarding the Project's potential affects on the natural and human environment. These topics are discussed in detail in Section 6 and include:

- Air Quality
- Land Use
- Biological Resources
- Cultural Resources
- Paleontological Resources
- Noise
- Public Health and Safety
- Traffic and Transportation
- Agriculture and Soils
- Geologic Resources
- Visual Resources
- Water Resources
- Hazardous Materials
- Socioeconomics

There would be no significant impact to the environment resulting from the construction or operation of the RERC Project. RPU would reduce potential impacts to insignificant levels by avoidance or by the implementation of reasonable and feasible mitigation measures. The potential impacts associated with selected topics that are typically of greater interest are summarized in this section.

1.6.1 Air Quality

The RERC Project is within the South Coast Air Basin and regulated by the South Coast Air Quality Management District (SCAQMD). The applicant is required to submit applications to construct the facility to both CEC and to the SCAQMD. SCAQMD is currently reviewing the application to construct and operate the facility and is expecting to coordinate with CEC during its review.

Based upon data compiled at nearby ambient monitoring stations, the region surrounding the facility is in attainment with state and federal ambient air quality standards for nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂) and lead. The region is in attainment with federal 24-hour standards for suspended particulate matter less than ten micrometers in diameter (PM₁₀), but is not in attainment with state 24-hour and annual average standards for PM₁₀ and suspended particulate matter less than 2.5 micrometers in diameter (PM_{2.5}). The region is classified as an extreme nonattainment area for federal and state O₃ standards.

The proposed turbines are subject to new source performance standards (CFR 40 Part 60, Subpart GG) because the turbines are rated above 25 MW. They are subject to the Acid Rain Program (CFR 40 Part 72), which is administered by SCAQMD via Regulation XXXI. The Project is subject to SCAQMD Regulation XIII – New Source Review and Rule 2005 – New Source Review for Regional Clean Air Incentives Market (RECLAIM) facilities. It is also subject to Title V of the U.S. Clean Air Act, which is administered by SCAQMD through Regulation XXX – Title V Permits. Due to the permit throughput limits, the proposed facility would not invoke Prevention of Significant Deterioration regulations (40 CFR Parts 51 and 52, and SCAQMD Regulation XVII).

A regulatory applicability and compliance evaluation was conducted to determine the ability of the proposed Project to comply with all applicable air quality regulations. The evaluation includes an emissions inventory; an air quality impact analysis for NO₂, CO, PM₁₀, PM_{2.5} and SO₂; a health risk screening assessment; an accidental release assessment for ammonia and an emissions offset requirement assessment. The evaluation considers the impacts of the Project during both construction and operation phases. The results of the evaluation indicate that the air quality impacts of the Project are below levels of significance or can be mitigated to levels that warrant authorization to construct the Project. The results of the evaluation also indicate that the proposed Project can be expected to comply with applicable federal, state and local air quality regulations.

1.6.2 Biological Resources

Land uses in the project vicinity are primarily light industrial/manufacturing. The proposed plant site is located immediately adjacent to the City of Riverside Waste Water Treatment Plant. The entire 12-acre plant site has been previously disturbed. The entire plant site had been used as a borrow area for the Tequesquite Landfill located about four kilometers to the east. About ten years ago, as much as approximately ten meters of soil was removed from the southern portion of the parcel, with less removed from the northern portion nearer the existing wastewater treatment plant facilities. As such, the elevation of the parcel was substantially lowered. During its use as a borrow area, the entire site was disturbed by heavy grading and excavating equipment.

The habitat types present at the proposed plant site include non-native grassland and degraded coastal sage scrub, consisting entirely of flat-top buckwheat. Disturbed and developed and landscaped areas predominate along the approximately 1.75-mile transmission line alignment. In a few areas, the habitat can be characterized as non-native grassland and ruderal. The site is apparently mowed annually for fire control purposes. As such, the flattop buckwheat on the site does not attain much of a woody, shrubby stature. The non-native grassland is dominated by several species of introduced grasses and forbs, with a very few native herb species also present.

The proposed plant site has been highly modified and is more or less isolated, surrounded by intense development to the north, west and south. These factors contribute to limit the diversity of wildlife species that potentially occur at the site. The only special status wildlife species with a likelihood of occurring at the project site is the western burrowing owl.

Section 6.3 provides a detailed analysis of biological resources and the methods proposed to avoid significant impacts to them.

1.6.3 Cultural Resources

The cultural resources literature review identified no cultural resources within the Project area. One historic and seven prehistoric resources were identified within one-half mile of the Project area. The subsequent cultural resources reconnaissance failed to identify any prehistoric resources; however, 10 historic resources (33-13252 through 33-13261) were identified and formally recorded. Three of the ten properties recorded during the study: 33-13252 (Riverside Water Quality Control Plant), 33-13529 (Union Pacific Railroad Bridge) and 33-13260 (Martha McLean - Anza Narrows Park) would require additional investigation to determine their significance. Project related impacts to the treatment plant and the bridge would be less than significant.

The only historic property with the potential to suffer adverse effects from the proposed Project is the Martha McLean – Anza Narrows Park. In order to retain Project effects in the California Environmental Quality Act (CEQA) category of "Less Than Significant with Mitigation," it is recommended that 1) an intensive-level survey and additional research be performed to better understand the nature and origin of the park and associated Anza Trail (by itself a significant resource). It is also recommended that 2) visual effects to the park be minimized by project engineering that explores technical options, such as pole material selection and strategic pole placement, to reverse the cumulative visual effects of additional power lines along the existing transmission corridor. The above elements of the proposed cultural resources mitigation program would reduce project related impacts to the park to less than significant levels.

Because several historic properties and prehistoric cultural resources are known to exist near the Project area, the possibility exists that construction of the RERC Project and related transmission lines will expose previously unknown cultural resources. Therefore, the biological resources consultant recommends that a qualified archaeologist who meets the Secretary of the Interior's Standards for archaeology, monitor construction activities

that disturb the ground surface. In the event that cultural resources are exposed during construction, the monitor must be empowered to temporarily halt construction in the immediate vicinity of the discovery while it is evaluated for significance. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as evaluation and data recovery excavation, may be warranted. The monitoring program would lessen any potential Project effect on cultural resources to a less than significant level.

1.6.3 Noise

Ambient noise measurements were collected at 15 locations to determine the existing environment in the vicinity of the proposed RERC project site. Noise modeling was used to estimate the project's contribution to the ambient noise levels at these locations. The results of the modeling indicate that the both the City and County of Riverside's Noise Ordinance and General Plan requirements will be achieved within the surrounding community. Since the noise levels at the nearest receptors comply with the local laws, ordinances, regulations and standards (LORS), no adverse impact is expected from the normal operation of the plant.

1.6.5 Visual Resources

The Project's potential viewshed has been estimated as an aid in identifying the views that could be affected by implementing the Project. A viewshed with less than a 1-mile radius is appropriate due to the developed nature of the area. The primary forms in the Project vicinity are industrial facilities; residential structures; the municipal airport; the wastewater treatment facility (the dominant feature near the site); transmission line poles; the road network and trees, river associated and riparian area. Three criteria have been used to evaluate the visual quality of the Project site and vicinity: vividness, intactness and unity. Ratings for these criteria range from low to moderate. The overall visual quality of the Project site and immediate vicinity (including the transmission line to be upgraded along Jurupa Avenue) is low, when considered in its surrounding industrial context.

Visual impacts due to the proposed RERC plant would be less than significant because of: (1) the industrial nature of the area in which the proposed plant would be constructed; (2) the relatively few sensitive receptors that would have views of the proposed plant; (3) existing large structures in the vicinity of the plant that partially obstruct views of the plant; potential. The proposed RERC plant and transmission line would not result in a significant contribution to cumulative impacts on the landscape character of the Project vicinity. This is because the proposed plant would be sited east of and adjacent to existing industrial development. No mitigation is necessary because no significant impacts have been identified.